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►B ►C1 REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 18 December 2006

concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

(Text with EEA relevance) ◄

(OJ L 396, 30.12.2006, p. 1)

Amended by:

		Official Journal		
		No	page	date
►M1	Council Regulation (EC) No 1354/2007 of 15 November 2007	L 304	1	22.11.2007
►M2	Commission Regulation (EC) No 987/2008 of 8 October 2008	L 268	14	9.10.2008
►M3	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008	L 353	1	31.12.2008
►M4	Commission Regulation (EC) No 134/2009 of 16 February 2009	L 46	3	17.2.2009
►M5	Commission Regulation (EC) No 552/2009 of 22 June 2009	L 164	7	26.6.2009
►M6	Commission Regulation (EU) No 276/2010 of 31 March 2010	L 86	7	1.4.2010
►M7	Commission Regulation (EU) No 453/2010 of 20 May 2010	L 133	1	31.5.2010
►M8	Commission Regulation (EU) No 143/2011 of 17 February 2011	L 44	2	18.2.2011
►M9	Commission Regulation (EU) No 207/2011 of 2 March 2011	L 58	27	3.3.2011
►M10	Commission Regulation (EU) No 252/2011 of 15 March 2011	L 69	3	16.3.2011
►M11	Commission Regulation (EU) No 253/2011 of 15 March 2011	L 69	7	16.3.2011
►M12	Commission Regulation (EU) No 366/2011 of 14 April 2011	L 101	12	15.4.2011
►M13	Commission Regulation (EU) No 494/2011 of 20 May 2011	L 134	2	21.5.2011
►M14	Commission Regulation (EU) No 109/2012 of 9 February 2012	L 37	1	10.2.2012
►M15	Commission Regulation (EU) No 125/2012 of 14 February 2012	L 41	1	15.2.2012
►M16	Commission Regulation (EU) No 412/2012 of 15 May 2012	L 128	1	16.5.2012
►M17	Commission Regulation (EU) No 835/2012 of 18 September 2012	L 252	1	19.9.2012
►M18	Commission Regulation (EU) No 836/2012 of 18 September 2012	L 252	4	19.9.2012
►M19	Commission Regulation (EU) No 847/2012 of 19 September 2012	L 253	1	20.9.2012
►M20	Commission Regulation (EU) No 848/2012 of 19 September 2012	L 253	5	20.9.2012
►M21	Commission Regulation (EU) No 126/2013 of 13 February 2013	L 43	24	14.2.2013
►M22	Commission Regulation (EU) No 348/2013 of 17 April 2013	L 108	1	18.4.2013

►**M23**	Council Regulation (EU) No 517/2013 of 13 May 2013	L 158	1	10.6.2013
►**M24**	Commission Regulation (EU) No 1272/2013 of 6 December 2013	L 328	69	7.12.2013
►**M25**	Commission Regulation (EU) No 301/2014 of 25 March 2014	L 90	1	26.3.2014
►**M26**	Commission Regulation (EU) No 317/2014 of 27 March 2014	L 93	24	28.3.2014
►**M27**	Commission Regulation (EU) No 474/2014 of 8 May 2014	L 136	19	9.5.2014
►**M28**	Commission Regulation (EU) No 895/2014 of 14 August 2014	L 244	6	19.8.2014
►**M29**	Commission Regulation (EU) 2015/282 of 20 February 2015	L 50	1	21.2.2015
►**M30**	Commission Regulation (EU) 2015/326 of 2 March 2015	L 58	43	3.3.2015
►**M31**	Commission Regulation (EU) 2015/628 of 22 April 2015	L 104	2	23.4.2015
►**M32**	Commission Regulation (EU) 2015/830 of 28 May 2015	L 132	8	29.5.2015
►**M33**	Commission Regulation (EU) 2015/1494 of 4 September 2015	L 233	2	5.9.2015
►**M34**	Commission Regulation (EU) 2016/26 of 13 January 2016	L 9	1	14.1.2016
►**M35**	Commission Regulation (EU) 2016/217 of 16 February 2016	L 40	5	17.2.2016
►**M36**	Commission Regulation (EU) 2016/863 of 31 May 2016	L 144	27	1.6.2016
►**M37**	Commission Regulation (EU) 2016/1005 of 22 June 2016	L 165	4	23.6.2016
►**M38**	Commission Regulation (EU) 2016/1017 of 23 June 2016	L 166	1	24.6.2016
►**M39**	Commission Regulation (EU) 2016/1688 of 20 September 2016	L 255	14	21.9.2016
►**M40**	Commission Regulation (EU) 2016/2235 of 12 December 2016	L 337	3	13.12.2016
►**M41**	Commission Regulation (EU) 2017/227 of 9 February 2017	L 35	6	10.2.2017
►**M42**	Commission Regulation (EU) 2017/706 of 19 April 2017	L 104	8	20.4.2017
►**M43**	Commission Regulation (EU) 2017/999 of 13 June 2017	L 150	7	14.6.2017
►**M44**	Commission Regulation (EU) 2017/1000 of 13 June 2017	L 150	14	14.6.2017
►**M45**	Commission Regulation (EU) 2017/1510 of 30 August 2017	L 224	110	31.8.2017
►**M46**	Commission Regulation (EU) 2018/35 of 10 January 2018	L 6	45	11.1.2018
►**M47**	Commission Regulation (EU) 2018/588 of 18 April 2018	L 99	3	19.4.2018
►**M48**	Commission Regulation (EU) 2018/589 of 18 April 2018	L 99	7	19.4.2018
►**M49**	Commission Regulation (EU) 2018/675 of 2 May 2018	L 114	4	4.5.2018
►**M50**	Commission Regulation (EU) 2018/1513 of 10 October 2018	L 256	1	12.10.2018
►**M51**	Commission Regulation (EU) 2018/1881 of 3 December 2018	L 308	1	4.12.2018
►**M52**	Commission Regulation (EU) 2018/2005 of 17 December 2018	L 322	14	18.12.2018
►**M53**	Commission Regulation (EU) 2019/957 of 11 June 2019	L 154	37	12.6.2019
►**M54**	Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019	L 186	1	11.7.2019
►**M55**	Commission Regulation (EU) 2019/1691 of 9 October 2019	L 259	9	10.10.2019
►**M56**	Commission Regulation (EU) 2020/171 of 6 February 2020	L 35	1	7.2.2020
►**M57**	Commission Regulation (EU) 2020/507 of 7 April 2020	L 110	1	8.4.2020
►**M58**	Commission Regulation (EU) 2020/878 of 18 June 2020	L 203	28	26.6.2020
►**M59**	Commission Regulation (EU) 2020/1149 of 3 August 2020	L 252	24	4.8.2020
►**M60**	Commission Regulation (EU) 2020/2081 of 14 December 2020	L 423	6	15.12.2020
►**M61**	Commission Regulation (EU) 2020/2096 of 15 December 2020	L 425	3	16.12.2020
►**M62**	Commission Regulation (EU) 2020/2160 of 18 December 2020	L 431	38	21.12.2020

►**M63**	Commission Regulation (EU) 2021/57 of 25 January 2021	L 24	19	26.1.2021
►**M64**	Commission Regulation (EU) 2021/979 of 17 June 2021	L 216	121	18.6.2021
►**M65**	Commission Regulation (EU) 2021/1199 of 20 July 2021	L 259	1	21.7.2021
►**M66**	Commission Regulation (EU) 2021/1297 of 4 August 2021	L 282	29	5.8.2021
►**M67**	Commission Regulation (EU) 2021/2030 of 19 November 2021	L 415	16	22.11.2021
►**M68**	Commission Regulation (EU) 2021/2045 of 23 November 2021	L 418	6	24.11.2021
►**M69**	Commission Regulation (EU) 2021/2204 of 13 December 2021	L 446	34	14.12.2021
►**M70**	Commission Regulation (EU) 2022/477 of 24 March 2022	L 98	38	25.3.2022
►**M71**	Commission Regulation (EU) 2022/586 of 8 April 2022	L 112	6	11.4.2022
►**M72**	Commission Regulation (EU) 2023/923 of 3 May 2023	L 123	1	8.5.2023
►**M73**	Commission Regulation (EU) 2023/1132 of 8 June 2023	L 149	49	9.6.2023
►**M74**	Commission Regulation (EU) 2023/1464 of 14 July 2023	L 180	12	17.7.2023
►**M75**	Commission Regulation (EU) 2023/2055 of 25 September 2023	L 238	67	27.9.2023
►**M76**	Commission Regulation (EU) 2023/2482 of 13 November 2023	L 2482	1	14.11.2023
►**M77**	Commission Regulation (EU) 2024/1328 of 16 May 2024	L 1328	1	17.5.2024
►**M78**	Commission Regulation (EU) 2024/2462 of 19 September 2024	L 2462	1	20.9.2024
►**M79**	Commission Regulation (EU) 2024/2929 of 27 November 2024	L 2929	1	28.11.2024
►**M80**	Commission Regulation (EU) 2025/660 of 1 April 2025	L 660	1	2.4.2025
►**M81**	Commission Regulation (EU) 2025/1090 of 2 June 2025	L 1090	1	3.6.2025
►**M82**	Commission Regulation (EU) 2025/1731 of 8 August 2025	L 1731	1	11.8.2025

Corrected by:

►**C1** Corrigendum, OJ L 136, 29.5.2007, p. 3 (1907/2006)
►**C2** Corrigendum, OJ L 141, 31.5.2008, p. 22 (1907/2006)
►**C3** Corrigendum, OJ L 36, 5.2.2009, p. 84 (1907/2006)
►**C4** Corrigendum, OJ L 49, 24.2.2011, p. 52 (143/2011)
►**C5** Corrigendum, OJ L 136, 24.5.2011, p. 105 (494/2011)
►**C6** Corrigendum, OJ L 102, 23.4.2018, p. 99 (2018/589)
►**C7** Corrigendum, OJ L 249, 4.10.2018, p. 18 (2017/227)
►**C8** Corrigendum, OJ L 141, 5.5.2020, p. 37 (2020/171)
►**C9** Corrigendum, OJ L 83, 10.3.2022, p. 64 (2021/1297)
►**C10** Corrigendum, OJ L 90479, 6.6.2025, p. 1 (2023/2055)

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REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

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TITLE I

GENERAL ISSUES

CHAPTER 1

Aim, scope and application

Article 1

Aim and scope

1. The purpose of this Regulation is to ensure a high level of protection of human health and the environment, including the promotion of alternative methods for assessment of hazards of substances, as well as the free circulation of substances on the internal market while enhancing competitiveness and innovation.

2. This Regulation lays down provisions on substances and ►M3 mixtures ◄ within the meaning of Article 3. These provisions shall apply to the manufacture, placing on the market or use of such substances on their own, in ►M3 mixtures ◄ or in articles and to the placing on the market of ►M3 mixtures ◄.

3. This Regulation is based on the principle that it is for manufacturers, importers and downstream users to ensure that they manufacture, place on the market or use such substances that do not adversely affect human health or the environment. Its provisions are underpinned by the precautionary principle.

Article 2

Application

1. This Regulation shall not apply to:

(a) radioactive substances within the scope of Council Directive 96/29/Euratom of 13 May 1996 laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation ([1]);

(b) substances, on their own, in a ►M3 mixture ◄ or in an article, which are subject to customs supervision, provided that they do not undergo any treatment or processing, and which are in temporary storage, or in a free zone or free warehouse with a view to re-exportation, or in transit;

(c) non-isolated intermediates;

(d) the carriage of dangerous substances and dangerous substances in dangerous ►M3 mixtures ◄ by rail, road, inland waterway, sea or air.

2. Waste as defined in Directive 2006/12/EC of the European Parliament and of the Council ([2]) is not a substance, ►M3 mixture ◄ or article within the meaning of Article 3 of this Regulation.

([1]) OJ L 159, 29.6.1996, p. 1.
([2]) OJ L 114, 27.4.2006, p. 9.

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3. Member States may allow for exemptions from this Regulation in specific cases for certain substances, on their own, in a ►M3 mixture ◄ or in an article, where necessary in the interests of defence.

4. This Regulation shall apply without prejudice to:

(a) Community workplace and environmental legislation, including Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work ([1]), Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control ([2]); Directive 98/24/EC, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy ([3]) and Directive 2004/37/EC;

(b) Directive 76/768/EEC as regards testing involving vertebrate animals within the scope of that Directive.

5. The provisions of Titles II, V, VI and VII shall not apply to the extent that a substance is used:

(a) in medicinal products for human or veterinary use within the scope of Regulation (EC) No 726/2004, Directive 2001/82/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to veterinary medicinal products ([4]) and Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use ([5]);

(b) in food or feedingstuffs in accordance with Regulation (EC) No 178/2002 including use:

(i) as a food additive in foodstuffs within the scope of Council Directive 89/107/EEC of 21 December 1988 on the approximation of the laws of the Member States concerning food additives authorised for use in foodstuffs intended for human consumption ([6]);

([1]) OJ L 183, 29.6.1989, p. 1. Directive as amended by Regulation (EC) No 1882/2003.
([2]) OJ L 257, 10.10.1996, p. 26. Directive as last amended by Regulation (EC) No 166/2006 of the European Parliament and of the Council (OJ L 33, 4.2.2006, p. 1).
([3]) OJ L 327, 22.12.2000, p. 1. Directive as amended by Decision No 2455/2001/EC (OJ L 331, 15.12.2001, p. 1).
([4]) OJ L 311, 28.11.2001, p. 1. Directive as last amended by Directive 2004/28/EC (OJ L 136, 30.4.2004, p. 58).
([5]) OJ L 311, 28.11.2001, p. 67. Directive as last amended by Regulation (EC) No 1901/2006.
([6]) OJ L 40, 11.2.1989, p. 27. Directive as last amended by Regulation (EC) No 1882/2003.

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(ii) as a flavouring in foodstuffs within the scope of Council Directive 88/388/EEC of 22 June 1988 on the approximation of the laws of the Member States relating to flavourings for use in foodstuffs and to source materials for their production ([1]) and Commission Decision 1999/217/EC of 23 February 1999 adopting a register of flavouring substances used in or on foodstuffs drawn up in application of Regulation (EC) No 2232/96 of the European Parliament and of the Council ([2]);

(iii) as an additive in feedingstuffs within the scope of Regulation (EC) No 1831/2003 of the European Parliament and of the Council of 22 September 2003 on additives for use in animal nutrition ([3]);

(iv) in animal nutrition within the scope of Council Directive 82/471/EEC of 30 June 1982 concerning certain products used in animal nutrition ([4]).

6. The provisions of Title IV shall not apply to the following ►**M3** mixtures ◄ in the finished state, intended for the final user:

(a) medicinal products for human or veterinary use, within the scope of Regulation (EC) No 726/2004 and Directive 2001/82/EC and as defined in Directive 2001/83/EC;

(b) cosmetic products as defined in Directive 76/768/EEC;

(c) medical devices which are invasive or used in direct physical contact with the human body in so far as Community measures lay down provisions for the classification and labelling of dangerous substances and ►**M3** mixtures ◄ which ensure the same level of information provision and protection as Directive 1999/45/EC;

(d) food or feedingstuffs in accordance with Regulation (EC) No 178/2002 including use:

(i) as a food additive in foodstuffs within the scope of Directive 89/107/EEC;

(ii) as a flavouring in foodstuffs within the scope of Directive 88/388/EEC and Decision 1999/217/EC;

(iii) as an additive in feedingstuffs within the scope of Regulation (EC) No 1831/2003;

(iv) in animal nutrition within the scope of Directive 82/471/EEC.

([1]) OJ L 184, 15.7.1988, p. 61. Directive as last amended by Regulation (EC) No 1882/2003.
([2]) OJ L 84, 27.3.1999, p. 1. Decision as last amended by Decision 2006/253/EC (OJ L 91, 29.3.2006, p. 48).
([3]) OJ L 268, 18.10.2003, p. 29. Regulation as amended by Commission Regulation (EC) No 378/2005 (OJ L 59, 5.3.2005, p. 8).
([4]) OJ L 213, 21.7.1982, p. 8. Directive as last amended by Commission Directive 2004/116/EC (OJ L 379, 24.12.2004, p. 81).

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7. The following shall be exempted from Titles II, V and VI:

(a) substances included in Annex IV, as sufficient information is known about these substances that they are considered to cause minimum risk because of their intrinsic properties;

(b) substances covered by Annex V, as registration is deemed inappropriate or unnecessary for these substances and their exemption from these Titles does not prejudice the objectives of this Regulation;

(c) substances on their own or in ►M3 mixtures ◄, registered in accordance with Title II, exported from the Community by an actor in the supply chain and re-imported into the Community by the same or another actor in the same supply chain who shows that:

(i) the substance being re-imported is the same as the exported substance;

(ii) he has been provided with the information in accordance with Articles 31 or 32 relating to the exported substance;

(d) substances, on their own, in ►M3 mixtures ◄ or in articles, which have been registered in accordance with Title II and which are recovered in the Community if:

(i) the substance that results from the recovery process is the same as the substance that has been registered in accordance with Title II; and

(ii) the information required by Articles 31 or 32 relating to the substance that has been registered in accordance with Title II is available to the establishment undertaking the recovery.

8. On-site isolated intermediates and transported isolated intermediates shall be exempted from:

(a) Chapter 1 of Title II, with the exception of Articles 8 and 9; and

(b) Title VII.

9. The provisions of Titles II and VI shall not apply to polymers.

CHAPTER 2

Definitions and general provision

Article 3

Definitions

For the purposes of this Regulation:

1. substance: means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition;

2. ►M3 mixture ◄: means a mixture or solution composed of two or more substances;

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3. article: means an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition;

4. producer of an article: means any natural or legal person who makes or assembles an article within the Community;

5. polymer: means a substance consisting of molecules characterised by the sequence of one or more types of monomer units. Such molecules must be distributed over a range of molecular weights wherein differences in the molecular weight are primarily attributable to differences in the number of monomer units. A polymer comprises the following:

   (a) a simple weight majority of molecules containing at least three monomer units which are covalently bound to at least one other monomer unit or other reactant;

   (b) less than a simple weight majority of molecules of the same molecular weight.

   In the context of this definition a 'monomer unit' means the reacted form of a monomer substance in a polymer;

6. monomer: means a substance which is capable of forming covalent bonds with a sequence of additional like or unlike molecules under the conditions of the relevant polymer-forming reaction used for the particular process;

7. registrant: means the manufacturer or the importer of a substance or the producer or importer of an article submitting a registration for a substance;

8. manufacturing: means production or extraction of substances in the natural state;

9. manufacturer: means any natural or legal person established within the Community who manufactures a substance within the Community;

10. import: means the physical introduction into the customs territory of the Community;

11. importer: means any natural or legal person established within the Community who is responsible for import;

12. placing on the market: means supplying or making available, whether in return for payment or free of charge, to a third party. Import shall be deemed to be placing on the market;

13. downstream user: means any natural or legal person established within the Community, other than the manufacturer or the importer, who uses a substance, either on its own or in a ►M3 mixture ◄, in the course of his industrial or professional activities. A distributor or a consumer is not a downstream user. A re-importer exempted pursuant to Article 2(7)(c) shall be regarded as a downstream user;

14. distributor: means any natural or legal person established within the Community, including a retailer, who only stores and places on the market a substance, on its own or in a ►M3 mixture ◄, for third parties;

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15. intermediate: means a substance that is manufactured for and consumed in or used for chemical processing in order to be transformed into another substance (hereinafter referred to as synthesis):

    (a) non-isolated intermediate: means an intermediate that during synthesis is not intentionally removed (except for sampling) from the equipment in which the synthesis takes place. Such equipment includes the reaction vessel, its ancillary equipment, and any equipment through which the substance(s) pass(es) during a continuous flow or batch process as well as the pipework for transfer from one vessel to another for the purpose of the next reaction step, but it excludes tanks or other vessels in which the substance(s) are stored after the manufacture;

    (b) on-site isolated intermediate: means an intermediate not meeting the criteria of a non-isolated intermediate and where the manufacture of the intermediate and the synthesis of (an) other substance(s) from that intermediate take place on the same site, operated by one or more legal entities;

    (c) transported isolated intermediate: means an intermediate not meeting the criteria of a non-isolated intermediate and transported between or supplied to other sites;

16. site: means a single location, in which, if there is more than one manufacturer of (a) substance(s), certain infrastructure and facilities are shared;

17. actors in the supply chain: means all manufacturers and/or importers and/or downstream users in a supply chain;

18. Agency: means the European Chemicals Agency as established by this Regulation;

19. competent authority: means the authority or authorities or bodies established by the Member States to carry out the obligations arising from this Regulation;

20. phase-in substance: means a substance which meets at least one of the following criteria:

    (a) it is listed in the European Inventory of Existing Commercial Chemical Substances (EINECS);

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    (b) it was manufactured in the Community, or in the countries acceding to the European Union on 1 January 1995, on 1 May 2004, on 1 January 2007 or on 1 July 2013, but not placed on the market by the manufacturer or importer, at least once in the 15 years before the entry into force of this Regulation, provided the manufacturer or importer has documentary evidence of this;

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(c) it was placed on the market in the Community, or in the countries acceding to the European Union on 1 January 1995, on 1 May 2004, on 1 January 2007 or on 1 July 2013, by the manufacturer or importer before the entry into force of this Regulation and it was considered as having been notified in accordance with the first indent of Article 8(1) of Directive 67/548/EEC in the version of Article 8(1) resulting from the amendment effected by Directive 79/831/EEC, but it does not meet the definition of a polymer as set out in this Regulation, provided the manufacturer or importer has documentary evidence of this, including proof that the substance was placed on the market by any manufacturer or importer between 18 September 1981 and 31 October 1993 inclusive;

▼**C1**

21. notified substance: means a substance for which a notification has been submitted and which could be placed on the market in accordance with Directive 67/548/EEC;

22. product and process orientated research and development: means any scientific development related to product development or the further development of a substance, on its own, in ►**M3** mixtures ◄ or in articles in the course of which pilot plant or production trials are used to develop the production process and/or to test the fields of application of the substance;

23. scientific research and development: means any scientific experimentation, analysis or chemical research carried out under controlled conditions in a volume less than one tonne per year;

24. use: means any processing, formulation, consumption, storage, keeping, treatment, filling into containers, transfer from one container to another, mixing, production of an article or any other utilisation;

25. registrant's own use: means an industrial or professional use by the registrant;

26. identified use: means a use of a substance on its own or in a ►**M3** mixture ◄, or a use of a ►**M3** mixture ◄, that is intended by an actor in the supply chain, including his own use, or that is made known to him in writing by an immediate downstream user;

27. full study report: means a complete and comprehensive description of the activity performed to generate the information. This covers the complete scientific paper as published in the literature describing the study performed or the full report prepared by the test house describing the study performed;

28. robust study summary: means a detailed summary of the objectives, methods, results and conclusions of a full study report providing sufficient information to make an independent assessment of the study minimising the need to consult the full study report;

29. study summary: means a summary of the objectives, methods, results and conclusions of a full study report providing sufficient information to make an assessment of the relevance of the study;

▼C1

30. per year: means per calendar year, unless stated otherwise, for phase-in substances that have been imported or manufactured for at least three consecutive years, quantities per year shall be calculated on the basis of the average production or import volumes for the three preceding calendar years;

31. restriction: means any condition for or prohibition of the manufacture, use or placing on the market;

32. supplier of a substance or a ►M3 mixture ◄: means any manufacturer, importer, downstream user or distributor placing on the market a substance, on its own or in a ►M3 mixture ◄, or a ►M3 mixture ◄;

33. supplier of an article: means any producer or importer of an article, distributor or other actor in the supply chain placing an article on the market;

34. recipient of a substance or a ►M3 mixture ◄: means a downstream user or a distributor being supplied with a substance or a ►M3 mixture ◄;

35. recipient of an article: means an industrial or professional user, or a distributor, being supplied with an article but does not include consumers;

36. SME: means small and medium-sized enterprises as defined in the Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises ([1]);

37. exposure scenario: means the set of conditions, including operational conditions and risk management measures, that describe how the substance is manufactured or used during its life-cycle and how the manufacturer or importer controls, or recommends downstream users to control, exposures of humans and the environment. These exposure scenarios may cover one specific process or use or several processes or uses as appropriate;

38. use and exposure category: means an exposure scenario covering a wide range of processes or uses, where the processes or uses are communicated, as a minimum, in terms of the brief general description of use;

39. substances which occur in nature: means a naturally occurring substance as such, unprocessed or processed only by manual, mechanical or gravitational means, by dissolution in water, by flotation, by extraction with water, by steam distillation or by heating solely to remove water, or which is extracted from air by any means;

40. not chemically modified substance: means a substance whose chemical structure remains unchanged, even if it has undergone a chemical process or treatment, or a physical mineralogical transformation, for instance to remove impurities;

([1]) OJ L 124, 20.5.2003, p. 36.

▼C1

41. alloy: means a metallic material, homogenous on a macroscopic scale, consisting of two or more elements so combined that they cannot be readily separated by mechanical means.

Article 4

General provision

Any manufacturer, importer, or where relevant downstream user, may, whilst retaining full responsibility for complying with his obligations under this Regulation, appoint a third party representative for all proceedings under Article 11, Article 19, Title III and Article 53 involving discussions with other manufacturers, importers, or where relevant downstream users. In these cases, the identity of a manufacturer or importer or downstream user who has appointed a representative shall not normally be disclosed by the Agency to other manufacturers, importers, or, where relevant, downstream users.

TITLE II

REGISTRATION OF SUBSTANCES

CHAPTER 1

General obligation to register and information requirements

Article 5

No data, no market

Subject to Articles 6, 7, 21 and 23, substances on their own, in ►M3 mixtures ◄ or in articles shall not be manufactured in the Community or placed on the market unless they have been registered in accordance with the relevant provisions of this Title where this is required.

Article 6

General obligation to register substances on their own or in ►M3 mixtures ◄

1. Save where this Regulation provides otherwise, any manufacturer or importer of a substance, either on its own or in one or more ►M3 mixture ◄ (s), in quantities of one tonne or more per year shall submit a registration to the Agency.

2. For monomers that are used as on-site isolated intermediates or transported isolated intermediates, Articles 17 and 18 shall not apply.

3. Any manufacturer or importer of a polymer shall submit a registration to the Agency for the monomer substance(s) or any other substance(s), that have not already been registered by an actor up the supply chain, if both the following conditions are met:

(a) the polymer consists of 2 % weight by weight (w/w) or more of such monomer substance(s) or other substance(s) in the form of monomeric units and chemically bound substance(s);

▼C1

(b) the total quantity of such monomer substance(s) or other substance (s) makes up one tonne or more per year.

4. A submission for registration shall be accompanied by the fee required in accordance with Title IX.

Article 7

Registration and notification of substances in articles

1. Any producer or importer of articles shall submit a registration to the Agency for any substance contained in those articles, if both the following conditions are met:

(a) the substance is present in those articles in quantities totalling over one tonne per producer or importer per year;

(b) the substance is intended to be released under normal or reasonably foreseeable conditions of use.

A submission for registration shall be accompanied by the fee required in accordance with Title IX.

2. Any producer or importer of articles shall notify the Agency, in accordance with paragraph 4 of this Article, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1), if both the following conditions are met:

(a) the substance is present in those articles in quantities totalling over one tonne per producer or importer per year;

(b) the substance is present in those articles above a concentration of 0,1 % weight by weight (w/w).

3. Paragraph 2 shall not apply where the producer or importer can exclude exposure to humans or the environment during normal or reasonably foreseeable conditions of use including disposal. In such cases, the producer or importer shall supply appropriate instructions to the recipient of the article.

4. The information to be notified shall include the following:

(a) the identity and contact details of the producer or importer as specified in section 1 of Annex VI, with the exception of their own use sites;

(b) the registration number(s) referred to in Article 20(1), if available;

(c) the identity of the substance as specified in sections 2.1 to 2.3.4 of Annex VI;

(d) the classification of the substance(s) as specified in sections 4.1 and 4.2 of Annex VI;

(e) a brief description of the use(s) of the substance(s) in the article as specified in section 3.5 of Annex VI and of the uses of the article (s);

(f) the tonnage range of the substance(s), such as 1 to 10 tonnes, 10 to 100 tonnes and so on.

▼C1

5. The Agency may take decisions requiring producers or importers of articles to submit a registration, in accordance with this Title, for any substance in those articles, if all the following conditions are met:

(a) the substance is present in those articles in quantities totalling over one tonne per producer or importer per year;

(b) the Agency has grounds for suspecting that:

(i) the substance is released from the articles, and

(ii) the release of the substance from the articles presents a risk to human health or the environment;

(c) the substance is not subject to paragraph 1.

A submission for registration shall be accompanied by the fee required in accordance with Title IX.

6. Paragraphs 1 to 5 shall not apply to substances that have already been registered for that use.

7. From 1 June 2011 paragraphs 2, 3 and 4 of this Article shall apply six months after a substance is identified in accordance with Article 59(1).

8. Any measures for the implementation of paragraphs 1 to 7 shall be adopted in accordance with the procedure referred to in Article 133 (3).

Article 8

Only representative of a non-Community manufacturer

1. A natural or legal person established outside the Community who manufactures a substance on its own, in ►M3 mixtures ◄ or in articles, formulates a ►M3 mixture ◄ or produces an article that is imported into the Community may by mutual agreement appoint a natural or legal person established in the Community to fulfil, as his only representative, the obligations on importers under this Title.

2. The representative shall also comply with all other obligations of importers under this Regulation. To this end, he shall have a sufficient background in the practical handling of substances and the information related to them and, without prejudice to Article 36, shall keep available and up-to-date information on quantities imported and customers sold to, as well as information on the supply of the latest update of the safety data sheet referred to in Article 31.

3. If a representative is appointed in accordance with paragraphs 1 and 2, the non-Community manufacturer shall inform the importer(s) within the same supply chain of the appointment. These importers shall be regarded as downstream users for the purposes of this Regulation.

▼C1

Article 9

Exemption from the general obligation to register for product and process orientated research and development (PPORD)

1. Articles 5, 6, 7, 17, 18 and 21 shall not apply for a period of five years to a substance manufactured in the Community or imported for the purposes of product and process orientated research and development by a manufacturer or importer or producer of articles, by himself or in cooperation with listed customers and in a quantity which is limited to the purpose of product and process orientated research and development.

2. For the purpose of paragraph 1, the manufacturer or importer or producer of articles shall notify the Agency of the following information:

(a) the identity of the manufacturer or importer or producer of articles as specified in section 1 of Annex VI;

(b) the identity of the substance, as specified in section 2 of Annex VI;

(c) the classification of the substance as specified in section 4 of Annex VI, if any;

(d) the estimated quantity as specified in section 3.1 of Annex VI;

(e) the list of customers referred to in paragraph 1, including their names and addresses.

The notification shall be accompanied by the fee required in accordance with Title IX.

The period set out in paragraph 1 shall begin at receipt of the notification at the Agency.

3. The Agency shall check the completeness of the information supplied by the notifier and Article 20(2) shall apply adapted as necessary. The Agency shall assign a number to the notification and a notification date, which shall be the date of receipt of the notification at the Agency, and shall forthwith communicate that number and date to the manufacturer, or importer, or producer of articles concerned. The Agency shall also communicate this information to the competent authority of the Member State(s) concerned.

4. The Agency may decide to impose conditions with the aim of ensuring that the substance or the ►M3 mixture ◄ or article in which the substance is incorporated will be handled only by staff of listed customers as referred to in paragraph 2(e) in reasonably controlled conditions, in accordance with the requirements of legislation for the protection of workers and the environment, and will not be made available to the general public at any time either on its own or in a ►M3 mixture ◄ or article and that remaining quantities will be re-collected for disposal after the exemption period.

In such cases, the Agency may ask the notifier to provide additional necessary information.

5. In the absence of any indication to the contrary, the manufacturer or importer of the substance or the producer or importer of articles may manufacture or import the substance or produce or import the articles not earlier than two weeks after the notification.

▼C1

6. The manufacturer or importer or producer of articles shall comply with any conditions imposed by the Agency in accordance with paragraph 4.

7. The Agency may decide to extend the five-year exemption period by a further maximum of five years or, in the case of substances to be used exclusively in the development of medicinal products for human or veterinary use, or for substances that are not placed on the market, for a further maximum of ten years, upon request if the manufacturer or importer or producer of articles can demonstrate that such an extension is justified by the research and development programme.

8. The Agency shall forthwith communicate any draft decisions to the competent authorities of each Member State in which the manufacture, import, production or product and process orientated research takes place.

When taking decisions as provided for in paragraphs 4 and 7, the Agency shall take into account any comments made by such competent authorities.

9. The Agency and the competent authorities of the Member States concerned shall always keep confidential the information submitted in accordance with paragraphs 1 to 8.

10. An appeal may be brought, in accordance with Articles 91, 92 and 93, against Agency decisions under paragraphs 4 and 7 of this Article.

Article 10

Information to be submitted for general registration purposes

A registration required by Article 6 or by Article 7(1) or (5) shall include all the following information:

(a) a technical dossier including:

(i) the identity of the manufacturer(s) or importer(s) as specified in section 1 of Annex VI;

(ii) the identity of the substance as specified in section 2 of Annex VI;

(iii) information on the manufacture and use(s) of the substance as specified in section 3 of Annex VI; this information shall represent all the registrant's identified use(s). This information may include, if the registrant deems appropriate, the relevant use and exposure categories;

(iv) the classification and labelling of the substance as specified in section 4 of Annex VI;

(v) guidance on safe use of the substance as specified in Section 5 of Annex VI;

(vi) study summaries of the information derived from the application of Annexes VII to XI;

(vii) robust study summaries of the information derived from the application of Annexes VII to XI, if required under Annex I;

▼C1

(viii) an indication as to which of the information submitted under (iii), (iv), (vi), (vii) or subparagraph (b) has been reviewed by an assessor chosen by the manufacturer or importer and having appropriate experience;

(ix) proposals for testing where listed in Annexes IX and X;

(x) for substances in quantities of 1 to 10 tonnes, exposure information as specified in section 6 of Annex VI;

(xi) a request as to which of the information in Article 119(2) the manufacturer or importer considers should not be made available on the Internet in accordance with Article 77(2)(e), including a justification as to why publication could be harmful for his or any other concerned party's commercial interests.

Except in cases covered under Article 25(3), Article 27(6) or Article 30(3), the registrant shall be in legitimate possession of or have permission to refer to the full study report summarised under (vi) and (vii) for the purpose of registration;

(b) a chemical safety report when required under Article 14, in the format specified in Annex I. The relevant sections of this report may include, if the registrant considers appropriate, the relevant use and exposure categories.

Article 11

Joint submission of data by multiple registrants

1. When a substance is intended to be manufactured in the Community by one or more manufacturers and/or imported by one or more importers, and/or is subject to registration under Article 7, the following shall apply.

Subject to paragraph 3, the information specified in Article 10(a)(iv), (vi), (vii) and (ix), and any relevant indication under Article 10(a)(viii) shall first be submitted by the one registrant acting with the agreement of the other assenting registrant(s) (hereinafter referred to as the lead registrant).

Each registrant shall subsequently submit separately the information specified in Article 10(a)(i), (ii), (iii) and (x), and any relevant indication under Article 10(a)(viii).

The registrants may decide themselves whether to submit the information specified in Article 10(a)(v) and (b) and any relevant indication under Article 10(a)(viii) separately or whether one registrant is to submit this information on behalf of the others.

2. Each registrant need only comply with paragraph 1 for items of information specified in Article 10(a)(iv), (vi), (vii) and (ix) that are required for the purposes of registration within his tonnage band in accordance with Article 12.

▼C1

3. A registrant may submit the information referred to in Article 10 (a)(iv), (vi), (vii) or (ix) separately if:

(a) it would be disproportionately costly for him to submit this information jointly; or

(b) submitting the information jointly would lead to disclosure of information which he considers to be commercially sensitive and is likely to cause him substantial commercial detriment; or

(c) he disagrees with the lead registrant on the selection of this information.

If points (a), (b) or (c) apply, the registrant shall submit, along with the dossier, an explanation as to why the costs would be disproportionate, why disclosure of information was likely to lead to substantial commercial detriment or the nature of the disagreement, as the case may be.

4. A submission for registration shall be accompanied by the fee required in accordance with Title IX.

Article 12

Information to be submitted depending on tonnage

1. The technical dossier referred to in Article 10(a) shall include under points (vi) and (vii) of that provision all physicochemical, toxicological and ecotoxicological information that is relevant and available to the registrant and as a minimum the following:

(a) the information specified in Annex VII for non-phase-in substances, and for phase-in substances meeting one or both of the criteria specified in Annex III, manufactured or imported in quantities of one tonne or more per year per manufacturer or importer;

(b) the information on physicochemical properties specified in Annex VII, section 7 for phase-in substances manufactured or imported in quantities of one tonne or more per year per manufacturer or importer which do not meet either of the criteria specified in Annex III;

(c) the information specified in Annexes VII and VIII for substances manufactured or imported in quantities of 10 tonnes or more per year per manufacturer or importer;

(d) the information specified in Annexes VII and VIII and testing proposals for the provision of the information specified in Annex IX for substances manufactured or imported in quantities of 100 tonnes or more per year per manufacturer or importer;

(e) the information specified in Annexes VII and VIII and testing proposals for the provision of the information specified in Annexes IX and X for substances manufactured or imported in quantities of 1 000 tonnes or more per year per manufacturer or importer.

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2. As soon as the quantity of a substance per manufacturer or importer that has already been registered reaches the next tonnage threshold, the manufacturer or importer shall inform the Agency immediately of the additional information he would require under paragraph 1. Article 26(3) and (4) shall apply adapted as necessary.

3. This Article shall apply to producers of articles adapted as necessary.

Article 13

General requirements for generation of information on intrinsic properties of substances

1. Information on intrinsic properties of substances may be generated by means other than tests, provided that the conditions set out in Annex XI are met. In particular for human toxicity, information shall be generated whenever possible by means other than vertebrate animal tests, through the use of alternative methods, for example, *in vitro* methods or qualitative or quantitative structure-activity relationship models or from information from structurally related substances (grouping or read-across). Testing in accordance with Annex VIII, Sections 8.6 and 8.7, Annex IX and Annex X may be omitted where justified by information on exposure and implemented risk management measures as specified in Annex XI, section 3.

2. These methods shall be regularly reviewed and improved with a view to reducing testing on vertebrate animals and the number of animals involved. The Commission, following consultation with relevant stakeholders, shall, as soon as possible, make a proposal, if appropriate, to amend the Commission Regulation on test methods adopted in accordance with the procedure referred to in Article 133 (4), and the Annexes of this Regulation, if relevant, so as to replace, reduce or refine animal testing. Amendments to that Commission Regulation shall be adopted in accordance with the procedure specified in paragraph 3 and amendments to the Annexes of this Regulation shall be adopted in accordance with the procedure referred to in Article 131.

3. Where tests on substances are required to generate information on intrinsic properties of substances, they shall be conducted in accordance with the test methods laid down in a Commission Regulation or in accordance with other international test methods recognised by the Commission or the Agency as being appropriate. The Commission shall adopt that Regulation, designed to amend the non-essential elements of this Regulation by supplementing it, in accordance with the procedure referred to in Article 133(4).

Information on intrinsic properties of substances may be generated in accordance with other test methods provided that the conditions set out in Annex XI are met.

▼C1

4. Ecotoxicological and toxicological tests and analyses shall be carried out in compliance with the principles of good laboratory practice provided for in Directive 2004/10/EC or other international standards recognised as being equivalent by the Commission or the Agency and with the provisions of Directive 86/609/EEC, if applicable.

5. If a substance has already been registered, a new registrant shall be entitled to refer to the study summaries or robust study summaries, for the same substance submitted earlier, provided that he can show that the substance that he is now registering is the same as the one previously registered, including the degree of purity and the nature of impurities, and that the previous registrant(s) have given permission to refer to the full study reports for the purpose of registration.

A new registrant shall not refer to such studies in order to provide the information required in Section 2 of Annex VI.

Article 14

Chemical safety report and duty to apply and recommend risk reduction measures

1. Without prejudice to Article 4 of Directive 98/24/EC, a chemical safety assessment shall be performed and a chemical safety report completed for all substances subject to registration in accordance with this Chapter in quantities of 10 tonnes or more per year per registrant.

The chemical safety report shall document the chemical safety assessment which shall be conducted in accordance with paragraphs 2 to 7 and with Annex I for either each substance on its own or in a ►M3 mixture ◄ or in an article or a group of substances.

▼M3

2. A chemical safety assessment in accordance with paragraph 1 need not be performed for a substance which is present in a mixture if the concentration of the substance in the mixture is less than:

(a) the cut-off value referred to in Article 11, paragraph 3 of Regulation (EC) No 1272/2008;

(b) 0,1 % weight by weight (w/w), if the substance meets the criteria in Annex XIII to this Regulation.

▼C1

3. A chemical safety assessment of a substance shall include the following steps:

(a) human health hazard assessment;

(b) physicochemical hazard assessment;

(c) environmental hazard assessment;

(d) persistent, bioaccumulative and toxic (PBT) and very persistent and very bioaccumulative (vPvB) assessment.

▼M3

4. If, as a result of carrying out steps (a) to (d) of paragraph 3, the registrant concludes that the substance fulfils the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:

(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;

(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;

(c) hazard class 4.1;

(d) hazard class 5.1,

or is assessed to be a PBT or vPvB, the chemical safety assessment shall include the following additional steps:

▼C1

(a) exposure assessment including the generation of exposure scenario (s) (or the identification of relevant use and exposure categories if appropriate) and exposure estimation;

(b) risk characterisation.

The exposure scenarios (where appropriate the use and exposure categories), exposure assessment and risk characterisation shall address all identified uses of the registrant.

5. The chemical safety report need not include consideration of the risks to human health from the following end uses:

(a) in food contact materials within the scope of Regulation (EC) No 1935/2004 of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with food ([1]);

(b) in cosmetic products within the scope of Directive 76/768/EEC.

6. Any registrant shall identify and apply the appropriate measures to adequately control the risks identified in the chemical safety assessment, and where suitable, recommend them in the safety data sheets which he supplies in accordance with Article 31.

([1]) OJ L 338, 13.11.2004, p. 4.

▼C1

7. Any registrant required to conduct a chemical safety assessment shall keep his chemical safety report available and up to date.

CHAPTER 2

Substances regarded as being registered

Article 15

Substances in plant protection and biocidal products

1. Active substances and co-formulants manufactured or imported for use in plant protection products only and included either in Annex I to Council Directive 91/414/EEC ([1]) or in Commission Regulation (EEC) No 3600/92 ([2]), Commission Regulation (EC) No 703/2001 ([3]), Commission Regulation (EC) No 1490/2002 ([4]), or Commission Decision 2003/565/EC ([5]) and for any substance for which a Commission Decision on the completeness of the dossier has been taken pursuant to Article 6 of Directive 91/414/EEC shall be regarded as being registered and the registration as completed for manufacture or import for the use as a plant protection product and therefore as fulfilling the requirements of Chapters 1 and 5 of this Title.

2. Active substances manufactured or imported for use in biocidal products only and included either in Annexes I, IA or IB to Directive 98/8/EC of the European Parliament and of the Council of 16 February 1998 concerning the placing of biocidal products on the market ([6]) or in Commission Regulation (EC) No 2032/2003 ([7]) on the second phase of the 10-year work programme referred to in Article 16(2) of Directive 98/8/EC, until the date of the decision referred to in the second subparagraph of Article 16(2) of Directive 98/8/EC, shall be regarded

([1]) Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market (OJ L 230, 19.8.1991, p. 1). Directive as last amended by Commission Directive 2006/136/EC (OJ L 349, 12.12.2006, p. 42).

([2]) Commission Regulation (EEC) No 3600/92 of 11 December 1992 laying down the detailed rules for the implementation of the first stage of the programme of work referred to in Article 8(2) of Council Directive 91/414/EEC concerning the placing of plant protection products on the market (OJ L 366, 15.12.1992, p. 10). Regulation as last amended by Regulation (EC) No 2266/2000 (OJ L 259, 13.10.2000, p. 27).

([3]) Commission Regulation (EC) No 703/2001 of 6 April 2001 laying down the active substances of plant protection products to be assessed in the second stage of the work programme referred to in Article 8(2) of Council Directive 91/414/EEC and revising the list of Member States designated as rapporteurs for those substances (OJ L 98, 7.4.2001, p. 6).

([4]) Commission Regulation (EC) No 1490/2002 of 14 August 2002 laying down further detailed rules for the implementation of the third stage of the programme of work referred to in Article 8(2) of Council Directive 91/414/EEC (OJ L 224, 21.8.2002, p. 23). Regulation as last amended by Regulation (EC) No 1744/2004 (OJ L 311, 8.10.2004, p. 23).

([5]) Commission Decision 2003/565/EC of 25 July 2003 extending the time period provided for in Article 8(2) of Council Directive 91/414/EEC (OJ L 192, 31.7.2003, p. 40).

([6]) OJ L 123, 24.4.1998, p. 1. Directive as last amended by Commission Directive 2006/140/EC (OJ L 414, 30.12.2006, p. 78).

([7]) OJ L 307, 24.11.2003, p. 1. Regulation as last amended by Regulation (EC) No 1849/2006 (OJ L 355, 15.12.2006, p. 63).

▼C1

as being registered and the registration as completed for manufacture or import for the use in a biocidal product and therefore as fulfilling the requirements of Chapters 1 and 5 of this Title.

Article 16

Duties of the Commission, the Agency and registrants of substances regarded as being registered

1. The Commission or the relevant Community body shall make information equivalent to that required by Article 10 available to the Agency for substances regarded as registered according to Article 15. The Agency shall include this information or a reference thereto in its databases and notify the competent authorities thereof by 1 December 2008.

2. Articles 21, 22 and 25 to 28 shall not apply to uses of substances regarded as registered according to Article 15.

CHAPTER 3

Obligation to register and information requirements for certain types of isolated intermediates

Article 17

Registration of on-site isolated intermediates

1. Any manufacturer of an on-site isolated intermediate in quantities of one tonne or more per year shall submit a registration to the Agency for the on-site isolated intermediate.

2. A registration for an on-site isolated intermediate shall include all the following information, to the extent that the manufacturer is able to submit it without any additional testing:

(a) the identity of the manufacturer as specified in Section 1 of Annex VI;

(b) the identity of the intermediate as specified in Sections 2.1 to 2.3.4 of Annex VI;

(c) the classification of the intermediate as specified in Section 4 of Annex VI;

(d) any available existing information on physicochemical, human health or environmental properties of the intermediate. Where a full study report is available, a study summary shall be submitted;

(e) a brief general description of the use, as specified in Section 3.5 of Annex VI;

(f) details of the risk management measures applied.

▼C1

Except in cases covered under Article 25(3), Article 27(6) or Article 30 (3), the registrant shall be in legitimate possession of or have permission to refer to the full study report summarised under (d) for the purpose of registration.

The registration shall be accompanied by the fee required in accordance with Title IX.

3. Paragraph 2 shall apply only to on-site isolated intermediates if the manufacturer confirms that the substance is only manufactured and used under strictly controlled conditions in that it is rigorously contained by technical means during its whole lifecycle. Control and procedural technologies shall be used to minimise emission and any resulting exposure.

If these conditions are not fulfilled, the registration shall include the information specified in Article 10.

Article 18

Registration of transported isolated intermediates

1. Any manufacturer or importer of a transported isolated intermediate in quantities of one tonne or more per year shall submit a registration to the Agency for the transported isolated intermediate.

2. A registration for a transported isolated intermediate shall include all the following information:

(a) the identity of the manufacturer or importer as specified in Section 1 of Annex VI;

(b) the identity of the intermediate as specified in Sections 2.1 to 2.3.4 of Annex VI;

(c) the classification of the intermediate as specified in Section 4 of Annex VI;

(d) any available existing information on physicochemical, human health or environmental properties of the intermediate. Where a full study report is available, a study summary shall be submitted;

(e) a brief general description of the use, as specified in Section 3.5 of Annex VI;

(f) information on risk management measures applied and recommended to the user in accordance with paragraph 4.

Except in cases covered under Article 25(3), Article 27(6) or Article 30 (3), the registrant shall be in legitimate possession of or have permission to refer to the full study report summarised under (d) for the purpose of registration.

▼C1

The registration shall be accompanied by the fee required in accordance with Title IX.

3. A registration for a transported isolated intermediate in quantities of more than 1 000 tonnes per year per manufacturer or importer shall include the information specified in Annex VII in addition to the information required under paragraph 2.

For the generation of this information, Article 13 shall apply.

4. Paragraphs 2 and 3 shall apply only to transported isolated intermediates if the manufacturer or importer confirms himself or states that he has received confirmation from the user that the synthesis of (an) other substance(s) from that intermediate takes place on other sites under the following strictly controlled conditions:

(a) the substance is rigorously contained by technical means during its whole lifecycle including manufacture, purification, cleaning and maintenance of equipment, sampling, analysis, loading and unloading of equipment or vessels, waste disposal or purification and storage;

(b) procedural and control technologies shall be used that minimise emission and any resulting exposure;

(c) only properly trained and authorised personnel handle the substance;

(d) in the case of cleaning and maintenance works, special procedures such as purging and washing are applied before the system is opened and entered;

(e) in cases of accident and where waste is generated, procedural and/or control technologies are used to minimise emissions and the resulting exposure during purification or cleaning and maintenance procedures;

(f) substance-handling procedures are well documented and strictly supervised by the site operator.

If the conditions listed in the first subparagraph are not fulfilled, the registration shall include the information specified in Article 10.

Article 19

Joint submission of data on isolated intermediates by multiple registrants

1. When an on-site isolated intermediate or transported isolated intermediate is intended to be manufactured in the Community by one or more manufacturers and/or imported by one or more importers, the following shall apply.

▼C1

Subject to paragraph 2 of this Article, the information specified in Article 17(2)(c) and (d) and Article 18(2)(c) and (d) shall first be submitted by one manufacturer or importer acting with the agreement of the other assenting manufacturer(s) or importer(s) (hereinafter referred to as 'the lead registrant').

Each registrant shall subsequently submit separately the information specified in Article 17(2)(a), (b), (e) and (f) and Article 18(2)(a),(b), (e) and (f).

2. A manufacturer or importer may submit the information referred to in Article 17(2)(c) or (d) and Article 18(2)(c) or (d) separately if:

(a) it would be disproportionately costly for him to submit this jointly; or

(b) submitting the information jointly would lead to disclosure of information which he considers to be commercially sensitive and is likely to cause him substantial commercial detriment; or

(c) he disagrees with the lead registrant on the selection of this information.

If points (a), (b) or (c) apply, the manufacturer or importer shall submit, along with the dossier, an explanation as to why the costs would be disproportionate, why disclosure of information was likely to lead to substantial commercial detriment, or the nature of the disagreement, as the case may be.

3. A submission for registration shall be accompanied by the fee required in accordance with Title IX.

CHAPTER 4

Common provisions for all registrations

Article 20

Duties of the Agency

1. The Agency shall assign a submission number to each registration, which is to be used for all correspondence regarding the registration until the registration is deemed to be complete, and a submission date, which shall be the date of receipt of the registration at the Agency.

2. The Agency shall undertake a completeness check of each registration in order to ascertain that all the elements required under Articles 10 and 12 or under Articles 17 or 18, as well as the registration fee referred to in Article 6(4), Article 7(1) and (5), Article 17(2) or Article 18(2), have been provided. The completeness check shall not include an assessment of the quality or the adequacy of any data or justifications submitted.

The Agency shall undertake the completeness check within three weeks of the submission date, or within three months of the relevant deadline of Article 23, as regards registrations of phase-in substances submitted in the course of the two-month period immediately preceding that deadline.

▼C1

If a registration is incomplete, the Agency shall inform the registrant, before expiry of the three-week or three-month period referred to in the second subparagraph, as to what further information is required in order for the registration to be complete, while setting a reasonable deadline for this. The registrant shall complete his registration and submit it to the Agency within the deadline set. The Agency shall confirm the submission date of the further information to the registrant. The Agency shall perform a further completeness check, considering the further information submitted.

The Agency shall reject the registration if the registrant fails to complete his registration within the deadline set. The registration fee shall not be reimbursed in such cases.

3. Once the registration is complete, the Agency shall assign a registration number to the substance concerned and a registration date, which shall be the same as the submission date. The Agency shall without delay communicate the registration number and registration date to the registrant concerned. The registration number shall be used for all subsequent correspondence regarding registration.

4. The Agency shall notify the competent authority of the relevant Member State within 30 days of the submission date, that the following information is available in the Agency database:

(a) the registration dossier together with the submission or registration number;

(b) the submission or registration date;

(c) the result of the completeness check; and

(d) any request for further information and deadline set in accordance with the third subparagraph of paragraph 2.

The relevant Member State shall be the Member State within which the manufacture takes place or the importer is established.

If the manufacturer has production sites in more than one Member State, the relevant Member State shall be the one in which the head office of the manufacturer is established. The other Member States where the production sites are established shall also be notified.

The Agency shall forthwith notify the competent authority of the relevant Member State(s) when any further information submitted by the registrant is available on the Agency database.

5. An appeal may be brought, in accordance with Articles 91, 92 and 93, against Agency decisions under paragraph 2 of this Article.

6. Where additional information for a particular substance is submitted to the Agency by a new registrant, the Agency shall notify the existing registrants that this information is available on the database for the purposes of Article 22.

▼C1

Article 21

Manufacturing and import of substances

1. A registrant may start or continue the manufacture or import of a substance or production or import of an article, if there is no indication to the contrary from the Agency in accordance with Article 20(2) within the three weeks after the submission date, without prejudice to Article 27(8).

In the case of registrations of phase-in substances, such a registrant may continue the manufacture or import of the substance or production or import of an article, if there is no indication to the contrary from the Agency in accordance with Article 20(2) within the three weeks after the submission date or, if submitted within the two-month period before the relevant deadline of Article 23, if there is no indication to the contrary from the Agency in accordance with Article 20(2) within the three months from that deadline, without prejudice to Article 27(8).

In the case of an update of a registration according to Article 22 a registrant may continue the manufacture or import of the substance, or the production or import of the article, if there is no indication to the contrary from the Agency in accordance with Article 20(2) within the three weeks after the update date, without prejudice to Article 27(8).

2. If the Agency has informed the registrant that he is to submit further information in accordance with the third subparagraph of Article 20(2), the registrant may start the manufacture or import of a substance or production or import of an article if there is no indication to the contrary from the Agency within the three weeks after receipt by the Agency of the further information necessary to complete his registration, without prejudice to Article 27(8).

3. If a lead registrant submits parts of the registration on behalf of one or more other registrants, as provided for in Articles 11 or 19, any of the other registrants may manufacture or import the substance or produce or import the articles only after the expiry of the time-limit laid down in paragraph 1 or 2 of this Article and provided that there is no indication to the contrary from the Agency in respect of the registration of the lead registrant acting on behalf of the others and his own registration.

Article 22

Further duties of registrants

1. Following registration, a registrant shall be responsible on his own initiative for updating his registration without undue delay with relevant new information and submitting it to the Agency in the following cases:

(a) any change in his status, such as being a manufacturer, an importer or a producer of articles, or in his identity, such as his name or address;

(b) any change in the composition of the substance as given in Section 2 of Annex VI;

▼C1

(c) changes in the annual or total quantities manufactured or imported by him or in the quantities of substances present in articles produced or imported by him if these result in a change of tonnage band, including cessation of manufacture or import;

(d) new identified uses and new uses advised against as in Section 3.7 of Annex VI for which the substance is manufactured or imported;

(e) new knowledge of the risks of the substance to human health and/or the environment of which he may reasonably be expected to have become aware which leads to changes in the safety data sheet or the chemical safety report;

(f) any change in the classification and labelling of the substance;

(g) any update or amendment of the chemical safety report or Section 5 of Annex VI;

(h) the registrant identifies the need to perform a test listed in Annex IX or Annex X, in which cases a testing proposal shall be developed;

(i) any change in the access granted to information in the registration.

The Agency shall communicate this information to the competent authority of the relevant Member State.

2. A registrant shall submit to the Agency an update of the registration containing the information required by the decision made in accordance with Articles 40, 41 or 46 or take into account a decision made in accordance with Articles 60 and 73, within the deadline specified in that decision. The Agency shall notify the competent authority of the relevant Member State that the information is available on its database.

3. The Agency shall undertake a completeness check according to Article 20(2) first and second subparagraphs of each updated registration. In cases where the update is in accordance with Article 12(2) and with paragraph 1(c) of this Article then the Agency shall check the completeness of the information supplied by the registrant and Article 20(2) shall apply adapted as necessary.

4. In cases covered by Articles 11 or 19, each registrant shall submit separately the information specified in paragraph 1(c) of this Article.

5. An update shall be accompanied by the relevant part of the fee required in accordance with Title IX.

▼C1

CHAPTER 5

Transitional provisions applicable to phase-in substances and notified substances

Article 23

Specific provisions for phase-in substances

1. Article 5, Article 6, Article 7(1), Article 17, Article 18 and Article 21 shall not apply until 1 December 2010 to the following substances:

(a) phase-in substances classified as carcinogenic, mutagenic or toxic to reproduction, category 1 or 2, in accordance with Directive 67/548/EEC and manufactured in the Community or imported, in quantities reaching one tonne or more per year per manufacturer or per importer, at least once after 1 June 2007;

(b) phase-in substances classified as very toxic to aquatic organisms which may cause long-term adverse effects in the aquatic environment (R50/53) in accordance with Directive 67/548/EEC, and manufactured in the Community or imported in quantities reaching 100 tonnes or more per year per manufacturer or per importer, at least once after 1 June 2007;

(c) phase-in substances manufactured in the Community or imported, in quantities reaching 1 000 tonnes or more per year per manufacturer or per importer, at least once after 1 June 2007.

2. Article 5, Article 6, Article 7(1), Article 17, Article 18 and Article 21 shall not apply until 1 June 2013 to phase-in substances manufactured in the Community or imported, in quantities reaching 100 tonnes or more per year per manufacturer or per importer, at least once after 1 June 2007.

3. Article 5, Article 6, Article 7(1), Article 17, Article 18 and Article 21 shall not apply until 1 June 2018 to phase-in substances manufactured in the Community or imported, in quantities reaching one tonne or more per year per manufacturer or per importer, at least once after 1 June 2007.

4. Without prejudice to paragraphs 1 to 3, a registration can be submitted at any time before the relevant deadline.

5. This Article shall also apply to substances registered under Article 7 adapted as necessary.

Article 24

Notified substances

1. A notification in accordance with Directive 67/548/EEC shall be regarded as a registration for the purposes of this Title and the Agency shall assign a registration number by 1 December 2008.

▼C1

2. If the quantity of a notified substance manufactured or imported per manufacturer or importer reaches the next tonnage threshold under Article 12, the additional required information corresponding to that tonnage threshold, as well as to all the lower tonnage thresholds, shall be submitted in accordance with Articles 10 and 12, unless it has already been submitted in accordance with those Articles.

TITLE III

DATA SHARING AND AVOIDANCE OF UNNECESSARY TESTING

CHAPTER 1

Objectives and general rules

Article 25

Objectives and general rules

1. In order to avoid animal testing, testing on vertebrate animals for the purposes of this Regulation shall be undertaken only as a last resort. It is also necessary to take measures limiting duplication of other tests.

2. The sharing and joint submission of information in accordance with this Regulation shall concern technical data and in particular information related to the intrinsic properties of substances. Registrants shall refrain from exchanging information concerning their market behaviour, in particular as regards production capacities, production or sales volumes, import volumes or market shares.

3. Any study summaries or robust study summaries of studies submitted in the framework of a registration under this Regulation at least 12 years previously can be used for the purposes of registration by another manufacturer or importer.

CHAPTER 2

Rules for non-phase-in substances and registrants of phase-in substances who have not pre-registered

Article 26

Duty to inquire prior to registration

1. Every potential registrant of a non-phase-in substance, or potential registrant of a phase-in substance who has not pre-registered in accordance with Article 28, shall inquire from the Agency whether a registration has already been submitted for the same substance. He shall submit all the following information to the Agency with the inquiry:

(a) his identity as specified in Section 1 of Annex VI, with the exception of the use sites;

▼C1

(b) the identity of the substance, as specified in Section 2 of Annex VI;

(c) which information requirements would require new studies involving vertebrate animals to be carried out by him;

(d) which information requirements would require other new studies to be carried out by him.

2. If the same substance has previously not been registered, the Agency shall inform the potential registrant accordingly.

3. If the same substance has previously been registered less than 12 years earlier, the Agency shall inform the potential registrant without delay of the names and addresses of the previous registrant(s) and of the relevant summaries or robust study summaries, as the case may be, already submitted by them.

Studies involving vertebrate animals shall not be repeated.

The Agency shall simultaneously inform the previous registrants of the name and address of the potential registrant. The available studies shall be shared with the potential registrant in accordance with Article 27.

4. If several potential registrants have made an inquiry in respect of the same substance, the Agency shall inform all potential registrants without delay of the name and address of the other potential registrants.

Article 27

Sharing of existing data in the case of registered substances

1. Where a substance has previously been registered less than 12 years earlier as referred to in Article 26(3), the potential registrant:

(a) shall, in the case of information involving tests on vertebrate animals; and

(b) may, in the case of information not involving tests on vertebrate animals,

request from the previous registrant(s) the information he requires with respect to Article 10(a)(vi) and (vii) in order to register.

2. When a request for information has been made according to paragraph 1, the potential and the previous registrant(s) as referred to in paragraph 1 shall make every effort to reach an agreement on the sharing of the information requested by the potential registrant(s) with respect to Article 10(a)(vi) and (vii). Such an agreement may be replaced by submission of the matter to an arbitration board and acceptance of the arbitration order.

▼C1

3. The previous registrant and potential registrant(s) shall make every effort to ensure that the costs of sharing the information are determined in a fair, transparent and non-discriminatory way. This may be facilitated by following cost sharing guidance based on those principles which is adopted by the Agency in accordance with Article 77(2)(g). Registrants are only required to share in the costs of information that they are required to submit to satisfy their registration requirements.

4. On agreement on the sharing of the information, the previous registrant shall make available to the new registrant the agreed information and shall give the new registrant the permission to refer to the previous registrant's full study report.

5. If there is failure to reach such an agreement, the potential registrant(s) shall inform the Agency and the previous registrant(s) thereof at the earliest one month after receipt, from the Agency, of the name and address of the previous registrant(s).

6. Within one month from the receipt of the information referred to in paragraph 5, the Agency shall give the potential registrant permission to refer to the information requested by him in his registration dossier, subject to the potential registrant providing, upon request by the Agency, proof that he has paid the previous registrant (s) for that information a share of cost incurred. The previous registrant (s) shall have a claim on the potential registrant for a proportionate share of the cost incurred by him. Calculation of the proportionate share may be facilitated by the guidance adopted by the Agency in accordance with Article 77(2)(g). Provided he makes the full study report available to the potential registrant, the previous registrant(s) shall have a claim on the potential registrant for an equal share of the cost incurred by him, which shall be enforceable in the national courts.

7. An appeal may be brought, in accordance with Articles 91, 92 and 93, against Agency decisions under paragraph 6 of this Article.

8. The registration waiting period in accordance with Article 21(1) for the new registrant shall be extended by a period of four months, if the previous registrant so requests.

CHAPTER 3

Rules for phase-in-substances

Article 28

Duty to pre-register for phase-in substances

1. In order to benefit from the transitional regime provided for in Article 23 each potential registrant of a phase-in substance in quantities of one tonne or more per year, including without limitation intermediates, shall submit all the following information to the Agency:

(a) the name of the substance as specified in Section 2 of Annex VI, including its EINECS and CAS number or, if not available, any other identity codes;

▼C1

(b) his name and address and the name of the contact person and, where appropriate, the name and address of the person representing him in accordance with Article 4 as specified in Section 1 of Annex VI;

(c) the envisaged deadline for the registration and the tonnage band;

(d) the name(s) of substance(s) as specified in Section 2 of Annex VI, including their EINECS and CAS number or, if not available, any other identity codes, for which the available information is relevant for the application of Sections 1.3 and 1.5 of Annex XI.

2. The information referred to in paragraph 1 shall be submitted within a time period starting on 1 June 2008 and ending on 1 December 2008.

3. Registrants who do not submit the information required under paragraph 1 shall not be able to rely on Article 23.

4. The Agency shall by 1 January 2009 publish on its website a list of the substances referred to in paragraph 1(a) and (d). That list shall comprise only the names of the substances, including their EINECS and CAS number if available and other identity codes, and the first envisaged registration deadline.

5. After the publication of the list a downstream user of a substance not appearing on the list may notify the Agency of his interest in the substance, his contact details and the details of his current supplier. The Agency shall publish on its website the name of the substance and on request provide contact details of the downstream user to a potential registrant.

6. Potential registrants who manufacture or import for the first time a phase-in substance in quantities of one tonne or more per year or use for the first time a phase-in substance in the context of production of articles or import for the first time an article containing a phase-in substance that would require registration, after 1 December 2008, shall be entitled to rely on Article 23 provided that they submit the information referred to in paragraph 1 of this Article to the Agency within six months of first manufacturing, importing or using the substance in quantities of one tonne or more per year and no later than 12 months before the relevant deadline in Article 23.

7. Manufacturers or importers of phase-in substances in quantities of less than one tonne per year that appear on the list published by the Agency in accordance with paragraph 4 of this Article, as well as downstream users of those substances and third parties holding information on those substances, may submit the information referred to in paragraph 1 of this Article or any other relevant information to the Agency for those substances, with the intention of being part of the substance information exchange forum as referred to in Article 29.

▼C1

Article 29

Substance Information Exchange Forums

1. All potential registrants, downstream users and third parties who have submitted information to the Agency in accordance with Article 28, or whose information is held by the Agency in accordance with Article 15, for the same phase-in substance, or registrants who have submitted a registration for that phase-in substance before the deadline set out in Article 23(3), shall be participants in a substance information exchange forum (SIEF).

2. The aim of each SIEF shall be to:

(a) facilitate, for the purposes of registration, the exchange of the information specified in Article 10(a) (vi) and (vii) between potential registrants, thereby avoiding the duplication of studies; and

(b) agree classification and labelling where there is a difference in the classification and labelling of the substance between potential registrants.

3. SIEF participants shall provide other participants with existing studies, react to requests by other participants for information, collectively identify needs for further studies for the purposes of paragraph 2 (a) and arrange for such studies to be carried out. Each SIEF shall be operational until 1 June 2018.

Article 30

Sharing of data involving tests

1. Before testing is carried out in order to meet the information requirements for the purposes of registration, a SIEF participant shall inquire whether a relevant study is available by communicating within his SIEF. If a relevant study involving tests on vertebrate animals is available within the SIEF, a participant of that SIEF shall request that study. If a relevant study not involving tests on vertebrate animals is available within the SIEF, a SIEF participant may request that study.

Within one month of the request, the owner of the study shall provide proof of its cost to the participant(s) requesting it. The participant(s) and the owner shall make every effort to ensure that the costs of sharing the information are determined in a fair, transparent and non discriminatory way. This may be facilitated by following any cost sharing guidance which is based on those principles and is adopted by the Agency in accordance with Article 77(2)(g). If they cannot reach such an agreement, the cost shall be shared equally. The owner shall give permission to refer to the full study report for the purpose of registration within two weeks of receipt of payment. Registrants are only required to share in the costs of information that they are required to submit to satisfy their registration requirements.

▼C1

2. If a relevant study involving tests is not available within the SIEF, only one study shall be conducted per information requirement within each SIEF by one of its participants acting on behalf of the others. They shall take all reasonable steps to reach an agreement within a deadline set by the Agency as to who is to carry out the test on behalf of the other participants and to submit a summary or robust study summary to the Agency. If no agreement is reached, the Agency shall specify which registrant or downstream user shall perform the test. All participants of the SIEF who require a study shall contribute to the costs for the elaboration of the study with a share corresponding to the number of participating potential registrants. Those participants that do not carry out the study themselves shall have the right to receive the full study report within two weeks following payment to the participant that carried out the study.

3. If the owner of a study as referred to in paragraph 1 which involves testing on vertebrate animals refuses to provide either proof of the cost of that study or the study itself to (an) other participant(s), he shall not be able to proceed with registration until he provides the information to the other participants(s). The other participant(s) shall proceed with registration without fulfilling the relevant information requirement, explaining the reason for this in the registration dossier. The study shall not be repeated unless within 12 months of the date of registration of the other participant(s), the owner of this information has not provided it to them and the Agency decides that the test should be repeated by them. However, if a registration containing this information has already been submitted by another registrant, the Agency shall give the other participant(s) permission to refer to the information in his registration dossier(s). The other registrant shall have a claim on the other participant(s) for an equal share of the cost, provided he makes the full study report available to the other participant(s), which shall be enforceable in the national courts.

4. If the owner of a study as referred to in paragraph 1 which does not involve testing on vertebrate animals refuses to provide either proof of the cost of that study or the study itself to (an)other participant(s), the other SIEF participants shall proceed with registration as if no relevant study was available in the SIEF.

5. An appeal may be brought, in accordance with Articles 91, 92 and 93, against Agency decisions under paragraphs 2 or 3 of this Article.

6. The owner of the study who has refused to provide either proof of the cost or the study itself, as referred to in paragraph 3 or 4 of this Article, shall be penalised in accordance with Article 126.

TITLE IV

INFORMATION IN THE SUPPLY CHAIN

Article 31

Requirements for safety data sheets

1. The supplier of a substance or a ►M3 mixture ◄ shall provide the recipient of the substance or ►M3 mixture ◄ with a safety data sheet compiled in accordance with Annex II:

▼M3

(a) where a substance or mixture meets the criteria for classification as hazardous in accordance with Regulation (EC) No 1272/2008; or

▼C1

(b) where a substance is persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII; or

(c) where a substance is included in the list established in accordance with Article 59(1) for reasons other than those referred to in points (a) and (b).

2. Any actor in the supply chain who is required, under Articles 14 or 37, to carry out a chemical safety assessment for a substance shall ensure that the information in the safety data sheet is consistent with the information in this assessment. If the safety data sheet is developed for a ►M3 mixture ◄ and the actor in the supply chain has prepared a chemical safety assessment for that ►M3 mixture ◄, it is sufficient if the information in the safety data sheet is consistent with the chemical safety report for the ►M3 mixture ◄ instead of with the chemical safety report for each substance in the ►M3 mixture ◄.

▼M3

3. The supplier shall provide the recipient at his request with a safety data sheet compiled in accordance with Annex II, where a mixture does not meet the criteria for classification as hazardous in accordance with Titles I and II of Regulation (EC) No 1272/2008, but contains:

(a) in an individual concentration of ≥ 1 % by weight for non-gaseous mixtures and ≥ 0,2 % by volume for gaseous mixtures at least one substance posing human health or environmental hazards; or

(b) in an individual concentration of ≥ 0,1 % by weight for non-gaseous mixtures at least one substance that is carcinogenic category 2 or toxic to reproduction category 1A, 1B and 2, skin sensitiser category 1, respiratory sensitiser category 1, or has effects on or via lactation or is persistent, bioaccumulative and toxic (PBT) in accordance with the criteria set out in Annex XIII or very persistent and very bioaccumulative (vPvB) in accordance with the criteria set out in Annex XIII or has been included for reasons other than those referred to in point (a) in the list established in accordance with Article 59(1); or

(c) a substance for which there are Community workplace exposure limits.

4. The safety data sheet need not be supplied where hazardous substances or mixtures offered or sold to the general public are provided with sufficient information to enable users to take the necessary measures as regards the protection of human health, safety and the environment, unless requested by a downstream user or distributor.

▼C1

5. The safety data sheet shall be supplied in an official language of the Member State(s) where the substance or ►M3 mixture ◄ is placed on the market, unless the Member State(s) concerned provide otherwise.

▼C1

6. The safety data sheet shall be dated and shall contain the following headings:

1. identification of the substance/►M3 mixture ◄ and of the company/undertaking;
2. hazards identification;
3. composition/information on ingredients;
4. first-aid measures;
5. fire-fighting measures;
6. accidental release measures;
7. handling and storage;
8. exposure controls/personal protection;
9. physical and chemical properties;
10. stability and reactivity;
11. toxicological information;
12. ecological information;
13. disposal considerations;
14. transport information;
15. regulatory information;
16. other information.

7. Any actor in the supply chain who is required to prepare a chemical safety report according to Articles 14 or 37 shall place the relevant exposure scenarios (including use and exposure categories where appropriate) in an annex to the safety data sheet covering identified uses and including specific conditions resulting from the application of Section 3 of Annex XI.

Any downstream user shall include relevant exposure scenarios, and use other relevant information, from the safety data sheet supplied to him when compiling his own safety data sheet for identified uses.

Any distributor shall pass on relevant exposure scenarios, and use other relevant information, from the safety data sheet supplied to him when compiling his own safety data sheet for uses for which he has passed on information according to Article 37(2).

▼M3

8. A safety data sheet shall be provided free of charge on paper or electronically no later than the date on which the substance or mixture is first supplied.

▼C1

9. Suppliers shall update the safety data sheet without delay on the following occasions:

(a) as soon as new information which may affect the risk management measures, or new information on hazards becomes available;

(b) once an authorisation has been granted or refused;

▼C1

(c) once a restriction has been imposed.

The new, dated version of the information, identified as 'Revision: (date)', shall be provided free of charge on paper or electronically to all former recipients to whom they have supplied the substance or ►M3 mixture ◄ within the preceding 12 months. Any updates following registration shall include the registration number.

▼M3

10. Where substances are classified in accordance with Regulation (EC) No 1272/2008 during the period from its entry into force until 1 December 2010, that classification may be added in the safety data sheet together with the classification in accordance with Directive 67/548/EEC.

From 1 December 2010 until 1 June 2015, the safety data sheets for substances shall contain the classification according to both Directive 67/548/EEC and Regulation (EC) No 1272/2008.

Where mixtures are classified in accordance with Regulation (EC) No 1272/2008 during the period from its entry into force until 1 June 2015, that classification may be added in the safety data sheet, together with the classification in accordance with Directive 1999/45/EC. However, until 1 June 2015, where substances or mixtures are both classified and labelled in accordance with Regulation (EC) No 1272/2008 that classification shall be provided in the safety data sheet, together with the classification in accordance with Directives 67/548/EEC and 1999/45/EC respectively, for the substance, the mixture and its constituents.

▼C1

Article 32

Duty to communicate information down the supply chain for substances on their own or in ►M3 mixtures ◄ for which a safety data sheet is not required

1. Any supplier of a substance on its own or in a ►M3 mixture ◄ who does not have to supply a safety data sheet in accordance with Article 31 shall provide the recipient with the following information:

(a) the registration number(s) referred to in Article 20(3), if available, for any substances for which information is communicated under points (b), (c) or (d) of this paragraph;

(b) if the substance is subject to authorisation and details of any authorisation granted or denied under Title VII in this supply chain;

(c) details of any restriction imposed under Title VIII;

(d) any other available and relevant information about the substance that is necessary to enable appropriate risk management measures to be identified and applied including specific conditions resulting from the application of Section 3 of Annex XI.

2. The information referred to in paragraph 1 shall be communicated free of charge on paper or electronically at the latest at the time of the first delivery of a substance on its own or in a ►M3 mixture ◄ after 1 June 2007.

▼C1

3. Suppliers shall update this information without delay on the following occasions:

(a) as soon as new information which may affect the risk management measures, or new information on hazards becomes available;

(b) once an authorisation has been granted or refused;

(c) once a restriction has been imposed.

In addition, the updated information shall be provided free of charge on paper or electronically to all former recipients to whom they have supplied the substance or ►M3 mixture ◄ within the preceding 12 months. Any updates following registration shall include the registration number.

Article 33

Duty to communicate information on substances in articles

1. Any supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0,1 % weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance.

2. On request by a consumer any supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0,1 % weight by weight (w/w) shall provide the consumer with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance.

The relevant information shall be provided, free of charge, within 45 days of receipt of the request.

Article 34

Duty to communicate information on substances and ►M3 mixtures ◄ up the supply chain

Any actor in the supply chain of a substance or a ►M3 mixture ◄ shall communicate the following information to the next actor or distributor up the supply chain:

(a) new information on hazardous properties, regardless of the uses concerned;

(b) any other information that might call into question the appropriateness of the risk management measures identified in a safety data sheet supplied to him, which shall be communicated only for identified uses.

Distributors shall pass on that information to the next actor or distributor up the supply chain.

Article 35

Access to information for workers

Workers and their representatives shall be granted access by their employer to the information provided in accordance with Articles 31 and 32 in relation to substances or ►M3 mixtures ◄ that they use or may be exposed to in the course of their work.

▼C1

Article 36

Obligation to keep information

1. Each manufacturer, importer, downstream user and distributor shall assemble and keep available all the information he requires to carry out his duties under this Regulation for a period of at least 10 years after he last manufactured, imported, supplied or used the substance or ►M3 mixture ◄. That manufacturer, importer, downstream user or distributor shall submit this information or make it available without delay upon request to any competent authority of the Member State in which he is established or to the Agency, without prejudice to Titles II and VI.

2. In the event of a registrant, downstream user or distributor ceasing activity, or transferring part or all of his operations to a third party, the party responsible for liquidating the registrant, downstream user or distributor's undertaking or assuming responsibility for the placing on the market of the substance or ►M3 mixture ◄ concerned shall be bound by the obligation in paragraph 1 in place of the registrant, downstream user or distributor.

TITLE V

DOWNSTREAM USERS

Article 37

Downstream user chemical safety assessments and duty to identify, apply and recommend risk reduction measures

1. A downstream user or distributor may provide information to assist in the preparation of a registration.

2. Any downstream user shall have the right to make a use, as a minimum the brief general description of use, known in writing (on paper or electronically) to the manufacturer, importer, downstream user or distributor who supplies him with a substance on its own or in a ►M3 mixture ◄ with the aim of making this an identified use. In making a use known, he shall provide sufficient information to allow the manufacturer, importer or downstream user who has supplied the substance, to prepare an exposure scenario, or if appropriate a use and exposure category, for his use in the manufacturer, importer or downstream user's chemical safety assessment.

Distributors shall pass on such information to the next actor or distributor up the supply chain. Downstream users in receipt of such information may prepare an exposure scenario for the identified use(s), or pass the information to the next actor up the supply chain.

3. For registered substances, the manufacturer, importer or downstream user shall comply with the obligations laid down in Article 14 either before he next supplies the substance on its own or in a ►M3 mixture ◄ to the downstream user making the request referred to in paragraph 2 of this Article, provided that the request was made at least one month before the supply, or within one month after the request, whichever is the later.

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For phase-in substances, the manufacturer, importer or downstream user shall comply with this request and with the obligations laid down in Article 14 before the relevant deadline in Article 23 has expired, provided that the downstream user makes his request at least 12 months before the deadline in question.

Where the manufacturer, importer or downstream user, having assessed the use in accordance with Article 14, is unable to include it as an identified use for reasons of protection of human health or the environment, he shall provide the Agency and the downstream user with the reason(s) for that decision in writing without delay and shall not supply downstream user(s) with the substance without including these reason(s) in the information referred to under Articles 31 or 32. The manufacturer or importer shall include this use in Section 3.7 of Annex VI in his update of the registration in accordance with Article 22(1)(d).

4. A downstream user of a substance on its own or in a ►M3 mixture ◄ shall prepare a chemical safety report in accordance with Annex XII for any use outside the conditions described in an exposure scenario or if appropriate a use and exposure category communicated to him in a safety data sheet or for any use his supplier advises against.

A downstream user need not prepare such a chemical safety report in any of the following cases:

(a) a safety data sheet is not required to be communicated with the substance or ►M3 mixture ◄ in accordance with Article 31;

(b) a chemical safety report is not required to be completed by his supplier in accordance with Article 14;

(c) the downstream user uses the substance or ►M3 mixture ◄ in a total quantity of less than one tonne per year;

(d) the downstream user implements or recommends an exposure scenario which includes as a minimum the conditions described in the exposure scenario communicated to him in the safety data sheet;

(e) the substance is present in a ►M3 mixture ◄ in a concentration lower than any of the concentrations set out in Article 14(2);

(f) the downstream user is using the substance for the purposes of product and process oriented research and development, provided that the risks to human health and the environment are adequately controlled in accordance with the requirements of legislation for the protection of workers and the environment.

5. Any downstream user shall identify, apply and where suitable, recommend, appropriate measures to adequately control risks identified in any of the following:

(a) the safety data sheet(s) supplied to him;

(b) his own chemical safety assessment;

(c) any information on risk management measures supplied to him in accordance with Article 32.

▼C1

6. Where a downstream user does not prepare a chemical safety report in accordance with paragraph 4(c), he shall consider the use(s) of the substance and identify and apply any appropriate risk management measures needed to ensure that the risks to human health and the environment are adequately controlled. Where necessary, this information shall be included in any safety data sheet prepared by him.

7. Downstream users shall keep their chemical safety report up to date and available.

8. A chemical safety report prepared in accordance with paragraph 4 of this Article need not include consideration of the risks to human health from the end uses set out in Article 14(5).

Article 38

Obligation for downstream users to report information

1. Before commencing or continuing with a particular use of a substance that has been registered by an actor up the supply chain in accordance with Articles 6 or 18, the downstream user shall report to the Agency the information specified in paragraph 2 of this Article, in the following cases:

(a) the downstream user has to prepare a chemical safety report in accordance with Article 37(4); or

(b) the downstream user is relying on the exemptions in Article 37(4) (c) or (f).

2. The information reported by the downstream user shall include the following:

(a) his identity and contact details as specified in Section 1.1 of Annex VI;

(b) the registration number(s) referred to in Article 20(3), if available;

(c) the identity of the substance(s) as specified in Section 2.1 to 2.3.4 of Annex VI;

(d) the identity of the manufacturer(s) or the importer(s) or other supplier as specified in Section 1.1 of Annex VI;

(e) a brief general description of the use(s), as specified in Section 3.5 of Annex VI, and of the conditions of use(s);

(f) except where the downstream user is relying on the exemption in Article 37(4)(c), a proposal for additional testing on vertebrate animals, where this is considered necessary by the downstream user to complete his chemical safety assessment.

3. The downstream user shall update this information without delay in the event of a change in the information reported in accordance with paragraph 1.

4. A downstream user shall report to the Agency if his classification of a substance is different to that of his supplier.

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5. Except where a downstream user is relying on the exemption in Article 37(4)(c), reporting in accordance with paragraphs 1 to 4 of this Article shall not be required in respect of a substance, on its own or in a ►M3 mixture ◄, used by the downstream user in quantities of less than one tonne per year for that particular use.

Article 39

Application of downstream user obligations

1. Downstream users shall be required to comply with the requirements of Article 37 at the latest 12 months after receiving a registration number communicated to them by their suppliers in a safety data sheet.

2. Downstream users shall be required to comply with the requirements of Article 38 at the latest six months after receiving a registration number communicated to them by their suppliers in a safety data sheet.

TITLE VI

EVALUATION

CHAPTER 1

Dossier evaluation

Article 40

Examination of testing proposals

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1. The Agency shall examine any testing proposal set out in a registration or a downstream user report for provision of the information specified in Annexes IX and X for a substance. Priority shall be given to registrations of substances which have or may have PBT, vPvB, sensitising and/or carcinogenic, mutagenic or toxic for reproduction (CMR) properties, or substances above 100 tonnes per year with uses resulting in widespread and diffuse exposure, provided they fulfil the criteria for any of the following hazard classes or categories set out in Annex I of Regulation (EC) No 1272/2008:

(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;

(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;

(c) hazard class 4.1;

(d) hazard class 5.1.

▼C1

2. Information relating to testing proposals involving tests on vertebrate animals shall be published on the Agency website. The Agency shall publish on its website the name of the substance, the hazard end-point for which vertebrate testing is proposed, and the date by which any third party information is required. It shall invite third parties to submit, using the format provided by the Agency, scientifically valid information and studies that address the relevant substance and hazard end-point, addressed by the testing proposal, within 45 days of the date of publication. All such scientifically valid information and studies received shall be taken into account by the Agency in preparing its decision in accordance with paragraph 3.

3. On the basis of the examination under paragraph 1, the Agency shall draft one of the following decisions and that decision shall be taken in accordance with the procedure laid down in Articles 50 and 51:

(a) a decision requiring the registrant(s) or downstream user(s) concerned to carry out the proposed test and setting a deadline for submission of the study summary, or the robust study summary if required by Annex I;

(b) a decision in accordance with point (a), but modifying the conditions under which the test is to be carried out;

(c) a decision in accordance with points (a), (b) or (d) but requiring registrant(s) or downstream user(s) to carry out one or more additional tests in cases of non-compliance of the testing proposal with Annexes IX, X and XI;

(d) a decision rejecting the testing proposal;

(e) a decision in accordance with points (a), (b) or (c), if several registrants or downstream users of the same substance have submitted proposals for the same test, giving them the opportunity to reach an agreement on who will perform the test on behalf of all of them and to inform the Agency accordingly within 90 days. If the Agency is not informed of such agreement within such 90 days, it shall designate one of the registrants or downstream users, as appropriate, to perform the test on behalf of all of them.

4. The registrant or downstream user shall submit the information required to the Agency by the deadline set.

Article 41

Compliance check of registrations

1. The Agency may examine any registration in order to verify any of the following:

(a) that the information in the technical dossier(s) submitted pursuant to Article 10 complies with the requirements of Articles 10, 12 and 13 and with Annexes III and VI to X;

(b) that the adaptations of the standard information requirements and the related justifications submitted in the technical dossier(s) comply with the rules governing such adaptations set out in Annexes VII to X and with the general rules set out in Annex XI;

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(c) that any required chemical safety assessment and chemical safety report comply with the requirements of Annex I and that the proposed risk management measures are adequate;

(d) that any explanation(s) submitted in accordance with Article 11(3) or Article 19(2) have an objective basis.

2. The list of dossiers being checked for compliance by the Agency shall be made available to Member States competent authorities.

3. On the basis of an examination made pursuant to paragraph 1, the Agency may, within 12 months of the start of the compliance check, prepare a draft decision requiring the registrant(s) to submit any information needed to bring the registration(s) into compliance with the relevant information requirements and specifying adequate time limits for the submission of further information. Such a decision shall be taken in accordance with the procedure laid down in Articles 50 and 51.

4. The registrant shall submit the information required to the Agency by the deadline set.

5. ►M57 To check compliance of registration dossiers with this Regulation, the Agency shall select, until 31 December 2023, a percentage of those dossiers no lower than 20 % of the total received by the Agency for registrations in tonnage bands of 100 tonnes or more per year.

The Agency shall, until 31 December 2027, also select a percentage no lower than 20 % of the total received by the Agency for registrations in tonnage bands of less than 100 tonnes per year.

When selecting dossiers for compliance checking, the Agency shall give priority, but not exclusively, to dossiers meeting at least one of the following criteria: ◄

(a) the dossier contains information in Article 10(a)(iv), (vi) and/or (vii) submitted separately as per Article 11(3); or

(b) the dossier is for a substance manufactured or imported in quantities of one tonne or more per year and does not meet the requirements of Annex VII applying under either Article 12(1)(a) or (b), as the case may be; or

(c) the dossier is for a substance listed in the Community rolling action plan referred to in Article 44(2).

6. Any third party may electronically submit information to the Agency relating to substances that appear on the list referred to in Article 28(4). The Agency shall consider this information together with the information submitted according to Article 124 when checking and selecting dossiers.

7. The Commission may, after consulting with the Agency, take a decision to vary the percentage of dossiers selected and amend or include further criteria in paragraph 5 in accordance with the procedure referred to in Article 133(4).

Article 42

Check of information submitted and follow-up to dossier evaluation

1. The Agency shall examine any information submitted in consequence of a decision taken under Articles 40 or 41, and draft any appropriate decisions in accordance with these Articles, if necessary.

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2. Once the dossier evaluation is completed, the Agency shall notify the Commission and the competent authorities of the Member States of the information obtained and any conclusions made. The competent authorities shall use the information obtained from this evaluation for the purposes of Article 45(5), Article 59(3) and Article 69(4). The Agency shall use the information obtained from this evaluation for the purposes of Article 44.

Article 43

Procedure and time periods for examination of testing proposals

1. In the case of non phase-in substances, the Agency shall prepare a draft decision in accordance with Article 40(3) within 180 days of receiving a registration or downstream user report containing a testing proposal.

2. In the case of phase-in substances, the Agency shall prepare the draft decisions in accordance with Article 40(3):

(a) by 1 December 2012 for all registrations received by 1 December 2010 containing proposals for testing in order to fulfil the information requirements in Annexes IX and X;

(b) by 1 June 2016 for all registrations received by 1 June 2013 containing proposals for testing in order to fulfil the information requirements in Annex IX only;

(c) by 1 June 2022 for any registrations containing testing proposals received by 1 June 2018.

3. The list of registration dossiers being evaluated under Article 40 shall be made available to Member States.

CHAPTER 2

Substance evaluation

Article 44

Criteria for substance evaluation

1. In order to ensure a harmonised approach, the Agency shall in cooperation with the Member States develop criteria for prioritising substances with a view to further evaluation. Prioritisation shall be on a risk-based approach. The criteria shall consider:

(a) hazard information, for instance structural similarity of the substance with known substances of concern or with substances which are persistent and liable to bio-accumulate, suggesting that the substance or one or more of its transformation products has properties of concern or is persistent and liable to bio-accumulate;

(b) exposure information;

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(c) tonnage, including aggregated tonnage from the registrations submitted by several registrants.

2. The Agency shall use the criteria in paragraph 1 for the purpose of compiling a draft Community rolling action plan which shall cover a period of three years and shall specify substances to be evaluated each year. Substances shall be included if there are grounds for considering (either on the basis of a dossier evaluation carried out by the Agency or on the basis of any other appropriate source, including information in the registration dossier) that a given substance constitutes a risk to human health or the environment. The Agency shall submit the first draft rolling action plan to the Member States by 1 December 2011. The Agency shall submit draft annual updates to the rolling action plan to the Member States by 28 February each year.

The Agency shall adopt the final Community rolling action plan on the basis of an opinion from the Member State Committee set up under Article 76(1)(e) (hereinafter referred to as the Member State Committee) and shall publish the plan on its website, identifying the Member State who will carry out the evaluation of the substances listed therein as determined according to Article 45.

Article 45

Competent authority

1. The Agency shall be responsible for coordinating the substance evaluation process and ensuring that substances on the Community rolling action plan are evaluated. In doing so, the Agency shall rely on the competent authorities of Member States. In carrying out an evaluation of a substance, the competent authorities may appoint another body to act on their behalf.

2. A Member State may choose (a) substance(s) from the draft Community rolling action plan, with the aim of becoming a competent authority for the purposes of Articles 46, 47 and 48. In the event of a substance from the draft Community rolling action plan not being chosen by any Member State, the Agency shall ensure that the substance is evaluated.

3. In cases where two or more Member States have expressed an interest in evaluating the same substance and they cannot agree who should be the competent authority, the competent authority for the purposes of Articles 46, 47 and 48 shall be determined in accordance with the following procedure.

The Agency shall refer the matter to the Member State Committee, in order to agree which authority shall be the competent authority, taking into account the Member State in which the manufacturer(s) or importer(s) is located, the respective proportions of total Community gross domestic product, the number of substances already being evaluated by a Member State and the expertise available.

If, within 60 days of the referral, the Member State Committee reaches unanimous agreement, the Member States concerned shall adopt substances for evaluation accordingly.

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If the Member State Committee fails to reach a unanimous agreement, the Agency shall submit the conflicting opinions to the Commission, which shall decide which authority shall be the competent authority, in accordance with the procedure referred to in Article 133(3), and the Member States concerned shall adopt substances for evaluation accordingly.

4. The competent authority identified in accordance with paragraphs 2 and 3 shall evaluate the allocated substances in accordance with this Chapter.

5. A Member State may notify the Agency at any time of a substance not on the Community rolling action plan, whenever it is in possession of information which suggests that the substance is a priority for evaluation. The Agency shall decide whether to add this substance to the Community rolling action plan on the basis of an opinion from the Member State Committee. If the substance is added to the Community rolling action plan, the proposing Member State, or another Member State who agrees, shall evaluate that substance.

Article 46

Requests for further information and check of information submitted

1. If the competent authority considers that further information is required, including, if appropriate, information not required in Annexes VII to X, it shall prepare a draft decision, stating reasons, requiring the registrant(s) to submit the further information and setting a deadline for its submission. A draft decision shall be prepared within 12 months of the publication of the Community rolling action plan on the Agency's website for substances to be evaluated that year. The decision shall be taken in accordance with the procedure laid down in Articles 50 and 52.

2. The registrant shall submit the information required to the Agency by the deadline set.

3. The competent authority shall examine any information submitted, and shall draft any appropriate decisions in accordance with this Article, if necessary, within 12 months of the information being submitted.

4. The competent authority shall finish its evaluation activities within 12 months of the start of the evaluation of the substance or within 12 months of the information being submitted under paragraph 2, and notify the Agency accordingly. If this deadline is exceeded, the evaluation shall be deemed to be finished.

Article 47

Coherence with other activities

1. An evaluation of a substance shall be based on all relevant information submitted on that particular substance and on any previous evaluation under this Title. Where information on intrinsic properties of a substance has been generated by reference to structurally related substance(s), the evaluation may also cover these related substances. In cases where a decision on an evaluation has been previously taken in accordance with Article 51 or Article 52, any draft decision requiring further information under Article 46 may be justified only by a change of circumstances or acquired knowledge.

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2. In order to ensure a harmonised approach to requests for further information, the Agency shall monitor draft decisions under Article 46 and shall develop criteria and priorities. Where appropriate, implementing measures shall be adopted in accordance with the procedure referred to in Article 133(3).

Article 48

Follow-up to substance evaluation

Once the substance evaluation has been completed, the competent authority shall consider how to use the information obtained from this evaluation for the purposes of Article 59(3), Article 69(4) and Article 115(1). The competent authority shall inform the Agency of its conclusions as to whether or how to use the information obtained. The Agency shall in turn inform the Commission, the registrant and the competent authorities of the other Member States.

CHAPTER 3

Evaluation of intermediates

Article 49

Further information on on-site isolated intermediates

For on-site isolated intermediates that are used in strictly controlled conditions, neither dossier nor substance evaluation shall apply. However, where the competent authority of the Member State in whose territory the site is located considers that a risk to human health or the environment, equivalent to the level of concern arising from the use of substances meeting the criteria in Article 57, arises from the use of an on-site isolated intermediate and that risk is not properly controlled, it may:

(a) require the registrant to submit further information directly related to the risk identified. This request shall be accompanied by a written justification;

(b) examine any information submitted and, if necessary, recommend any appropriate risk reduction measures to address the risks identified in relation to the site in question.

The procedure provided for in the first paragraph may be undertaken only by the competent authority referred to therein. The competent authority shall inform the Agency of the results of such an evaluation, which shall then inform the competent authorities of the other Member States and make the results available to them.

▼C1

CHAPTER 4

Common provisions

Article 50

Registrants' and downstream users' rights

1. The Agency shall notify any draft decision under Articles 40, 41 or 46 to the registrant(s) or downstream user(s) concerned, informing them of their right to comment within 30 days of receipt. If the concerned registrant(s) or downstream user(s) wish to comment, they shall provide their comments to the Agency. The Agency in turn shall inform the competent authority of the submission of the comments without delay. The competent authority (for decisions taken under Article 46) and the Agency (for decisions taken under Articles 40 and 41) shall take any comments received into account and may amend the draft decision accordingly.

2. If a registrant has ceased the manufacture or import of the substance, or the production or import of an article, or the downstream user the use, he shall inform the Agency of this fact with the consequence that the registered volume in his registration, if appropriate, shall be put to zero and no further information may be requested with respect to that substance, unless the registrant notifies the restart of the manufacture or import of the substance or the production or import of the article, or the downstream user notifies the restart of the use. The Agency shall inform the competent authority of the Member State in which the registrant or downstream user is located.

3. The registrant may cease the manufacture or import of the substance or the production or import of the article, or the downstream user the use, upon receipt of the draft decision. In such cases, the registrant, or downstream user, shall inform the Agency of this fact with the consequence that his registration, or report, shall no longer be valid, and no further information may be requested with respect to that substance, unless he submits a new registration or report. The Agency shall inform the competent authority of the Member State in which the registrant or downstream user is located.

4. Notwithstanding paragraphs 2 and 3, further information may be required in accordance with Article 46 in either or both of the following cases:

(a) where the competent authority prepares a dossier in accordance with Annex XV concluding that there is a potential long-term risk to human health or the environment justifying the need for further information;

(b) where the exposure to the substance manufactured or imported by the registrant(s), or to the substance in the article produced or imported by the registrant(s), or to the substance used by the downstream user(s) contributes significantly to that risk.

The procedure in Articles 69 to 73 shall apply *mutatis mutandis*.

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Article 51

Adoption of decisions under dossier evaluation

1. The Agency shall notify its draft decision in accordance with Articles 40 or 41, together with the comments of the registrant, to the competent authorities of the Member States.

2. Within 30 days of circulation, the Member States may propose amendments to the draft decision to the Agency.

3. If the Agency does not receive any proposals, it shall take the decision in the version notified under paragraph 1.

4. If the Agency receives a proposal for amendment, it may modify the draft decision. The Agency shall refer a draft decision, together with any amendments proposed, to the Member State Committee within 15 days of the end of the 30-day period referred to in paragraph 2.

5. The Agency shall forthwith communicate any proposal for amendment to any registrants or downstream users concerned and allow them to comment within 30 days. The Member State Committee shall take any comments received into account.

6. If, within 60 days of the referral, the Member State Committee reaches a unanimous agreement on the draft decision, the Agency shall take the decision accordingly.

7. If the Member State Committee fails to reach unanimous agreement, the Commission shall prepare a draft decision to be taken in accordance with the procedure referred to in Article 133(3).

8. An appeal may be brought, in accordance with Articles 91, 92 and 93, against Agency decisions under paragraphs 3 and 6 of this Article.

Article 52

Adoption of decisions under substance evaluation

1. The competent authority shall circulate its draft decision in accordance with Article 46, together with any comments by the registrant or downstream user, to the Agency and to the competent authorities of the other Member States.

2. The provisions of Article 51(2) to (8) shall apply *mutatis mutandis*.

Article 53

Cost sharing for tests without an agreement between registrants and/or downstream users

1. Where registrants or downstream users are required to perform a test as a result of a decision taken under this Title, those registrants or downstream users shall make every effort to reach an agreement as to who is to carry it out on behalf of the other registrants or downstream users and to inform the Agency accordingly within 90 days. If the Agency is not informed of such agreement within such 90 days, it shall designate one of the registrants or downstream users to perform the test on behalf of all of them.

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2. If a registrant or downstream user performs a test on behalf of others, they shall all share the cost of that study equally.

3. In the case referred to in paragraph 1, the registrant or downstream user who performs the test shall provide each of the others concerned with a copy of the full study report.

4. The person performing and submitting the study shall have a claim against the others accordingly. Any person concerned shall be able to make a claim in order to prohibit another person from manufacturing, importing or placing the substance on the market if that other person either fails to pay his share of the cost or to provide security for that amount or fails to hand over a copy of the full study report of the study performed. All claims shall be enforceable in the national courts. Any person may choose to submit their claims for remuneration to an arbitration board and accept the arbitration order.

Article 54

Publication of information on evaluation

By 28 February of each year, the Agency shall publish on its website a report on the progress made over the previous calendar year towards discharging the obligations incumbent upon it in relation to evaluation. This report shall include, in particular, recommendations to potential registrants in order to improve the quality of future registrations.

TITLE VII

AUTHORISATION

CHAPTER 1

Authorisation requirement

Article 55

Aim of authorisation and considerations for substitution

The aim of this Title is to ensure the good functioning of the internal market while assuring that the risks from substances of very high concern are properly controlled and that these substances are progressively replaced by suitable alternative substances or technologies where these are economically and technically viable. To this end all manufacturers, importers and downstream users applying for authorisations shall analyse the availability of alternatives and consider their risks, and the technical and economic feasibility of substitution.

Article 56

General provisions

1. A manufacturer, importer or downstream user shall not place a substance on the market for a use or use it himself if that substance is included in Annex XIV, unless:

(a) the use(s) of that substance on its own or in a ►M3 mixture ◄ or the incorporation of the substance into an article for which the substance is placed on the market or for which he uses the substance himself has been authorised in accordance with Articles 60 to 64; or

▼C1

(b) the use(s) of that substance on its own or in a ►M3 mixture ◄ or the incorporation of the substance into an article for which the substance is placed on the market or for which he uses the substance himself has been exempted from the authorisation requirement in Annex XIV itself in accordance with Article 58(2); or

(c) the date referred to in Article 58(1)(c)(i) has not been reached; or

(d) the date referred to in Article 58(1)(c)(i) has been reached and he made an application 18 months before that date but a decision on the application for authorisation has not yet been taken; or

(e) in cases where the substance is placed on the market, authorisation for that use has been granted to his immediate downstream user.

2. A downstream user may use a substance meeting the criteria set out in paragraph 1 provided that the use is in accordance with the conditions of an authorisation granted to an actor up his supply chain for that use.

3. Paragraphs 1 and 2 shall not apply to the use of substances in scientific research and development. Annex XIV shall specify if paragraphs 1 and 2 apply to product and process orientated research and development as well as the maximum quantity exempted.

4. Paragraphs 1 and 2 shall not apply to the following uses of substances:

(a) uses in plant protection products within the scope of Directive 91/414/EEC;

(b) uses in biocidal products within the scope of Directive 98/8/EC;

(c) use as motor fuels covered by Directive 98/70/EC of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels ([1]);

(d) uses as fuel in mobile or fixed combustion plants of mineral oil products and use as fuels in closed systems.

5. In the case of substances that are subject to authorisation only because they meet the criteria in Article 57(a), (b) or (c) or because they are identified in accordance with Article 57(f) only because of hazards to human health, paragraphs 1 and 2 of this Article shall not apply to the following uses:

(a) uses in cosmetic products within the scope of Directive 76/768/EEC;

(b) uses in food contact materials within the scope of Regulation (EC) No 1935/2004.

6. Paragraphs 1 and 2 shall not apply to the use of substances when they are present in ►M3 mixtures ◄:

(a) for substances referred to in Article 57(d), (e) and (f), below a concentration limit of 0,1 % weight by weight (w/w);

([1]) OJ L 350, 28.12.1998, p. 58. Directive as amended by Regulation (EC) No 1882/2003.

▼M3

(b) for all other substances, below the values specified in Article 11(3) of Regulation (EC) No 1272/2008 which result in the classification of the mixture as hazardous.

▼C1

Article 57

Substances to be included in Annex XIV

The following substances may be included in Annex XIV in accordance with the procedure laid down in Article 58:

▼M3

(a) substances meeting the criteria for classification in the hazard class carcinogenicity category 1A or 1B in accordance with section 3.6 of Annex I to Regulation (EC) No 1272/2008;

(b) substances meeting the criteria for classification in the hazard class germ cell mutagenicity category 1A or 1B in accordance with section 3.5 of Annex I to Regulation (EC) No 1272/2008;

(c) substances meeting the criteria for classification in the hazard class reproductive toxicity category 1A or 1B, adverse effects on sexual function and fertility or on development in accordance with section 3.7 of Annex I to Regulation(EC) No 1272/2008;

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(d) substances which are persistent, bioaccumulative and toxic in accordance with the criteria set out in Annex XIII of this Regulation;

(e) substances which are very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII of this Regulation;

(f) substances — such as those having endocrine disrupting properties or those having persistent, bioaccumulative and toxic properties or very persistent and very bioaccumulative properties, which do not fulfil the criteria of points (d) or (e) — for which there is scientific evidence of probable serious effects to human health or the environment which give rise to an equivalent level of concern to those of other substances listed in points (a) to (e) and which are identified on a case-by-case basis in accordance with the procedure set out in Article 59.

Article 58

Inclusion of substances in Annex XIV

1. Whenever a decision is taken to include in Annex XIV substances referred to in Article 57, such a decision shall be taken in accordance with the procedure referred to in Article 133(4). It shall specify for each substance:

(a) the identity of the substance as specified in Section 2 of Annex VI;

(b) the intrinsic property (properties) of the substance referred to in Article 57;

▼C1

(c) transitional arrangements:

(i) the date(s) from which the placing on the market and the use of the substance shall be prohibited unless an authorisation is granted (hereinafter referred to as the sunset date) which should take into account, where appropriate, the production cycle specified for that use;

(ii) a date or dates at least 18 months before the sunset date(s) by which applications must be received if the applicant wishes to continue to use the substance or place it on the market for certain uses after the sunset date(s); these continued uses shall be allowed after the sunset date until a decision on the application for authorisation is taken;

(d) review periods for certain uses, if appropriate;

(e) uses or categories of uses exempted from the authorisation requirement, if any, and conditions for such exemptions, if any.

2. Uses or categories of uses may be exempted from the authorisation requirement provided that, on the basis of the existing specific Community legislation imposing minimum requirements relating to the protection of human health or the environment for the use of the substance, the risk is properly controlled. In the establishment of such exemptions, account shall be taken, in particular, of the proportionality of risk to human health and the environment related to the nature of the substance, such as where the risk is modified by the physical form.

3. Prior to a decision to include substances in Annex XIV, the Agency shall, taking into account the opinion of the Member State Committee, recommend priority substances to be included specifying for each substance the items set out in paragraph 1. Priority shall normally be given to substances with:

(a) PBT or vPvB properties; or

(b) wide dispersive use; or

(c) high volumes.

The number of substances included in Annex XIV and the dates specified under paragraph 1 shall also take account of the Agency's capacity to handle applications in the time provided for. The Agency shall make its first recommendation of priority substances to be included in Annex XIV by 1 June 2009. The Agency shall make further recommendations at least every second year with a view to including further substances in Annex XIV.

4. Before the Agency sends its recommendation to the Commission it shall make it publicly available on its website, clearly indicating the date of publication, taking into account Articles 118 and 119 on access to information. The Agency shall invite all interested parties to submit comments within three months of the date of publication, in particular on uses which should be exempt from the authorisation requirement.

The Agency shall update its recommendation, taking into account the comments received.

▼C1

5. Subject to paragraph 6, after inclusion of a substance in Annex XIV, this substance shall not be subjected to new restrictions under the procedure outlined in Title VIII covering the risks to human health or the environment from the use of the substance on its own, in a ►M3 mixture ◄ or incorporation of a substance in an article arising from the intrinsic properties specified in Annex XIV.

6. A substance listed in Annex XIV may be subjected to new restrictions under the procedure outlined in Title VIII covering the risks to human health or the environment from the presence of the substance in (an) article(s).

7. Substances for which all uses have been prohibited under Title VIII or by other Community legislation shall not be included in Annex XIV or shall be removed from it.

8. Substances which as a result of new information no longer meet the criteria of Article 57 shall be removed from Annex XIV in accordance with the procedure referred to in Article 133(4).

Article 59

Identification of substances referred to in Article 57

1. The procedure set out in paragraphs 2 to 10 of this Article shall apply for the purpose of identifying substances meeting the criteria referred to in Article 57 and establishing a candidate list for eventual inclusion in Annex XIV. The Agency shall indicate, within this list, the substances that are on its work programme according to Article 83(3)(e).

2. The Commission may ask the Agency to prepare a dossier in accordance with relevant Sections of Annex XV for substances which in its opinion meet the criteria set out in Article 57. ►M3 The dossier may be limited, if appropriate, to a reference to an entry in Part 3 of Annex VI to Regulation (EC) No 1272/2008. ◄ The Agency shall make this dossier available to the Member States.

3. Any Member State may prepare a dossier in accordance with Annex XV for substances which in its opinion meet the criteria set out in Article 57 and forward it to the Agency. ►M3 The dossier may be limited, if appropriate, to a reference to an entry in Part 3 of Annex VI to Regulation (EC) No 1272/2008. ◄ The Agency shall make this dossier available within 30 days of receipt to the other Member States.

4. The Agency shall publish on its website a notice that an Annex XV dossier has been prepared for a substance. The Agency shall invite all interested parties to submit comments within a specified deadline to the Agency.

5. Within 60 days of circulation, the other Member States or the Agency may comment on the identification of the substance in relation to the criteria in Article 57 in the dossier to the Agency.

6. If the Agency does not receive or make any comments, it shall include this substance on the list referred to in paragraph 1. The Agency may include this substance in its recommendations under Article 58(3).

▼C1

7. When comments are made or received, the Agency shall refer the dossier to the Member State Committee within 15 days of the end of the 60-day period referred to in paragraph 5.

8. If, within 30 days of the referral, the Member State Committee reaches a unanimous agreement on the identification, the Agency shall include the substance in the list referred to in paragraph 1. The Agency may include that substance in its recommendations under Article 58(3).

9. If the Member State Committee fails to reach a unanimous agreement, the Commission shall prepare a draft proposal on the identification of the substance within three months of receipt of the opinion of the Member State Committee. A final decision on the identification of the substance shall be taken in accordance with the procedure referred to in Article 133(3).

10. The Agency shall publish and update the list referred to in paragraph 1 on its website without delay after a decision on inclusion of a substance has been taken.

CHAPTER 2

Granting of authorisations

Article 60

Granting of authorisations

1. The Commission shall be responsible for taking decisions on applications for authorisations in accordance with this Title.

2. Without prejudice to paragraph 3, an authorisation shall be granted if the risk to human health or the environment from the use of a substance arising from the intrinsic properties specified in Annex XIV is adequately controlled in accordance with Section 6.4 of Annex I and as documented in the applicant's chemical safety report, taking into account the opinion of the Committee for Risk Assessment referred to in Article 64(4)(a). When granting the authorisation, and in any conditions imposed therein, the Commission shall take into account all discharges, emissions and losses, including risks arising from diffuse or dispersive uses, known at the time of the decision.

The Commission shall not consider the risks to human health arising from the use of a substance in a medical device regulated by Council Directive 90/385/EEC of 20 June 1990 on the approximation of the laws of the Member States relating to active implantable medical devices ([1]), Council Directive 93/42/EEC of 14 June 1993 concerning medical devices ([2]) or Directive 98/79/EC of the European Parliament and of the Council of 27 October 1998 on *in vitro* diagnostic medical devices ([3]).

([1]) OJ L 189, 20.7.1990, p. 17. Directive as last amended by Regulation (EC) No 1882/2003.
([2]) OJ L 169, 12.7.1993, p. 1. Directive as last amended by Regulation (EC) No 1882/2003.
([3]) OJ L 331, 7.12.1998, p. 1. Directive as last amended by Regulation (EC) No 1882/2003.

▼C1

3. Paragraph 2 shall not apply to:

(a) substances meeting the criteria in Article 57(a), (b), (c) or (f) for which it is not possible to determine a threshold in accordance with Section 6.4 of Annex I;

(b) substances meeting the criteria in Article 57(d) or (e);

(c) substances identified under Article 57(f) having persistent, bioaccumulative and toxic properties or very persistent and very bioaccumulative properties.

4. If an authorisation cannot be granted under paragraph 2 or for substances listed in paragraph 3, an authorisation may only be granted if it is shown that socio-economic benefits outweigh the risk to human health or the environment arising from the use of the substance and if there are no suitable alternative substances or technologies. This decision shall be taken after consideration of all of the following elements and taking into account the opinions of the Committee for Risk Assessment and the Committee for Socio-economic Analysis referred to in Article 64(4)(a) and (b):

(a) the risk posed by the uses of the substance, including the appropriateness and effectiveness of the risk management measures proposed;

(b) the socio-economic benefits arising from its use and the socio-economic implications of a refusal to authorise as demonstrated by the applicant or other interested parties;

(c) the analysis of the alternatives submitted by the applicant under Article 62(4)(e) or any substitution plan submitted by the applicant under Article 62(4)(f), and any third party contributions submitted under Article 64(2);

(d) available information on the risks to human health or the environment of any alternative substances or technologies.

5. When assessing whether suitable alternative substances or technologies are available, all relevant aspects shall be taken into account by the Commission, including:

(a) whether the transfer to alternatives would result in reduced overall risks to human health and the environment, taking into account the appropriateness and effectiveness of risk management measures;

(b) the technical and economic feasibility of alternatives for the applicant.

6. A use shall not be authorised if this would constitute a relaxation of a restriction set out in Annex XVII.

7. An authorisation shall be granted only if the application is made in conformity with the requirements of Article 62.

8. Authorisations shall be subject to a time-limited review without prejudice to any decision on a future review period and shall normally be subject to conditions, including monitoring. The duration of the time-limited review for any authorisation shall be determined on a case-by-case basis taking into account all relevant information including the elements listed in paragraph 4(a) to (d), as appropriate.

▼C1

9. The authorisation shall specify:

(a) the person(s) to whom the authorisation is granted;

(b) the identity of the substance(s);

(c) the use(s) for which the authorisation is granted;

(d) any conditions under which the authorisation is granted;

(e) the time-limited review period;

(f) any monitoring arrangement.

10. Notwithstanding any conditions of an authorisation, the holder shall ensure that the exposure is reduced to as low a level as is technically and practically possible.

Article 61

Review of authorisations

1. Authorisations granted in accordance with Article 60 shall be regarded as valid until the Commission decides to amend or withdraw the authorisation in the context of a review, provided that the holder of the authorisation submits a review report at least 18 months before the expiry of the time-limited review period. Rather than re-submitting all elements of the original application for the current authorisation, the holder of an authorisation may submit only the number of the current authorisation, subject to the second, third and fourth subparagraphs.

A holder of an authorisation granted in accordance with Article 60 shall submit an update of the analysis of alternatives referred to in Article 62 (4)(e), including information about any relevant research and development activities by the applicant, if appropriate, and any substitution plan submitted under Article 62(4)(f). If the update of the analysis of alternatives shows that there is a suitable alternative available taking into account the elements in Article 60(5), he shall submit a substitution plan, including a timetable for proposed actions by the applicant. If the holder cannot demonstrate that the risk is adequately controlled, he shall also submit an update of the socio-economic analysis contained in the original application.

If he can now demonstrate that the risk is adequately controlled, he shall submit an update of the chemical safety report.

If any other elements of the original application have changed, he shall also submit updates of these element(s).

When any updated information is submitted in accordance with this paragraph, any decision to amend or withdraw the authorisation in the context of the review shall be taken in accordance with the procedure referred to in Article 64 applied *mutatis mutandis*.

2. Authorisations may be reviewed at any time if:

(a) the circumstances of the original authorisation have changed so as to affect the risk to human health or the environment, or the socio-economic impact; or

(b) new information on possible substitutes becomes available.

▼C1

The Commission shall set a reasonable deadline by which the holder(s) of the authorisation may submit further information necessary for the review and indicate by when it will take a decision in accordance with Article 64.

3. In its review decision the Commission may, if circumstances have changed and taking into account the principle of proportionality, amend or withdraw the authorisation, if under the changed circumstances it would not have been granted or if suitable alternatives in accordance with Article 60(5) become available. In the latter case the Commission shall require the holder of the authorisation to present a substitution plan if he has not already done so as part of his application or update.

In cases where there is a serious and immediate risk for human health or the environment, the Commission may suspend the authorisation pending the review, taking into account the principle of proportionality.

4. If an environmental quality standard referred to in Directive 96/61/EC is not met, the authorisations granted for the use of the substance concerned may be reviewed.

5. If the environmental objectives as referred to in Article 4(1) of Directive 2000/60/EC are not met, the authorisations granted for the use of the substance concerned in the relevant river basin may be reviewed.

6. If a use of a substance is subsequently prohibited or otherwise restricted in Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants ([1]), the Commission shall withdraw the authorisation for that use.

Article 62

Applications for authorisations

1. An application for an authorisation shall be made to the Agency.

2. Applications for authorisation may be made by the manufacturer (s), importer(s) and/or downstream user(s) of the substance. Applications may be made by one or several persons.

3. Applications may be made for one or several substances, that meet the definition of a group of substances in Section 1.5 of Annex XI, and for one or several uses. Applications may be made for the applicant's own use(s) and/or for uses for which he intends to place the substance on the market.

4. An application for authorisation shall include the following information:

(a) the identity of the substance(s), as referred to in Section 2 of Annex VI;

(b) the name and contact details of the person or persons making the application;

(c) a request for authorisation, specifying for which use(s) the authorisation is sought and covering the use of the substance in ►**M3** mixtures ◄ and/or the incorporation of the substance in articles, where this is relevant;

([1]) OJ L 158, 30.4.2004, p. 7, corrected in OJ L 229, 29.6.2004, p. 5. Regulation as amended by Council Regulation (EC) No 1195/2006 (OJ L 217, 8.8.2006, p. 1).

▼C1

(d) unless already submitted as part of the registration, a chemical safety report in accordance with Annex I covering the risks to human health and/or the environment from the use of the substance(s) arising from the intrinsic properties specified in Annex XIV;

(e) an analysis of the alternatives considering their risks and the technical and economic feasibility of substitution and including, if appropriate information about any relevant research and development activities by the applicant;

(f) where the analysis referred to in point (e) shows that suitable alternatives are available, taking into account the elements in Article 60 (5), a substitution plan including a timetable for proposed actions by the applicant.

5. The application may include:

(a) a socio-economic analysis conducted in accordance with Annex XVI;

(b) a justification for not considering risks to human health and the environment arising either from:

(i) emissions of a substance from an installation for which a permit was granted in accordance with Directive 96/61/EC; or

(ii) discharges of a substance from a point source governed by the requirement for prior regulation referred to in Article 11(3)(g) of Directive 2000/60/EC and legislation adopted under Article 16 of that Directive.

6. The application shall not include the risks to human health arising from the use of a substance in a medical device regulated by Directives 90/385/EEC, 93/42/EEC or 98/79/EC.

7. An application for an authorisation shall be accompanied by the fee required in accordance with Title IX.

Article 63

Subsequent applications for authorisation

1. If an application has been made for a use of a substance, a subsequent applicant may refer to the appropriate parts of the previous application submitted in accordance with Article 62(4)(d), (e) and (f) and (5)(a), provided that the subsequent applicant has permission from the previous applicant to refer to these parts of the application.

2. If an authorisation has been granted for a use of a substance, a subsequent applicant may refer to the appropriate parts of the previous application submitted in accordance with Article 62(4)(d), (e) and (f) and (5)(a), provided that the subsequent applicant has permission from the holder of the authorisation to refer to these parts of the application.

3. Before referring to any previous application in accordance with paragraphs 1 and 2, the subsequent applicant shall update the information of the original application as necessary.

▼C1

Article 64

Procedure for authorisation decisions

1. The Agency shall acknowledge the date of receipt of the application. The Agency's Committees for Risk Assessment and Socio-economic Analysis shall give their draft opinions within ten months of the date of receipt of the application.

2. The Agency shall make available on its web-site broad information on uses, taking into account Articles 118 and 119 on access to information, for which applications have been received and for reviews of authorisations, with a deadline by which information on alternative substances or technologies may be submitted by interested third parties.

3. In preparing its opinion, each Committee referred to in paragraph 1 shall first check that the application includes all the information specified in Article 62 that is relevant to its remit. If necessary, the Committees shall, in consultation with each other, make a joint request to the applicant for additional information to bring the application into conformity with the requirements of Article 62. The Committee for Socio-economic Analysis may, if it deems it necessary, require the applicant or request third parties to submit, within a specified time period, additional information on possible alternative substances or technologies. Each Committee shall also take into account any information submitted by third parties.

4. The draft opinions shall include the following elements:

(a) Committee for Risk Assessment: an assessment of the risk to human health and/or the environment arising from the use(s) of the substance, including the appropriateness and effectiveness of the risk management measures as described in the application and, if relevant, an assessment of the risks arising from possible alternatives;

(b) Committee for Socio-economic Analysis: an assessment of the socio-economic factors and the availability, suitability and technical feasibility of alternatives associated with the use(s) of the substance as described in the application, when an application is made in accordance with Article 62 and of any third party contributions submitted under paragraph 2 of this Article.

5. The Agency shall send these draft opinions to the applicant by the end of the deadline set out in paragraph 1. Within one month of receipt of the draft opinion, the applicant may provide written notice that he wishes to comment. The draft opinion shall be deemed to have been received seven days after the Agency has sent it.

If the applicant does not wish to comment, the Agency shall send these opinions to the Commission, the Member States and the applicant, within 15 days of the end of the period within which the applicant may comment or within 15 days of receipt of notice from the applicant that he does not intend to comment.

If the applicant wishes to comment, he shall send his written argumentation to the Agency within two months of the receipt of the draft opinion. The Committees shall consider the comments and adopt their final opinions within two months of receipt of the written argumentation, taking this argumentation into account where appropriate. Within a further 15 days the Agency shall send the opinions, with the written argumentation attached, to the Commission, the Member States and the applicant.

▼C1

6. The Agency shall determine in accordance with Articles 118 and 119 which parts of its opinions and parts of any attachments thereto should be made publicly available on its website.

7. In cases covered by Article 63(1), the Agency shall treat the applications together, provided the deadlines for the first application can be met.

8. The Commission shall prepare a draft authorisation decision within three months of receipt of the opinions from the Agency. A final decision granting or refusing the authorisation shall be taken in accordance with the procedure referred to in Article 133(3).

9. Summaries of the Commission decisions, including the authorisation number and the reasons for the decision, in particular where suitable alternatives exist, shall be published in the Official Journal of the European Union and shall be made publicly available in a database established and kept up to date by the Agency.

10. In cases covered by Article 63(2), the deadline set out in paragraph 1 of this Article shall be shortened to five months.

CHAPTER 3

Authorisations in the supply chain

Article 65

Obligation of holders of authorisations

Holders of an authorisation, as well as downstream users referred to in Article 56(2) including the substances in a ►M3 mixture ◄, shall include the authorisation number on the label before they place the substance or a ►M3 mixture ◄ containing the substance on the market for an authorised use without prejudice to ►M3 Directive 67/548/EEC and Regulation (EC) No 1272/2008 ◄ ►M3 ——————— ◄. This shall be done without delay once the authorisation number has been made publicly available in accordance with Article 64(9).

Article 66

Downstream users

1. Downstream users using a substance in accordance with Article 56(2) shall notify the Agency within three months of the first supply of the substance.

2. The Agency shall establish and keep up to date a register of downstream users who have made a notification in accordance with paragraph 1. The Agency shall grant access to this register to the competent authorities of the Member States.

▼C1

TITLE VIII

RESTRICTIONS ON THE MANUFACTURING, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, ►M3 MIXTURES ◄ AND ARTICLES

CHAPTER 1

General issues

Article 67

General provisions

1. A substance on its own, in a ►M3 mixture ◄ or in an article, for which Annex XVII contains a restriction shall not be manufactured, placed on the market or used unless it complies with the conditions of that restriction. This shall not apply to the manufacture, placing on the market or use of a substance in scientific research and development. Annex XVII shall specify if the restriction shall not apply to product and process orientated research and development, as well as the maximum quantity exempted.

2. Paragraph 1 shall not apply to the use of substances in cosmetic products, as defined by Directive 76/768/EEC, with regard to restrictions addressing the risks to human health within the scope of that Directive.

3. Until 1 June 2013, a Member State may maintain any existing and more stringent restrictions in relation to Annex XVII on the manufacture, placing on the market or use of a substance, provided that those restrictions have been notified according to the Treaty. The Commission shall compile and publish an inventory of these restrictions by 1 June 2009.

CHAPTER 2

Restrictions process

Article 68

Introducing new and amending current restrictions

1. When there is an unacceptable risk to human health or the environment, arising from the manufacture, use or placing on the market of substances, which needs to be addressed on a Community-wide basis, Annex XVII shall be amended in accordance with the procedure referred to in Article 133(4) by adopting new restrictions, or amending current restrictions in Annex XVII, for the manufacture, use or placing on the market of substances on their own, in ►M3 mixtures ◄ or in articles, pursuant to the procedure set out in Articles 69 to 73. Any such decision shall take into account the socio-economic impact of the restriction, including the availability of alternatives.

The first subparagraph shall not apply to the use of a substance as an on-site isolated intermediate.

▼M3

2. For a substance on its own, in a mixture or in an article which meets the criteria for classification in the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B, and could be used by consumers and for which restrictions to consumer use are proposed by the Commission, Annex XVII shall be amended in accordance with the procedure referred to in Article 133(4). Articles 69 to 73 shall not apply.

▼C1

Article 69

Preparation of a proposal

1. If the Commission considers that the manufacture, placing on the market or use of a substance on its own, in a ►M3 mixture ◄ or in an article poses a risk to human health or the environment that is not adequately controlled and needs to be addressed, it shall ask the Agency to prepare a dossier which conforms to the requirements of Annex XV.

2. After the date referred to in Article 58(1)(c)(i) for a substance listed in Annex XIV, the Agency shall consider whether the use of that substance in articles poses a risk to human health or the environment that is not adequately controlled. If the Agency considers that the risk is not adequately controlled, it shall prepare a dossier which conforms to the requirements of Annex XV.

3. Within 12 months of the receipt of the request from the Commission in paragraph 1 and if this dossier demonstrates that action on a Community-wide basis is necessary, beyond any measures already in place, the Agency shall suggest restrictions, in order to initiate the restrictions process.

4. If a Member State considers that the manufacture, placing on the market or use of a substance on its own, in a ►M3 mixture ◄ or in an article poses a risk to human health or the environment that is not adequately controlled and needs to be addressed it shall notify the Agency that it proposes to prepare a dossier which conforms to the requirements of the relevant sections of Annex XV. If the substance is not on the list maintained by the Agency referred to in paragraph 5 of this Article, the Member State shall prepare a dossier which conforms to the requirements of Annex XV within 12 months of the notification to the Agency. If this dossier demonstrates that action on a Community-wide basis is necessary, beyond any measures already in place, the Member State shall submit it to the Agency in the format outlined in Annex XV, in order to initiate the restrictions process.

The Agency or Member States shall refer to any dossier, chemical safety report or risk assessment submitted to the Agency or Member State under this Regulation. The Agency or Member States shall also refer to any relevant risk assessment submitted for the purposes of other Community Regulations or Directives. To this end other bodies, such as agencies, established under Community law and carrying out a similar task shall provide information to the Agency or Member State concerned on request.

▼C1

The Committee for Risk Assessment and the Committee for Socio-economic Analysis shall check whether the dossier submitted conforms to the requirements of Annex XV. Within 30 days of receipt, the respective Committee shall inform the Agency or the Member State suggesting restrictions, as to whether the dossier conforms. If the dossier does not conform, the reasons shall be given to the Agency or the Member State in writing within 45 days of receipt. The Agency or the Member State shall bring the dossier into conformity within 60 days of the date of receipt of the reasons from the Committees, otherwise the procedure under this Chapter shall be terminated. The Agency shall publish without delay the intention of the Commission or of a Member State to instigate a restriction procedure for a substance and shall inform those who submitted a registration for that substance.

5. The Agency shall maintain a list of substances for which a dossier conforming to the requirements of Annex XV is planned or underway by either the Agency or a Member State for the purposes of a proposed restriction. If a substance is on the list, no other such dossier shall be prepared. If it is proposed by either a Member State or the Agency that an existing restriction listed in Annex XVII should be re-examined a decision on whether to do so shall be taken in accordance with the procedure referred to in Article 133(2) based on evidence presented by the Member State or the Agency.

6. Without prejudice to Articles 118 and 119, the Agency shall make publicly available on its website all dossiers conforming with Annex XV including the restrictions suggested pursuant to paragraphs 3 and 4 of this Article without delay, clearly indicating the date of publication. The Agency shall invite all interested parties to submit individually or jointly within six months of the date of publication:

(a) comments on dossiers and the suggested restrictions;

(b) a socio-economic analysis, or information which can contribute to one, of the suggested restrictions, examining the advantages and drawbacks of the proposed restrictions. It shall conform to the requirements in Annex XVI.

Article 70

Agency opinion: Committee for Risk Assessment

Within nine months of the date of publication referred to in Article 69 (6), the Committee for Risk Assessment shall formulate an opinion as to whether the suggested restrictions are appropriate in reducing the risk to human health and/or the environment, based on its consideration of the relevant parts of the dossier. This opinion shall take account of the Member State dossier or of the dossier prepared by the Agency at the request of the Commission, and the views of interested parties referred to in Article 69(6)(a).

▼C1

Article 71

Agency opinion: Committee for Socio-economic Analysis

1. Within 12 months of the date of publication referred to in Article 69(6), the Committee for Socio-economic Analysis shall formulate an opinion on the suggested restrictions, based on its consideration of the relevant parts of the dossier and the socio-economic impact. It shall prepare a draft opinion on the suggested restrictions and on the related socio-economic impact, taking account of the analyses or information according to Article 69(6)(b), if there are any. The Agency shall publish the draft opinion on its website without delay. The Agency shall invite interested parties to give their comments on the draft opinion no later than 60 days from the publication of that draft opinion.

2. The Committee for Socio-economic Analysis shall without delay adopt its opinion, taking into account where appropriate further comments received by the deadline set. This opinion shall take account of the comments and socio-economic analyses of interested parties submitted under Article 69(6)(b) and under paragraph 1 of this Article.

3. Where the opinion of the Committee for Risk Assessment diverges significantly from the restrictions suggested, the Agency may postpone the deadline for the opinion of the Committee for Socio-economic Analysis by a maximum of 90 days.

Article 72

Submission of an opinion to the Commission

1. The Agency shall submit to the Commission without delay the opinions of the Committees for Risk Assessment and Socio-economic Analysis on restrictions suggested for substances on their own, in ►M3 mixtures ◄ or in articles. If one or both of the Committees do not formulate an opinion by the deadline set in Article 70 and Article 71(1) the Agency shall inform the Commission accordingly, stating the reasons.

2. Without prejudice to Articles 118 and 119 the Agency shall publish the opinions of the two Committees on its website without delay.

3. The Agency shall provide the Commission and/or Member State on request with all documents and evidence submitted to or considered by it.

Article 73

Commission decision

1. If the conditions laid down in Article 68 are fulfilled, the Commission shall prepare a draft amendment to Annex XVII, within three months of receipt of the opinion of the Committee for Socio-economic Analysis or by the end of the deadline established under Article 71 if that Committee does not form an opinion, whichever is the earlier.

Where the draft amendment diverges from the original proposal or if it does not take the opinions from the Agency into account, the Commission shall annex a detailed explanation of the reasons for the differences.

▼C1

2. A final decision shall be taken in accordance with the procedure referred to in Article 133(4). The Commission shall send the draft amendment to the Member States at least 45 days before voting.

TITLE IX

FEES AND CHARGES

Article 74

Fees and charges

1. The fees that are required according to Article 6(4), Article 7(1) and (5), Article 9(2), Article 11(4), Article 17(2), Article 18(2), Article 19(3), Article 22(5), Article 62(7) and Article 92(3) shall be specified in a Commission Regulation adopted in accordance with the procedure referred to in Article 133(3) by 1 June 2008.

2. A fee need not be paid for a registration of a substance in a quantity of between 1 and 10 tonnes where the registration dossier contains the full information in Annex VII.

3. The structure and amount of the fees referred to in paragraph 1 shall take account of the work required by this Regulation to be carried out by the Agency and the competent authority and shall be fixed at such a level as to ensure that the revenue derived from them when combined with other sources of the Agency's revenue pursuant to Article 96(1) is sufficient to cover the cost of the services delivered. The fees set for registration shall take into account the work that may be done pursuant to Title VI.

In the case of Article 6(4), Article 7(1) and (5), Article 9(2), Article 11 (4), Article 17(2) and Article 18(2), the structure and amount of fees shall take account of the tonnage range of the substance being registered.

In all cases, a reduced fee shall be set for SMEs.

In the case of Article 11(4), the structure and amount of fees shall take into account whether information has been submitted jointly or separately.

In the case of a request made under Article 10(a)(xi), the structure and amount of fees shall take into account the work required by the Agency in assessing the justification.

4. The Regulation referred to in paragraph 1 shall specify the circumstances under which a proportion of the fees will be transferred to the relevant Member State competent authority.

▼C1

5. The Agency may collect charges for other services it provides.

TITLE X

AGENCY

Article 75

Establishment and review

1. A European Chemicals Agency is established for the purposes of managing and in some cases carrying out the technical, scientific and administrative aspects of this Regulation and to ensure consistency at Community level in relation to these aspects.

2. The Agency shall be subject to a review by 1 June 2012.

Article 76

Composition

1. The Agency shall comprise:

(a) a Management Board, which shall exercise the responsibilities set out in Article 78;

(b) an Executive Director, who shall exercise the responsibilities set out in Article 83;

(c) a Committee for Risk Assessment, which shall be responsible for preparing the opinion of the Agency on evaluations, applications for authorisation, proposals for restrictions and proposals for classification and labelling under ►M3 Title V of Regulation (EC) No 1272/2008 ◄ and any other questions that arise from the operation of this Regulation relating to risks to human health or the environment;

(d) a Committee for Socio-economic Analysis, which shall be responsible for preparing the opinion of the Agency on applications for authorisation, proposals for restrictions, and any other questions that arise from the operation of this Regulation relating to the socio-economic impact of possible legislative action on substances;

(e) a Member State Committee, which shall be responsible for resolving potential divergences of opinions on draft decisions proposed by the Agency or the Member States under Title VI and proposals for identification of substances of very high concern to be subjected to the authorisation procedure under Title VII;

(f) a Forum for Exchange of Information on Enforcement (hereinafter referred to as the Forum) which shall coordinate a network of Member States authorities responsible for enforcement of this Regulation;

(g) a Secretariat, which shall work under the leadership of the Executive Director and provide technical, scientific and administrative support for the Committees and the Forum and ensure appropriate coordination between them. It shall also undertake the work required of the Agency under the procedures for pre-registration, registration and evaluation as well as preparation of guidance, database maintenance and information provision;

▼C1

(h) a Board of Appeal, which shall decide on appeals against decisions taken by the Agency.

2. The Committees referred to in points (c), (d) and (e) of paragraph 1 (hereinafter referred to as the Committees) and the Forum may each establish working groups. For this purpose they shall adopt, in accordance with their rules of procedure, precise arrangements for delegating certain tasks to these working groups.

3. The Committees and the Forum may, if they consider it appropriate, seek advice on important questions of a general scientific or ethical nature from appropriate sources of expertise.

Article 77

Tasks

1. The Agency shall provide the Member States and the institutions of the Community with the best possible scientific and technical advice on questions relating to chemicals which fall within its remit and which are referred to it in accordance with the provisions of this Regulation.

2. The Secretariat shall undertake the following tasks:

(a) performing the tasks allotted to it under Title II; including facilitating the efficient registration of imported substances, in a way consistent with the Community's international trading obligations towards third countries;

(b) performing the tasks allotted to it under Title III;

(c) performing the tasks allotted to it under Title VI;

(d) performing the tasks allotted to it under Title VIII;

►M3 (e) establishing and maintaining database(s) with information on all registered substances, the classification and labelling inventory and the harmonised classification and labelling list established in accordance with Regulation (EC) No 1272/2008. ◄ It shall make the information identified in Article 119(1) and (2) in the database(s) publicly available, free of charge, over the Internet, except where a request made under Article 10(a)(xi) is considered justified. The Agency shall make other information in the databases available on request in accordance with Article 118;

(f) making publicly available information as to which substances are being, and have been evaluated within 90 days of receipt of the information at the Agency, in accordance with Article 119(1);

(g) providing technical and scientific guidance and tools where appropriate for the operation of this Regulation in particular to assist the development of chemical safety reports (in accordance with Article 14, Article 31(1) and Article 37(4)) and application of Article 10(a)(viii), Article 11(3) and Article 19(2) by industry and especially by SMEs; and technical and scientific guidance for the application of Article 7 by producers and importers of articles;

▼C1

(h) providing technical and scientific guidance on the operation of this Regulation for Member State competent authorities and providing support to the helpdesks established by Member States under Title XIII;

(i) providing guidance to stakeholders including Member State competent authorities on communication to the public of information on the risks and safe use of substances, on their own, in ►M3 mixtures ◄ or in articles;

(j) providing advice and assistance to manufacturers and importers registering a substance in accordance with Article 12(1);

(k) preparing explanatory information on this Regulation for other stakeholders;

(l) at the Commission's request, providing technical and scientific support for steps to improve cooperation between the Community, its Member States, international organisations and third countries on scientific and technical issues relating to the safety of substances, as well as active participation in technical assistance and capacity building activities on sound management of chemicals in developing countries;

(m) keeping a Manual of Decisions and Opinions based on conclusions from the Member State Committee regarding interpretation and implementation of this Regulation;

(n) notification of decisions taken by the Agency;

(o) provision of formats for submission of information to the Agency.

3. The Committees shall undertake the following tasks:

(a) performing the tasks allotted to them under ►M3 Titles VI to X ◄;

(b) at the Executive Director's request, providing technical and scientific support for steps to improve cooperation between the Community, its Member States, international organisations and third countries on scientific and technical issues relating to the safety of substances, as well as active participation in technical assistance and capacity building activities on sound management of chemicals in developing countries;

(c) at the Executive Director's request, drawing up an opinion on any other aspects concerning the safety of substances on their own, in ►M3 mixtures ◄ or in articles.

4. The Forum shall undertake the following tasks:

(a) spreading good practice and highlighting problems at Community level;

(b) proposing, coordinating and evaluating harmonised enforcement projects and joint inspections;

(c) coordinating exchange of inspectors;

(d) identifying enforcement strategies, as well as best practice in enforcement;

(e) developing working methods and tools of use to local inspectors;

▼C1

(f) developing an electronic information exchange procedure;

(g) liaising with industry, taking particular account of the specific needs of SMEs, and other stakeholders, including relevant international organisations, as necessary;

(h) examining proposals for restrictions with a view to advising on enforceability.

Article 78

Powers of the Management Board

The Management Board shall appoint the Executive Director pursuant to Article 84 and an accounting officer in accordance with Article 43 of Regulation (EC, Euratom) No 2343/2002.

It shall adopt:

(a) by 30 April each year, the general report of the Agency for the previous year;

(b) by 31 October each year the work programme of the Agency for the coming year;

(c) the final budget of the Agency pursuant to Article 96 before the beginning of the financial year, adjusting it, where necessary, according to the Community contribution and any other revenue of the Agency;

(d) a multiannual work programme, which shall be regularly revised.

It shall adopt the internal rules and procedures of the Agency. These rules shall be made public.

It shall perform its duties in relation to the Agency's budget pursuant to Articles 96, 97 and 103.

It shall exercise disciplinary authority over the Executive Director.

It shall adopt its rules of procedure.

It shall appoint the Chairman, the members and alternates of the Board of Appeal in accordance with Article 89.

It shall appoint the members of the Agency committees as set out in Article 85.

It shall forward annually any information relevant to the outcome of the evaluation procedures in accordance with Article 96(6).

Article 79

Composition of the Management Board

1. The Management Board shall be composed of one representative from each Member State and a maximum of six representatives appointed by the Commission, including three individuals from interested parties without voting rights and in addition two independent persons appointed by the European Parliament.

Each Member State shall nominate a member to the Management Board. The members thus nominated shall be appointed by the Council.

▼C1

2. Members shall be appointed on the basis of their relevant experience and expertise in the field of chemical safety or the regulation of chemicals whilst ensuring there is relevant expertise amongst the board members in the fields of general, financial and legal matters.

3. The duration of the term of office shall be four years. The term of office may be renewed once. However, for the first mandate, the Commission shall identify half of its appointees, and the Council shall identify 12 of its appointees, for whom this period shall be six years.

Article 80

Chairmanship of the Management Board

1. The Management Board shall elect a Chairman and a Deputy-Chairman from among the members with voting rights. The Deputy-Chairman shall automatically take the place of the Chairman if he is prevented from attending to his duties.

2. The terms of office of the Chairman and the Deputy-Chairman shall be two years and shall expire when they cease to be members of the Management Board. The term of office shall be renewable once.

Article 81

Meetings of the Management Board

1. The meetings of the Management Board shall be convened by invitation of its Chairman or at the request of at least one third of the Board members.

2. The Executive Director shall take part in the meetings of the Management Board, without voting rights.

3. The Chairmen of the Committees and the Chairman of the Forum, as referred to in Article 76(1)(c) to (f), are entitled to attend the meetings of the Management Board without voting rights.

Article 82

Voting of the Management Board

The Management Board shall adopt rules of procedure for voting, including the conditions for a member to vote on behalf of another member. The Management Board shall act by a two-thirds majority of all members with the right to vote.

Article 83

Duties and powers of the Executive Director

1. The Agency shall be managed by its Executive Director, who shall perform his duties in the interests of the Community, and independently of any specific interests.

2. The Executive Director shall be the legal representative of the Agency. He shall be responsible for:

(a) the day-to-day administration of the Agency;

(b) managing all the Agency resources necessary for carrying out its tasks;

▼C1

(c) ensuring that the time-limits laid down in Community legislation for the adoption of opinions by the Agency are complied with;

(d) ensuring appropriate and timely coordination between the Committees and the Forum;

(e) concluding and managing necessary contracts with service providers;

(f) the preparation of the statement of revenue and expenditure and the implementation of the budget of the Agency pursuant to Articles 96 and 97;

(g) all staff matters;

(h) providing the secretariat for the Management Board;

(i) preparing draft opinions of the Management Board concerning the proposed rules of procedure of the Committees and of the Forum;

(j) making arrangements, upon request from the Management Board, for the execution of any further function(s) (within the remit of Article 77) allotted to the Agency by delegation from the Commission;

(k) establishing and maintaining a regular dialogue with the European Parliament;

(l) determining the terms and conditions for use of software packages;

(m) rectifying a decision made by the Agency following an appeal and after consulting the Chairman of the Board of Appeal.

3. Each year, the Executive Director shall submit the following to the Management Board for approval:

(a) a draft report covering the activities of the Agency in the previous year, including information about the number of registration dossiers received, the number of substances evaluated, the number of applications for authorisation received, the number of proposals for restriction received by the Agency and opined upon, the time taken for completion of the associated procedures, and the substances authorised, dossiers rejected, substances restricted; complaints received and the action taken; an overview of the activities of the Forum;

(b) a draft work-programme for the coming year;

(c) the draft annual accounts;

(d) the draft forecast budget for the coming year;

(e) a draft multiannual work programme.

The Executive Director shall, following approval by the Management Board, forward the work programme for the coming year and the multi-annual work programme to the Member States, the European Parliament, the Council and the Commission, and shall have them published.

▼C1

The Executive Director shall, following approval by the Management Board, forward the Agency's general report to the Member States, the European Parliament, the Council, the Commission, the European Economic and Social Committee and the Court of Auditors, and shall have it published.

Article 84

Appointment of the Executive Director

1. The Executive Director of the Agency shall be appointed by the Management Board on the basis of a list of candidates proposed by the Commission following a call for expressions of interest published in the *Official Journal of the European Union* and in other periodicals or on Internet sites.

The Executive Director shall be appointed on the grounds of merit and documented administrative and management skills, as well as his relevant experience in the fields of chemical safety or regulation. The Management Board shall take its decision by a two-thirds majority of all members with a right to vote.

Power to dismiss the Executive Director shall lie with the Management Board, in accordance with the same procedure.

Before being appointed, the candidate selected by the Management Board shall be invited as soon as possible to make a statement before the European Parliament and to answer questions from Members of Parliament.

2. The term of the office of the Executive Director shall be five years. It may be prolonged by the Management Board once for another period of up to five years.

Article 85

Establishment of the Committees

1. Each Member State may nominate candidates to membership of the Committee for Risk Assessment. The Executive Director shall establish a list of the nominees, which shall be published on the Agency's website, without prejudice to Article 88(1). The Management Board shall appoint the members of the Committee from this list, including at least one member but not more than two from the nominees of each Member State that has nominated candidates. Members shall be appointed for their role and experience in performing the tasks specified in Article 77(3).

2. Each Member State may nominate candidates to membership of the Committee for Socio-economic Analysis. The Executive Director shall establish a list of the nominees, which shall be published on the Agency's website, without prejudice to Article 88(1). The Management Board shall appoint the members of the Committee from this list, including at least one member but not more than two from the nominees of each Member State that has nominated candidates. Members shall be appointed for their role and experience in performing the tasks specified in Article 77(3).

3. Each Member State shall appoint one member to the Member State Committee.

▼C1

4. The Committees shall aim to have a broad range of relevant expertise among their members. To this end each Committee may co-opt a maximum of five additional members chosen on the basis of their specific competence.

Members of the Committees shall be appointed for a term of three years which shall be renewable.

The members of the Management Board may not be members of the Committees.

The members of each Committee may be accompanied by advisers on scientific, technical or regulatory matters.

The Executive Director or his representative and representatives of the Commission shall be entitled to attend all the meetings of the Committees and working groups convened by the Agency or its committees as observers. Stakeholders may also be invited to attend meetings as observers, as appropriate, at the request of the Committee members, or the Management Board.

5. The members of each Committee appointed following nomination by a Member State shall ensure that there is appropriate coordination between the tasks of the Agency and the work of their Member State competent authority.

6. The members of the Committees shall be supported by the scientific and technical resources available to the Member States. To this end, Member States shall provide adequate scientific and technical resources to the members of the Committees that they have nominated. Each Member State competent authority shall facilitate the activities of the Committees and their working groups.

7. The Member States shall refrain from giving the members of the Committee for Risk Assessment or of the Committee for Socio-Economic Analysis, or their scientific and technical advisers and experts, any instruction which is incompatible with the individual tasks of those persons or with the tasks, responsibilities and independence of the Agency.

8. When preparing an opinion, each Committee shall use its best endeavours to reach a consensus. If such a consensus cannot be reached, the opinion shall consist of the position of the majority of members, including their grounds. The minority position(s), including their grounds, shall also be published.

9. Each Committee shall draft a proposal for its own rules of procedure, to be approved by the Management Board, within six months of the Committees first being appointed.

These rules shall in particular lay down the procedures for replacing members, the procedures for delegating certain tasks to working groups, the creation of working groups and the establishment of a procedure for the urgent adoption of opinions. The Chairman of each Committee shall be an employee of the Agency.

Article 86

Establishment of the Forum

1. Each Member State shall appoint, for a three-year term, which shall be renewable, one member to the Forum. Members shall be chosen for their role and experience in enforcement of chemicals legislation and shall maintain relevant contacts with the Member State competent authorities.

▼C1

The Forum shall aim to have a broad range of relevant expertise among its members. To this end the Forum may co-opt a maximum of five additional members chosen on the basis of their specific competence. These members shall be appointed for a term of three years, which shall be renewable. Members of the Management Board may not be members of the Forum.

The members of the Forum may be accompanied by scientific and technical advisers.

The Executive Director of the Agency or his representative and representatives of the Commission shall be entitled to attend all the meetings of the Forum and its working groups. Stakeholders may also be invited to attend meetings as observers, as appropriate, at the request of Forum members, or the Management Board.

2. The members of the Forum appointed by a Member State shall ensure that there is appropriate coordination between the tasks of the Forum and the work of their Member State competent authority.

3. The members of the Forum shall be supported by the scientific and technical resources available to the competent authorities of the Member States. Each Member State competent authority shall facilitate the activities of the Forum and its working groups. The Member States shall refrain from giving the Forum members, or their scientific and technical advisers and experts any instruction which is incompatible with the individual tasks of those persons or with the tasks and responsibilities of the Forum.

4. The Forum shall draft a proposal for its own rules of procedure, to be adopted by the Management Board, within six months of the Forum first being appointed.

These rules shall in particular lay down the procedures for appointing and replacing the Chairman, replacing members and the procedures for delegating certain tasks to working groups.

Article 87

Rapporteurs of Committees and use of experts

1. Where, in accordance with Article 77, a Committee is required to provide an opinion or consider whether a Member State dossier conforms with the requirements of Annex XV, it shall appoint one of its members as a rapporteur. The Committee concerned may appoint a second member to act as co-rapporteur. For each case, rapporteurs and co-rapporteurs shall undertake to act in the interests of the Community and shall make a declaration of commitment to fulfil their duties and a declaration of interests in writing. A member of a Committee shall not be appointed rapporteur for a particular case if he indicates any interest that might be prejudicial to the independent consideration of that case. The Committee concerned may replace the rapporteur or co-rapporteur by another one of its members at any time, if, for example, they are unable to fulfil their duties within the prescribed time limits, or if a potentially prejudicial interest comes to light.

2. Member States shall transmit to the Agency the names of experts with proven experience in the tasks required by Article 77, who would be available to serve on working groups of the Committees, together with an indication of their qualifications and specific areas of expertise.

▼C1

The Agency shall keep an up-to-date list of experts. The list shall include the experts referred to in the first subparagraph and other experts identified directly by the Secretariat.

3. The provision of services by Committee members or any expert serving on a working group of the Committees or Forum, or performing any other task for the Agency shall be governed by a written contract between the Agency and the person concerned, or where appropriate between the Agency and the employer of the person concerned.

The person concerned, or his employer, shall be remunerated by the Agency in accordance with a scale of fees to be included in the financial arrangements established by the Management Board. Where the person concerned fails to fulfil his duties, the Executive Director has the right to terminate or suspend the contract or withhold remuneration.

4. The provision of services for which there are several potential providers may require a call for an expression of interest:

(a) if the scientific and technical context allows; and

(b) if it is compatible with the duties of the Agency, in particular the need to provide a high level of protection of human health and the environment.

The Management Board shall adopt the appropriate procedures on a proposal from the Executive Director.

5. The Agency may use the services of experts for the discharge of other specific tasks for which it is responsible.

Article 88

Qualification and interests

1. The membership of the Committees and of the Forum shall be made public. Individual members may request that their names not be made public if they believe that such publication could place them at risk. The Executive Director shall decide whether to agree to such requests. When each appointment is published, the professional qualifications of each member shall be specified.

2. Members of the Management Board, the Executive Director and members of the Committees and of the Forum shall make a declaration of commitment to fulfil their duties and a declaration of interests which could be considered to be prejudicial to their independence. These declarations shall be made annually in writing and, without prejudice to paragraph 1, be entered in a register held by the Agency which is accessible to the public, on request, at the Agency's offices.

3. At each of their meetings, members of the Management Board, the Executive Director, members of the Committees and of the Forum and any experts participating in the meeting shall declare any interests which could be considered to be prejudicial to their independence with respect to any points on the agenda. Anyone declaring such interests shall not participate in any voting on the relevant agenda point.

▼C1

Article 89

Establishment of the Board of Appeal

1. The Board of Appeal shall consist of a Chairman and two other members.

2. The Chairman and the two members shall have alternates who shall represent them in their absence.

3. The Chairman, the other members and the alternates shall be appointed by the Management Board on the basis of a list of candidates proposed by the Commission following a call for expressions of interest published in the *Official Journal of the European Union* and in other periodicals or on Internet sites. They shall be appointed on the basis of their relevant experience and expertise in the field of chemical safety, natural sciences or regulatory and judicial procedures from a list of qualified candidates adopted by the Commission.

The Management Board may appoint additional members and their alternates, on recommendation by the Executive Director, following the same procedure, if this is necessary to ensure that the appeals can be processed at a satisfactory rate.

4. The qualifications required for the members of the Board of Appeal shall be determined by the Commission in accordance with the procedure referred to in Article 133(3).

5. The Chairman and the members shall have equal voting rights.

Article 90

Members of the Board of Appeal

1. The term of office of the members of the Board of Appeal, including the Chairman and the alternates shall be five years. It may be prolonged once.

2. The members of the Board of Appeal shall be independent. In making their decisions they shall not be bound by any instructions.

3. The members of the Board of Appeal may not perform any other duties in the Agency.

4. The members of the Board of Appeal may not be removed either from office or from the list during their respective terms, unless there are serious grounds for such removal and the Commission, after obtaining the opinion of the Management Board, takes a decision to this effect.

5. Members of the Board of Appeal may not take part in any appeal proceedings if they have any personal interest therein, or if they have previously been involved as representatives of one of the parties to the proceedings, or if they participated in the decision under appeal.

6. If a member of the Board of Appeal considers for reasons mentioned in paragraph 5 that he must not take part in a specific appeal proceedings, he shall inform the Board of Appeal accordingly. Members of the Board may be objected to by any party to the appeal proceedings on any of the grounds mentioned in paragraph 5, or if suspected of partiality. No objection may be based on the nationality of members.

▼C1

7. The Board of Appeal shall decide as to the action to be taken in the cases specified in paragraphs 5 and 6 without the participation of the member concerned. For the purposes of taking this decision, the member concerned shall be replaced on the Board of Appeal by an alternate.

Article 91

Decisions subject to appeal

1. An appeal may be brought against decisions of the Agency taken pursuant to Article 9, Article 20, Article 27(6), Article 30(2) and (3) and Article 51.

2. An appeal lodged pursuant to paragraph 1 shall have suspensive effect.

Article 92

Persons entitled to appeal, time-limits, fees and form

1. Any natural or legal person may appeal against a decision addressed to that person, or against a decision which, although addressed to another person, is of direct and individual concern to the former.

2. The appeal, together with the statements of the grounds thereof, shall be filed in writing to the Agency within three months of the notification of the decision to the person concerned, or in the absence thereof, of the day on which it became known to the latter, unless otherwise provided in this Regulation.

3. A fee may be payable by persons bringing an appeal against an Agency decision, in accordance with Title IX.

Article 93

Examination and decisions on appeal

1. If, after consultation with the Chairman of the Board of Appeal, the Executive Director considers the appeal to be admissible and well founded he may rectify the decision within 30 days of the appeal being filed in accordance with Article 92(2).

2. In cases other than those referred to in paragraph 1 of this Article, the Chairman of the Board of Appeal shall examine whether the appeal is admissible within 30 days of the appeal being filed in accordance with Article 92(2). In the affirmative, the appeal shall be remitted to the Board of Appeal for examination of the grounds. Parties to the appeal proceedings shall be entitled to make an oral presentation during the procedure.

3. The Board of Appeal may exercise any power which lies within the competence of the Agency or remit the case to the competent body of the Agency for further action.

4. The procedures for the Board of Appeal shall be determined by the Commission in accordance with the procedure referred to in Article 133(3).

▼C1

Article 94

Actions before the Court of First Instance and the Court of Justice

1. An action may be brought before the Court of First Instance or the Court of Justice, in accordance with Article 230 of the Treaty, contesting a decision taken by the Board of Appeal or, in cases where no right of appeal lies before the Board, by the Agency.

2. Should the Agency fail to take a decision, proceedings for failure to act may be brought before the Court of First Instance or the Court of Justice in accordance with Article 232 of the Treaty.

3. The Agency shall be required to take the necessary measures to comply with the judgment of the Court of First Instance or the Court of Justice.

Article 95

Conflicts of opinion with other bodies

1. The Agency shall take care to ensure early identification of potential sources of conflict between its opinions and those of other bodies established under Community law, including Community Agencies, carrying out a similar task in relation to issues of common concern.

2. Where the Agency identifies a potential source of conflict, it shall contact the body concerned in order to ensure that any relevant scientific or technical information is shared and to identify the scientific or technical points which are potentially contentious.

3. Where there is a fundamental conflict over scientific or technical points and the body concerned is a Community Agency or a scientific committee, the Agency and the body concerned shall work together either to solve the conflict or to submit a joint document to the Commission clarifying the scientific and/or technical points of conflict.

Article 96

The budget of the Agency

1. The revenues of the Agency shall consist of:

(a) a subsidy from the Community, entered in the general budget of the European Communities (Commission Section);

(b) the fees paid by undertakings;

(c) any voluntary contribution from the Member States.

2. The expenditure of the Agency shall include the staff, administrative, infrastructure and operational expenses.

3. By 15 February of each year at the latest, the Executive Director shall draw up a preliminary draft budget covering the operational expenditure and the programme of work anticipated for the following financial year, and shall forward this preliminary draft to the Management Board together with an establishment plan accompanied by a provisional list of posts.

4. Revenue and expenditure shall be in balance.

▼C1

5. Each year the Management Board, on the basis of a draft drawn up by the Executive Director, shall produce an estimate of revenue and expenditure for the Agency for the following financial year. This estimate, which shall include a draft establishment plan, shall be forwarded by the Management Board to the Commission by 31 March at the latest.

6. The estimate shall be forwarded by the Commission to the European Parliament and the Council (hereinafter referred to as the budgetary authority) together with the preliminary draft budget of the European Communities.

7. On the basis of the estimate, the Commission shall enter in the preliminary draft budget of the European Communities the estimates it considers necessary for the establishment plan and the amount of the subsidy to be charged to the general budget, which it shall place before the budgetary authority in accordance with Article 272 of the Treaty.

8. The budgetary authority shall authorise the appropriations for the subsidy to the Agency.

The budgetary authority shall adopt the establishment plan for the Agency.

9. The budget of the Agency shall be adopted by the Management Board. It shall become final following final adoption of the general budget of the European Communities. Where appropriate, it shall be adjusted accordingly.

10. Any modification to the budget, including the establishment plan, shall follow the procedure referred to above.

11. The Management Board shall, without delay, notify the budgetary authority of its intention to implement any project which may have significant financial implications for the funding of its budget, in particular any projects relating to property such as the rental or purchase of buildings. It shall inform the Commission thereof.

Where a branch of the budgetary authority has notified its intention to deliver an opinion, it shall forward its opinion to the Management Board within a period of six weeks from the date of notification of the project.

Article 97

Implementation of the budget of the Agency

1. The Executive Director shall perform the duties of authorising officer and shall implement the Agency's budget.

2. Monitoring of the commitment and payment of all the Agency's expenditure and of the establishment and recovery of all the Agency's revenue shall be carried out by the Accounting Officer of the Agency.

3. By 1 March at the latest following each financial year, the Agency's accounting officer shall communicate the provisional accounts to the Commission's accounting officer together with a report on the budgetary and financial management for that financial year. The Commission's accounting officer shall consolidate the provisional accounts of the institutions and decentralised bodies in accordance with Article 128 of Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation applicable to the general budget of the European Communities ([1]).

([1]) OJ L 248, 16.9.2002, p. 1. Regulation as amended by Regulation (EC, Euratom) No 1995/2006 (OJ L 390, 30.12.2006, p. 1).

▼C1

4. By 31 March at the latest following each financial year, the Commission's accounting officer shall forward the Agency's provisional accounts to the Court of Auditors, together with a report on the budgetary and financial management for that financial year. The report on the budgetary and financial management for that financial year shall also be forwarded to the European Parliament and the Council.

5. On receipt of the Court of Auditors' observations on the Agency's provisional accounts, pursuant to Article 129 of Regulation (EC, Euratom) No 1605/2002, the Executive Director shall draw up the Agency's final accounts under his own responsibility and forward them to the Management Board for an opinion.

6. The Management Board shall deliver an opinion on the Agency's final accounts.

7. By 1 July of the following year at the latest, the Executive Director shall send the final accounts, together with the opinion of the Management Board, to the European Parliament, the Council, the Commission and the Court of Auditors.

8. The final accounts shall be published.

9. The Executive Director shall send the Court of Auditors a reply to its observations by 30 September at the latest. He shall also send this reply to the Management Board.

10. The European Parliament, upon a recommendation from the Council, shall, before 30 April of year N + 2, give a discharge to the Executive Director in respect of the implementation of the budget for year N.

Article 98

Combating fraud

1. In order to combat fraud, corruption and other unlawful activities, the provisions of Regulation (EC) No 1073/1999 of the European Parliament and of the Council of 25 May 1999 concerning investigations conducted by the European Anti-Fraud Office (OLAF) [1] shall apply without restrictions to the Agency.

2. The Agency shall be bound by the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-Fraud Office (OLAF) [2] and shall issue, without delay, the appropriate provisions applicable to all of its staff.

3. The decisions concerning funding and the implementing agreements and instruments resulting from them shall explicitly stipulate that the Court of Auditors and OLAF may carry out, if necessary, on-the-spot checks of the recipients of the Agency's funding and the agents responsible for allocating it.

[1] OJ L 136, 31.5.1999, p. 1.
[2] OJ L 136, 31.5.1999, p. 15.

▼C1

Article 99

Financial rules

The financial rules applicable to the Agency shall be adopted by the Management Board after the Commission has been consulted. They may not depart from Regulation (EC, Euratom) No 2343/2002 unless specifically necessary for the Agency's operation and with the Commission's prior consent.

Article 100

Legal personality of the Agency

1. The Agency shall be a body of the Community and shall have legal personality. In each Member State it shall enjoy the most extensive legal capacity accorded to legal persons under their laws. In particular it may acquire and dispose of movable and immovable property and may be a party to legal proceedings.

2. The Agency shall be represented by its Executive Director.

Article 101

Liability of the Agency

1. The contractual liability of the Agency shall be governed by the law applicable to the contract in question. The Court of Justice shall have jurisdiction pursuant to any arbitration clause contained in a contract concluded by the Agency.

2. In the case of non-contractual liability, the Agency shall, in accordance with the general principles common to the laws of the Member States, make good any damage caused by it or by its servants in the performance of their duties.

The Court of Justice shall have jurisdiction in any dispute relating to compensation for such damages.

3. The personal financial and disciplinary liability of its servants towards the Agency shall be governed by the relevant rules applying to the staff of the Agency.

Article 102

Privileges and immunities of the Agency

The Protocol on the Privileges and Immunities of the European Communities shall apply to the Agency.

Article 103

Staff rules and regulations

1. The staff of the Agency shall be subject to the Regulations and Rules applicable to officials and other servants of the European Communities. In respect of its staff, the Agency shall exercise the powers which have been devolved to the appointing authority.

2. The Management Board shall, in agreement with the Commission, adopt the necessary implementing provisions.

▼C1

3. The Agency's staff shall consist of officials assigned or seconded by the Commission or Member States on a temporary basis and of other servants recruited by the Agency as necessary to carry out its tasks. The Agency shall recruit its personnel on the basis of a staffing plan to be included in the multiannual work programme referred to in Article 78(d).

Article 104

Languages

1. Regulation No 1 of 15 April 1958 determining the languages to be used in the European Economic Community ([1]) shall apply to the Agency.

2. The translation services required for the functioning of the Agency shall be provided by the Translation Centre of the bodies of the European Union.

Article 105

Duty of confidentiality

Members of the Management Board, members of the Committees and of the Forum, experts and officials and other servants of the Agency, shall be required, even after their duties have ceased, not to disclose information of the kind covered by the duty of professional secrecy.

Article 106

Participation of third countries

The Management Board may, in agreement with the relevant Committee or the Forum, invite representatives of third countries to participate in the work of the Agency.

Article 107

Participation of international organisations

The Management Board may, in agreement with the relevant Committee or the Forum, invite representatives of international organisations with interests in the field of chemicals regulation to participate as observers in the work of the Agency.

Article 108

Contacts with stakeholder organisations

The Management Board shall, in agreement with the Commission, develop appropriate contacts between the Agency and relevant stakeholder organisations.

([1]) OJ 17, 6.10.1958, p. 385/58. Regulation as last amended by Council Regulation (EC) No 920/2005 (OJ L 156, 18.6.2005, p. 3).

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Article 109

Rules on transparency

To ensure transparency, the Management Board shall, on the basis of a proposal by the Executive Director and in agreement with the Commission, adopt rules to ensure the availability to the public of regulatory, scientific or technical information concerning the safety of substances on their own, in ►M3 mixtures ◄ or in articles which is not of a confidential nature.

Article 110

Relations with relevant Community bodies

1. The Agency shall cooperate with other Community bodies to ensure mutual support in the accomplishment of their respective tasks in particular to avoid duplication of work.

2. The Executive Director, having consulted the Committee on Risk Assessment and the European Food Safety Authority, shall establish rules of procedure concerning substances for which an opinion has been sought in a food safety context. These rules of procedure shall be adopted by the Management Board, in agreement with the Commission.

This Title shall not otherwise affect the competences vested in the European Food Safety Authority.

3. This Title shall not affect the competences vested in the European Medicines Agency.

4. The Executive Director, having consulted the Committee on Risk Assessment, the Committee on Socio-economic Analysis and the Advisory Committee on Safety, Hygiene and Health Protection at Work, shall establish rules of procedure concerning worker protection issues. These rules of procedure shall be adopted by the Management Board, in agreement with the Commission.

This Title shall not affect the competences vested in the Advisory Committee on Safety, Hygiene and Health Protection at Work and the European Agency for Health and Safety at Work.

Article 111

Formats and software for submission of information to the Agency

The Agency shall specify formats and make them available free of charge, and software packages and make them available on its website for any submissions to the Agency. Member States, manufactures, importers, distributors or downstream users shall use these formats and packages in their submissions to the Agency pursuant to this Regulation. In particular, the Agency shall make available software tools to facilitate the submission of all information relating to substances registered in accordance with Article 12(1).

For the purposes of registration, the format of the technical dossier referred to in Article 10(a) shall be IUCLID. The Agency shall coordinate the further development of this format with the Organisation for Economic Cooperation and Development to ensure maximum harmonisation.

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TITLE XII

INFORMATION

Article 117

Reporting

1. Every five years, Member States shall submit to the Commission a report on the operation of this Regulation in their respective territories, including sections on evaluation and enforcement as described in Article 127.

The first report shall be submitted by 1 June 2010.

2. Every five years, the Agency shall submit to the Commission a report on the operation of this Regulation. The Agency shall include in its report information on the joint submission of information in accordance with Article 11 and an overview of the explanations given for submitting information separately.

The first report shall be submitted by 1 June 2011.

3. Every three years the Agency, in accordance with the objective of promoting non-animal testing methods, shall submit to the Commission a report on the status of implementation and use of non-animal test methods and testing strategies used to generate information on intrinsic properties and for risk assessment to meet the requirements of this Regulation.

The first report shall be submitted by 1 June 2011.

4. Every five years, the Commission shall publish a general report on:

(a) the experience acquired with the operation of this Regulation, including the information referred to in paragraphs 1, 2 and 3 and;

(b) the amount and distribution of funding made available by the Commission for the development and evaluation of alternative test methods.

The first report shall be published by 1 June 2012.

Article 118

Access to information

1. Regulation (EC) No 1049/2001 shall apply to documents held by the Agency.

2. Disclosure of the following information shall normally be deemed to undermine the protection of the commercial interests of the concerned person:

(a) details of the full composition of a ►**M3** mixture ◄;

(b) without prejudice to Article 7(6) and Article 64(2), the precise use, function or application of a substance or ►**M3** mixture ◄, including information about its precise use as an intermediate;

(c) the precise tonnage of the substance or ►**M3** mixture ◄ manufactured or placed on the market;

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(d) links between a manufacturer or importer and his distributors or downstream users.

Where urgent action is essential to protect human health, safety or the environment, such as emergency situations, the Agency may disclose the information referred to in this paragraph.

3. The Management Board shall adopt the practical arrangements for implementing Regulation (EC) No 1049/2001, including appeals or remedies necessary for reviewing a partial or full rejection of a confidentiality request, by 1 June 2008.

4. Decisions taken by the Agency pursuant to Article 8 of Regulation (EC) No 1049/2001 may form the subject of a complaint to the Ombudsman or of an action before the Court of Justice, under the conditions laid down in Articles 195 and 230 of the Treaty respectively.

Article 119

Electronic public access

1. The following information held by the Agency on substances whether on their own, in ►M3 mixtures ◄ or in articles, shall be made publicly available, free of charge, over the Internet in accordance with Article 77(2)(e):

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(a) without prejudice to paragraph 2(f) and (g) of this Article, the name in the IUPAC nomenclature for substances fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:

— hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;

— hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;

— hazard class 4.1;

— hazard class 5.1;

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(b) if applicable, the name of the substance as given in EINECS;

(c) the classification and labelling of the substance;

(d) physicochemical data concerning the substance and on pathways and environmental fate;

(e) the result of each toxicological and ecotoxicological study;

(f) any derived no-effect level (DNEL) or predicted no-effect concentration (PNEC) established in accordance with Annex I;

(g) the guidance on safe use provided in accordance with Sections 4 and 5 of Annex VI;

(h) analytical methods if requested in accordance with Annexes IX or X which make it possible to detect a dangerous substance when discharged into the environment as well as to determine the direct exposure of humans.

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2. The following information on substances whether on their own, in ►M3 mixtures ◄ or in articles, shall be made publicly available, free of charge, over the Internet in accordance with Article 77(2)(e) except where a party submitting the information submits a justification in accordance with Article 10(a)(xi), accepted as valid by the Agency, as to why such publication is potentially harmful for the commercial interests of the registrant or any other party concerned:

(a) if essential to classification and labelling, the degree of purity of the substance and the identity of impurities and/or additives which are known to be dangerous;

(b) the total tonnage band (i.e. 1 to 10 tonnes, 10 to 100 tonnes, 100 to 1 000 tonnes or over 1 000 tonnes) within which a particular substance has been registered;

(c) the study summaries or robust study summaries of the information referred to in paragraph 1(d) and (e);

(d) information, other than that listed in paragraph 1, contained in the safety data sheet;

(e) the trade name(s) of the substance;

▼M3

(f) subject to Article 24 of Regulation (EC) No 1272/2008, the name in the IUPAC nomenclature for non-phase-in substances referred to in paragraph 1(a) of this Article for a period of six years;

(g) subject to Article 24 of Regulation (EC) No 1272/2008, the name in the IUPAC nomenclature for substances referred to in paragraph 1(a) of this Article that are only used as one or more of the following:

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(i) as an intermediate;

(ii) in scientific research and development;

(iii) in product and process orientated research and development.

Article 120

Cooperation with third countries and international organisations

Notwithstanding Articles 118 and 119, information received by the Agency under this Regulation may be disclosed to any government or national authority of a third country or an international organisation in accordance with an agreement concluded between the Community and the third party concerned under Regulation (EC) No 304/2003 of the European Parliament and of the Council of 28 January 2003 concerning the export and import of dangerous chemicals ([1]) or under Article 181a(3) of the Treaty, provided that both the following conditions are met:

(a) the purpose of the agreement is cooperation on the implementation or management of legislation concerning chemicals covered by this Regulation;

([1]) OJ L 63, 6.3.2003, p. 1. Regulation as last amended by Commission Regulation (EC) No 777/2006 (OJ L 136, 24.5.2006, p. 9).

▼C1

(b) the third party protects the confidential information as mutually agreed.

TITLE XIII

COMPETENT AUTHORITIES

Article 121

Appointment

Member States shall appoint the competent authority or competent authorities responsible for performing the tasks allotted to competent authorities under this Regulation and for cooperating with the Commission and the Agency in the implementation of this Regulation. Member States shall place adequate resources at the disposal of the competent authorities to enable them, in conjunction with any other available resources, to fulfil their tasks under this Regulation in a timely and effective manner.

Article 122

Cooperation between competent authorities

The competent authorities shall cooperate with each other in the performance of their tasks under this Regulation and shall give the competent authorities of other Member States all the necessary and useful support to this end.

Article 123

Communication to the public of information on risks of substances

The competent authorities of the Member States shall inform the general public about the risks arising from substances where this is considered necessary for the protection of human health or the environment. The Agency, in consultation with competent authorities and stakeholders and drawing as appropriate on relevant best practice, shall provide guidance for the communication of information on the risks and safe use of chemical substances, on their own, in ►M3 mixtures ◄ or in articles, with a view to coordinating Member States in these activities.

Article 124

Other responsibilities

Competent authorities shall submit electronically to the Agency any available information that they hold on substances registered in accordance with Article 12(1) whose dossiers do not contain the full information referred to in Annex VII, in particular whether enforcement or monitoring activities have identified suspicions of risk. The competent authority shall update this information as appropriate.

Member States shall establish national helpdesks to provide advice to manufacturers, importers, downstream users and any other interested parties on their respective responsibilities and obligations under this Regulation, in particular in relation to the registration of substances in accordance with Article 12(1), in addition to the operational guidance documents provided by the Agency under Article 77(2)(g).

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TITLE XIV

ENFORCEMENT

Article 125

Tasks of the Member States

Member States shall maintain a system of official controls and other activities as appropriate to the circumstances.

Article 126

Penalties for non-compliance

Member States shall lay down the provisions on penalties applicable for infringement of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. The Member States shall notify those provisions to the Commission no later than 1 December 2008 and shall notify it without delay of any subsequent amendment affecting them.

Article 127

Report

The report referred to in Article 117(1) shall, in relation to enforcement, include the results of the official inspections, the monitoring carried out, the penalties provided for and the other measures taken pursuant to Articles 125 and 126 during the previous reporting period. The common issues to be covered in the reports shall be agreed by the Forum. The Commission shall make these reports available to the Agency and the Forum.

TITLE XV

TRANSITIONAL AND FINAL PROVISIONS

Article 128

Free movement

1. Subject to paragraph 2, Member States shall not prohibit, restrict or impede the manufacturing, import, placing on the market or use of a substance, on its own, in a ►M3 mixture ◄ or in an article, falling within the scope of this Regulation, which complies with this Regulation and, where appropriate, with Community acts adopted in implementation of this Regulation.

2. Nothing in this Regulation shall prevent Member States from maintaining or laying down national rules to protect workers, human health and the environment applying in cases where this Regulation does not harmonise the requirements on manufacture, placing on the market or use.

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Article 129

Safeguard clause

1. Where a Member State has justifiable grounds for believing that urgent action is essential to protect human health or the environment in respect of a substance, on its own, in a ►M3 mixture ◄ or in an article, even if satisfying the requirements of this Regulation, it may take appropriate provisional measures. The Member State shall immediately inform the Commission, the Agency and the other Member States thereof, giving reasons for its decision and submitting the scientific or technical information on which the provisional measure is based.

2. The Commission shall take a decision in accordance with the procedure referred to in Article 133(3) within 60 days of receipt of the information from the Member State. This decision shall either:

(a) authorise the provisional measure for a time period defined in the decision; or

(b) require the Member State to revoke the provisional measure.

3. If, in the case of a decision as referred to in paragraph 2(a), the provisional measure taken by the Member State consists in a restriction on the placing on the market or use of a substance, the Member State concerned shall initiate a Community restrictions procedure by submitting to the Agency a dossier, in accordance with Annex XV, within three months of the date of the Commission decision.

4. In the case of a decision as referred to in paragraph 2(a), the Commission shall consider whether this Regulation needs to be adapted.

Article 130

Statement of reasons for decisions

The competent authorities, the Agency and the Commission shall state the reasons for all decisions they take under this Regulation.

Article 131

Amendments to the Annexes

The Annexes may be amended in accordance with the procedure referred to in Article 133(4).

Article 132

Implementing legislation

The measures necessary to put the provisions of this Regulation efficiently into effect shall be adopted in accordance with the procedure referred to in Article 133(3).

Article 133

Committee procedure

1. The Commission shall be assisted by a Committee.

2. Where reference is made to this paragraph, Articles 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

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3. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

4. Where reference is made to this paragraph, Article 5a(1) to (4), and Article 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

5. The Committee shall adopt its Rules of Procedure.

Article 134

Preparation of establishment of the Agency

1. The Commission shall afford the necessary support towards the establishment of the Agency.

2. For that purpose, until such time as the Executive Director takes up his duties following his appointment by the Management Board of the Agency in accordance with Article 84, the Commission, on behalf of the Agency, and using the budget provided for the latter, may:

(a) appoint personnel, including a person who shall fulfil the administrative functions of the Executive Director on an interim basis; and

(b) conclude other contracts.

Article 135

Transitional measures regarding notified substances

1. The requests to notifiers to provide further information to the competent authority in accordance with Article 16(2) of Directive 67/548/EEC, shall be considered as decisions adopted in accordance with Article 51 of this Regulation.

2. The requests to a notifier to provide further information for a substance in accordance with Article 16(1) of Directive 67/548/EEC, shall be considered as decisions adopted in accordance with Article 52 of this Regulation.

Such substance shall be regarded as being included in the Community rolling action plan in accordance with Article 44(2) of this Regulation and shall be regarded as being chosen in accordance with Article 45(2) of this Regulation by the Member State whose competent authority has requested further information in accordance with Article 7(2) and Article 16(1) of Directive 67/548/EEC.

Article 136

Transitional measures regarding existing substances

1. The requests to manufacturers and importers to submit information to the Commission made by a Commission Regulation in application of Article 10(2) of Regulation (EEC) No 793/93, shall be considered as decisions adopted in accordance with Article 52 of this Regulation.

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The competent authority for the substance shall be the competent authority from the Member State identified as rapporteur in accordance with Article 10(1) of Regulation (EEC) No 793/93 and shall carry out the tasks of Article 46(3) and Article 48 of this Regulation.

2. The requests to manufacturers and importers to submit information to the Commission made by a Commission Regulation in application of Article 12(2) of Regulation (EEC) No 793/93, shall be considered as decisions adopted in accordance with Article 52 of this Regulation. The Agency shall identify the competent authority for the substance to carry out the tasks of Article 46(3) and Article 48 of this Regulation.

3. A Member State whose rapporteur has not forwarded by 1 June 2008 the risk evaluation and, where appropriate, the strategy for limiting the risks, in accordance with Article 10(3) of Regulation (EEC) No 793/93, shall:

(a) document information on hazard and risk in accordance with Annex XV, Part B of this Regulation;

(b) apply Article 69(4) of this Regulation on the basis of the information referred to in point (a); and

(c) prepare a documentation of how it considers that any other risks identified would need to be addressed by action other than an amendment of Annex XVII of this Regulation.

The information referred to above shall be submitted to the Agency by 1 December 2008.

Article 137

Transitional measures regarding restrictions

1. By 1 June 2010, the Commission shall, if necessary, prepare a draft amendment to Annex XVII in accordance with either of the following:

(a) any risk evaluation and recommended strategy for limiting risks that has been adopted at Community level in accordance with Article 11 of Regulation (EEC) No 793/93 as far as it includes proposals for restrictions in accordance with Title VIII of this Regulation but for which a decision under Directive 76/769/EEC has not yet been taken;

(b) any proposal, which has been submitted to the relevant institutions but has not yet been adopted, concerning the introduction or the amendment of restrictions under Directive 76/769/EEC.

2. Until 1 June 2010, any dossier referred to in Article 129(3) shall be submitted to the Commission. The Commission shall, if necessary, prepare a draft amendment to Annex XVII.

3. Any amendment to the restrictions adopted under Directive 76/769/EEC from 1 June 2007 shall be incorporated in Annex XVII with effect from 1 June 2009.

▼C1

Article 138

Review

1. By 1 June 2019, the Commission shall carry out a review to assess whether or not to extend the application of the obligation to perform a chemical safety assessment and to document it in a chemical safety report to substances not covered by this obligation because they are not subject to registration or subject to registration but manufactured or imported in quantities of less than 10 tonnes per year. ►M3 However, for substances meeting the criteria for classification in the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B, in accordance with Regulation (EC) No 1272/2008, the review shall be carried out by 1 June 2014. ◄ When carrying out the review the Commission shall take into account all relevant factors, including:

(a) the costs for manufacturers and importers of drawing up the chemical safety reports;

(b) the distribution of costs between actors in the supply chain and the downstream user;

(c) the benefits for human health and the environment.

On the basis of these reviews, the Commission may, if appropriate, present legislative proposals to extend this obligation.

2. The Commission may present legislative proposals as soon as a practicable and cost-efficient way of selecting polymers for registration on the basis of sound technical and valid scientific criteria can be established, and after publishing a report on the following:

(a) the risks posed by polymers in comparison with other substances;

(b) the need, if any, to register certain types of polymer, taking account of competitiveness and innovation on the one hand and the protection of human health and the environment on the other.

3. The report, referred to in Article 117(4), on the experience acquired with the operation of this Regulation shall include a review of the requirements relating to registration of substances manufactured or imported only in quantities starting at one tonne but less than 10 tonnes per year per manufacturer or importer. On the basis of that review, the Commission may present legislative proposals to modify the information requirements for substances manufactured or imported in quantities of one tonne or more up to 10 tonnes per year per manufacturer or importer, taking into account the latest developments, for example in relation to alternative testing and (quantitative) structure-activity relationships ((Q)SARs).

4. The Commission shall carry out a review of Annexes I, IV and V by 1 June 2008, with a view to proposing amendments, if appropriate, to them in accordance with the procedure referred to in Article 131.

5. The Commission shall carry out a review of Annex XIII by 1 December 2008, to assess the adequacy of the criteria for identifying substances which are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative, with a view to proposing an amendment to it, if appropriate, in accordance with the procedure referred to in Article 133(4).

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6. By 1 June 2012 the Commission shall carry out a review to assess whether or not to amend the scope of this Regulation to avoid overlaps with other relevant Community provisions. On the basis of that review, the Commission may, if appropriate, present a legislative proposal.

7. By 1 June 2013 the Commission shall carry out a review to assess whether or not, taking into account latest developments in scientific knowledge, to extend the scope of Article 60(3) to substances identified under Article 57(f) as having endocrine disrupting properties. On the basis of that review the Commission may, if appropriate, present legislative proposals.

8. By 1 June 2019, the Commission shall carry out a review to assess whether or not to extend the scope of Article 33 to cover other dangerous substances, taking into account the practical experience in implementing that Article. On the basis of that review, the Commission may, if appropriate, present legislative proposals to extend that obligation.

9. In accordance with the objective of promoting non-animal testing and the replacement, reduction or refinement of animal testing required under this Regulation, the Commission shall review the testing requirements of Section 8.7 of Annex VIII by 1 June 2019. On the basis of this review, while ensuring a high level of protection of health and the environment, the Commission may propose an amendment in accordance with the procedure referred to in Article 133(4).

Article 139

Repeals

Directive 91/155/EEC shall be repealed.

Directives 93/105/EC and 2000/21/EC and Regulations (EEC) No 793/93 and (EC) No 1488/94 shall be repealed with effect from 1 June 2008.

Directive 93/67/EEC shall be repealed with effect from 1 August 2008.

Directive 76/769/EEC shall be repealed with effect from 1 June 2009.

References to the repealed acts shall be construed as references to this Regulation.

Article 140

Amendment of Directive 1999/45/EC

Article 14 of Directive 1999/45/EC shall be deleted.

Article 141

Entry into force and application

1. This Regulation shall enter into force on 1 June 2007.

2. Titles II, III, V, VI, VII, XI and XII as well as Articles 128 and 136 shall apply from 1 June 2008.

3. Article 135 shall apply from 1 August 2008.

4. Title VIII and Annex XVII shall apply from 1 June 2009.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

▼C1

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ANNEX I	GENERAL PROVISIONS FOR ASSESSING SUBSTANCES AND PREPARING CHEMICAL SAFETY REPORTS
ANNEX II	REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS
ANNEX III	CRITERIA FOR SUBSTANCES REGISTERED IN QUANTITIES BETWEEN 1 AND 10 TONNES
ANNEX IV	EXEMPTIONS FROM THE OBLIGATION TO REGISTER IN ACCORDANCE WITH ARTICLE 2 (7)(a)
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ANNEX I

GENERAL PROVISIONS FOR ASSESSING SUBSTANCES AND PREPARING CHEMICAL SAFETY REPORTS

0. INTRODUCTION

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0.1. The purpose of this Annex is to set out how manufacturers and importers are to assess and document that the risks arising from the substance they manufacture or import are adequately controlled during manufacture and their own use(s) and that others further down the supply chain can adequately control the risks. The chemical safety report shall also describe whether and which different nanoforms of substances as characterised in Annex VI are manufactured and imported, including an adequate justification for each information requirement describing when and how information on one form is used to demonstrate safety of other forms. The requirements speof the following hazard classes or categories setcific to nanoforms of a substance in this Annex apply to all nanoforms covered by the registration and without prejudice to requirements applicable to other forms of that substance. This Annex shall also apply adapted as necessary to producers and importers of articles required to make a chemical safety assessment as part of a registration.

▼C1

0.2. The chemical safety assessment shall be prepared by one or more competent person(s) who have appropriate experience and received appropriate training, including refresher training.

▼M51

0.3. The chemical safety assessment of a manufacturer shall address the manufacture of a substance and all the identified uses. The chemical safety assessment of an importer shall address all identified uses. The chemical safety assessment shall consider the use of the substance on its own (including any major impurities and additives), in a mixture and in an article, as defined by the identified uses. The assessment shall consider all stages of the life-cycle of the substance resulting from the manufacture and identified uses. The assessment shall address all nanoforms that are covered by the registration. The justifications and conclusions drawn from the assessment shall be relevant to these nanoforms. The chemical safety assessment shall be based on a comparison of the potential adverse effects of a substance with the known or reasonably foreseeable exposure of man and/or the environment to that substance taking into account implemented and recommended risk management measures and operational conditions.

0.4. Substances whose physicochemical, toxicological and eco-toxicological properties are likely to be similar or follow a regular pattern as a result of structural similarity may be considered as a group, or ‘category’ of substances. If the manufacturer or importer considers that the chemical safety assessment carried out for one substance is sufficient to assess and document that the risks arising from another substance or from a group or ‘category’ of substances are adequately controlled then he can use that chemical safety assessment for the other substance or group or ‘category’ of substances. The manufacturer or importer shall provide a justification for this. Where any of the substances exists in one or more nanoforms and data from one form are used in demonstration of the safe use of other forms, in accordance with the general rules set out in Annex XI, a scientific justification shall be given on how, applying the rules for grouping and read-across, the data from a specific test or other information (e.g. methods, results or conclusions) can be used for the other forms of the substance. Similar considerations apply to exposure scenarios and risk management measures.

▼C1

0.5. The chemical safety assessment shall be based on the information on the substance contained in the technical dossier and on other available and relevant information. Manufacturers or importers submitting a proposal for testing in accordance with Annexes IX and X shall record this under the relevant heading of the chemical safety report. Available information from assessments carried out under other international and national programmes shall be included. Where available and appropriate, an assessment carried out under Community legislation (e.g. risk assessments completed under Regulation (EEC) No 793/93) shall be taken into account in the development of, and reflected in, the chemical safety report. Deviations from such assessments shall be justified.

Thus the information to be considered includes information related to the hazards of the substance, the exposure arising from the manufacture or import, the identified uses of the substance, operational conditions and risk management measures applied or recommended to downstream users to be taken into account.

In accordance with section 3 of Annex XI in some cases, it may not be necessary to generate missing information, because risk management measures and operational conditions which are necessary to control a well-characterised risk may also be sufficient to control other potential risks, which will not therefore need to be characterised precisely.

▼M51

If the manufacturer or importer considers that further information is necessary for producing his chemical safety report and that this information can only be obtained by performing tests in accordance with Annex IX or X, he shall submit a proposal for a testing strategy, explaining why he considers that additional information is necessary and record this in the chemical safety report under the appropriate heading. Where considered necessary, the proposal for a testing strategy may concern several studies addressing respectively different forms of the same substance for the same information requirement. While waiting for results of further testing, he shall record in his chemical safety report, and include in the exposure scenario developed, the interim risk management measures that he has put in place and those he recommends to downstream users intended to manage the risks being explored. The exposure scenarios and interim risk management measures recommended shall address all nanoforms that are covered by the registration.

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0.6. Steps of a chemical safety assessment

0.6.1. A chemical safety assessment performed by a manufacturer or an importer for a substance shall include the following steps 1 to 4 in accordance with the respective sections of this Annex:

1. Human health hazard assessment.

2. Human health hazard assessment of physicochemical properties.

3. Environmental hazard assessment.

4. PBT and vPvB assessment.

0.6.2. In the cases referred to in point 0.6.3 the chemical safety assessment shall also include the following steps 5 and 6 in accordance with Sections 5 and 6 of this Annex:

5. Exposure assessment.

5.1. The generation of exposure scenario(s) (or the identification of relevant use and exposure categories, if appropriate).

5.2. Exposure estimation.

▼M10

6. Risk characterisation.

▼M51

0.6.3. Where as a result of steps 1 to 4 the manufacturer or importer concludes that the substance or, when applicable, nanoforms thereof fulfils the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 or is assessed to be a PBT or vPvB, the chemical safety assessment shall also include steps 5 and 6 in accordance with Sections 5 and 6 of this Annex:

(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, and 2.15 types A to F;

(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9, and 3.10;

(c) hazard class 4.1;

(d) hazard class 5.1.

▼M10

0.6.4. A summary of all the relevant information used in addressing the points above shall be presented under the relevant heading of the Chemical Safety Report (Section 7).

▼C1

0.7. The main element of the exposure part of the chemical safety report is the description of the exposure scenario(s) implemented for the manufacturer's production, the manufacturer or importer's own use, and those recommended by the manufacturer or importer to be implemented for the identified use(s).

An exposure scenario is the set of conditions that describe how the substance is manufactured or used during its life-cycle and how the manufacturer or importer controls, or recommends downstream users to control, exposures of humans and the environment. These sets of conditions contain a description of both the risk management measures and operational conditions which the manufacturer or importer has implemented or recommends to be implemented by downstream users.

If the substance is placed on the market, the relevant exposure scenario (s), including the risk management measures and operational conditions shall be included in an annex to the safety data sheet in accordance with Annex II.

0.8. The level of detail required in describing an exposure scenario will vary substantially from case to case, depending on the use of a substance, its hazardous properties and the amount of information available to the manufacturer or importer. Exposure scenarios may describe the appropriate risk management measures for several individual processes or uses of a substance. An exposure scenario may thereby cover a large range of processes or uses. Exposure scenarios covering a wide range of processes or uses may be referred to as Exposure Categories. Further mention of Exposure Scenario in this Annex and Annex II includes Exposure Categories if they are developed.

0.9. Where information is not necessary in accordance with Annex XI, this fact shall be stated under the appropriate heading of the chemical safety report and a reference shall be made to the justification in the technical dossier. The fact that no information is required shall also be stated in the safety data sheet.

0.10. In relation to particular effects, such as ozone depletion, photochemical ozone creation potential, strong odour and tainting, for which the procedures set out in Sections 1 to 6 are impracticable, the risks associated with such effects shall be assessed on a case-by-case basis and the manufacturer or importer shall include a full description and justification of such assessments in the chemical safety report and summarised in the safety data sheet.

▼C1

0.11. When assessing the risk of the use of one or more substances incorporated into a special ►M3 mixture ◄ (for instance alloys), the way the constituent substances are bonded in the chemical matrix shall be taken into account.

▼M51

0.11.*bis* When nanoforms are covered by the chemical safety assessment, an appropriate metric for the assessment and presentation of the results in steps 1-6 of the chemical safety assessment under 0.6.1 and 0.6.2 shall be considered, with the justification included in the chemical safety report and summarised in the safety data sheet. A multiple metric presentation, including mass metric information, is preferable. When possible, a method for reciprocal conversion shall be indicated.

▼C1

0.12. Where the methodology described in this Annex is not appropriate, details of alternative methodology used shall be explained and justified in the chemical safety report.

0.13. Part A of the chemical safety report shall include a declaration that the risk management measures outlined in the relevant exposure scenarios for the manufacturer's or importer's own use(s) are implemented by the manufacturer or importer and that those exposure scenarios for the identified uses are communicated to distributors and downstream users in the safety data sheet(s).

1. HUMAN HEALTH HAZARD ASSESSMENT

1.0. **Introduction**

▼M10

1.0.1. The objectives of the human health hazard assessment shall be to determine the classification of a substance in accordance with Regulation (EC) No 1272/2008; and to derive levels of exposure to the substance above which humans should not be exposed. This level of exposure is known as the Derived No-Effect Level (DNEL).

1.0.2. The human health hazard assessment shall consider the toxicokinetic profile (i.e. absorption, metabolism, distribution and elimination) of the substance and the following groups of effects:

(1) acute effects such as acute toxicity, irritation and corrosivity;

(2) sensitisation;

(3) repeated dose toxicity; and

(4) CMR effects (carcinogenity, germ cell mutagenicity and toxicity for reproduction).

Based on all the available information, other effects shall be considered when necessary.

▼C1

1.0.3. The hazard assessment shall comprise the following four steps:

Step 1: Evaluation of non-human information.

Step 2: Evaluation of human information.

Step 3: Classification and Labelling.

Step 4: Derivation of DNELs.

▼M51

The assessment shall address all nanoforms that are covered by the registration.

▼C1

1.0.4. The first three steps shall be undertaken for every effect for which information is available and shall be recorded under the relevant section of the Chemical Safety Report and where required and in accordance with Article 31, summarised in the Safety Data Sheet under headings 2 and 11.

▼C1

1.0.5. For any effect for which no relevant information is available, the relevant section shall contain the sentence: ‘This information is not available’. The justification, including reference to any literature search carried out, shall be included in the technical dossier.

1.0.6. Step 4 of the human health hazard assessment shall be undertaken by integrating the results from the first three steps and shall be included under the relevant heading of the Chemical Safety Report and summarised in the Safety Data Sheet under heading 8.1.

1.1. **Step 1: Evaluation of non-human information**

1.1.1. The evaluation of non-human information shall comprise:

— the hazard identification for the effect based on all available non-human information,

— the establishment of the quantitative dose (concentration)-response (effect) relationship.

1.1.2. When it is not possible to establish the quantitative dose (concentration)-response (effect) relationship, then this should be justified and a semi-quantitative or qualitative analysis shall be included. For instance, for acute effects it is usually not possible to establish the quantitative dose (concentration)-response (effect) relationship on the basis of the results of a test conducted in accordance with test methods laid down in a Commission Regulation as specified in Article 13(3). In such cases it suffices to determine whether and to which degree the substance has an inherent capacity to cause the effect.

▼M10

1.1.3. All non-human information used to assess a particular effect on humans and to establish the dose (concentration) – response (effect) relationship, shall be briefly presented, if possible in the form of a table or tables, distinguishing between *in vitro*, *in vivo* and other information. The relevant test results (e.g. ATE, LD50, NO(A)EL or LO(A)EL) and test conditions (e.g. test duration, route of administration) and other relevant information shall be presented, in internationally recognised units of measurement for that effect.

▼C1

1.1.4. If one study is available then a robust study summary should be prepared for that study. If there are several studies addressing the same effect, then, having taken into account possible variables (e.g. conduct, adequacy, relevance of test species, quality of results, etc.), normally the study or studies giving rise to the highest concern shall be used to establish the DNELs and a robust study summary shall be prepared for that study or studies and included as part of the technical dossier. Robust summaries will be required of all key data used in the hazard assessment. If the study or studies giving rise to the highest concern are not used, then this shall be fully justified and included as part of the technical dossier, not only for the study being used but also for all studies demonstrating a higher concern than the study being used. It is important irrespective of whether hazards have been identified or not that the validity of the study be considered.

1.2. **Step 2: Evaluation of human information**

If no human information is available, this part shall contain the statement: ‘No human information is available’. However, if human information is available, it shall be presented, if possible in the form of a table.

▼C1

1.3. **Step 3: Classification and Labelling**

▼M10

1.3.1. The appropriate classification developed in accordance with the criteria in Regulation (EC) No 1272/2008 shall be presented and justified. Where applicable, Specific Concentration limits resulting from the application of Article 10 of Regulation (EC) No 1272/2008 and Articles 4 to 7 of Directive 1999/45/EC shall be presented and, if they are not included in Part 3 of Annex VI to Regulation (EC) No 1272/2008, justified.

▼M51

The assessment should always include a statement as to whether the substance or, when applicable, nanoforms thereof fulfils or does not fulfil the criteria given in Regulation (EC) No 1272/2008 for classification in the hazard class carcinogenicity category 1A or 1B, in the hazard class germ cell mutagenicity category 1A or 1B or in the hazard class reproductive toxicity category 1A or 1B.

1.3.2. If the information is inadequate to decide whether a substance or, when applicable, nanoforms thereof should be classified for a particular hazard class or category, the registrants shall indicate and justify the action or decision he has taken as a result.

▼C1

1.4. **Step 4: Identification of DNEL(s)**

1.4.1. Based on the outcomes of steps 1 and 2, (a) DNEL(s) shall be established for the substance, reflecting the likely route(s), duration and frequency of exposure. ►M10 For some hazard classes, especially germ cell mutagenicity and carcinogenicity, the available information may not enable a toxicological threshold, and therefore a DNEL, to be established. ◄ If justified by the exposure scenario(s), a single DNEL may be sufficient. However, taking into account the available information and the exposure scenario(s) in Section 9 of the Chemical Safety Report it may be necessary to identify different DNELs for each relevant human population (e.g. workers, consumers and humans liable to exposure indirectly via the environment) and possibly for certain vulnerable sub-populations (e.g. children, pregnant women) and for different routes of exposure. A full justification shall be given specifying, *inter alia*, the choice of the information used, the route of exposure (oral, dermal, inhalation) and the duration and frequency of exposure to the substance for which the DNEL is valid. If more than one route of exposure is likely to occur, then a DNEL shall be established for each route of exposure and for the exposure from all routes combined. When establishing the DNEL, the following factors shall, *inter alia*, be taken into account:

(a) the uncertainty arising, among other factors, from the variability in the experimental information and from intra- and inter-species variation;

(b) the nature and severity of the effect;

(c) the sensitivity of the human (sub-)population to which the quantitative and/or qualitative information on exposure applies.

1.4.2. If it is not possible to identify a DNEL, then this shall be clearly stated and fully justified.

2. PHYSICOCHEMICAL HAZARD ASSESSMENT

▼M10

2.1. The objective of the hazard assessment for physicochemical properties shall be to determine the classification of a substance in accordance with Regulation (EC) No 1272/2008.

▼M10

2.2. As a minimum, the potential effects to human health shall be assessed for the following physicochemical properties:

— explosivity,

— flammability,

— oxidising potential.

▼M51

If the information is inadequate to decide whether a substance or, when applicable, nanoforms thereof should be classified for a particular hazard class or category, the registrant shall indicate and justify the action or decision he has taken as a result.

▼C1

2.3. The assessment of each effect shall be presented under the relevant heading of the Chemical Safety Report (Section 7) and where required and in accordance with Article 31, summarised in the Safety Data Sheet under headings 2 and 9.

2.4. For every physicochemical property, the assessment shall entail an evaluation of the inherent capacity of the substance to cause the effect resulting from the manufacture and identified uses.

▼M10

2.5. The appropriate classification developed in accordance with the criteria in Regulation (EC) No 1272/2008 shall be presented and justified.

▼C1

3. ENVIRONMENTAL HAZARD ASSESSMENT

3.0. **Introduction**

▼M10

3.0.1. The objective of the environmental hazard assessment shall be to determine the classification of a substance in accordance with Regulation (EC) No 1272/2008 and to identify the concentration of the substance below which adverse effects in the environmental sphere of concern are not expected to occur. This concentration is known as the Predicted No-Effect Concentration (PNEC).

▼C1

3.0.2. The environmental hazard assessment shall consider the potential effects on the environment, comprising the (1) aquatic (including sediment), (2) terrestrial and (3) atmospheric compartments, including the potential effects that may occur (4) via food-chain accumulation. In addition, the potential effects on the (5) microbiological activity of sewage treatment systems shall be considered. The assessment of the effects on each of these five environmental spheres shall be presented under the relevant heading of the Chemical Safety Report (Section 7) and where required and in accordance with Article 31, summarised in the Safety Data Sheet under headings 2 and 12. ►M51 The assessment shall address all nanoforms that are covered by the registration. ◄

3.0.3. For any environmental sphere, for which no effect information is available, the relevant section of the chemical safety report shall contain the sentence: ‘This information is not available’. The justification, including reference to any literature research carried out, shall be included in the technical dossier. For any environmental sphere for which information is available, but the manufacturer or importer believes that it is not necessary to conduct the hazard assessment, the manufacturer or importer shall present a justification, with reference to pertinent information, under the relevant heading of the Chemical Safety Report (Section 7) and where required and in accordance with Article 31, summarised in the Safety Data Sheet under heading 12.

▼C1

3.0.4. The hazard assessment shall comprise the following three steps, which shall be clearly identified as such in the Chemical Safety Report:

Step 1: Evaluation of information.

Step 2: Classification and Labelling.

Step 3: Derivation of the PNEC.

3.1. **Step 1: Evaluation of information**

3.1.1. The evaluation of all available information shall comprise:

— the hazard identification based on all available information,

— the establishment of the quantitative dose (concentration)-response (effect) relationship.

3.1.2. When it is not possible to establish the quantitative dose (concentration)-response (effect) relationship, then this should be justified and a semi-quantitative or qualitative analysis shall be included.

3.1.3. All information used to assess the effects on a specific environmental sphere shall be briefly presented, if possible in the form of a table or tables. The relevant test results (e.g. LC50 or NOEC) and test conditions (e.g. test duration, route of administration) and other relevant information shall be presented, in internationally recognised units of measurement for that effect.

3.1.4. All information used to assess the environmental fate of the substance shall be briefly presented, if possible in the form of a table or tables. The relevant test results and test conditions and other relevant information shall be presented, in internationally recognised units of measurement for that effect.

3.1.5. If one study is available then a robust study summary should be prepared for that study. Where there is more than one study addressing the same effect, then the study or studies giving rise to the highest concern shall be used to draw a conclusion and a robust study summary shall be prepared for that study or studies and included as part of the technical dossier. Robust summaries will be required of all key data used in the hazard assessment. If the study or studies giving rise to the highest concern are not used, then this shall be fully justified and included as part of the technical dossier, not only for the study being used but also for all studies reaching a higher concern than the study being used. For substances where all available studies indicate no hazards an overall assessment of the validity of all studies should be performed.

3.2. **Step 2: Classification and Labelling**

▼M51

3.2.1. The appropriate classification developed in accordance with the criteria in Regulation (EC) No 1272/2008 shall be presented and justified. Any M-factor resulting from the application of Article 10 of Regulation (EC) No 1272/2008 shall be presented and, if it is not included in Part 3 of Annex VI to Regulation (EC) No 1272/2008, justified.

The presentation and justification is applied to all nanoforms covered by the registration.

3.2.2. If the information is inadequate to decide whether a substance or, when applicable, nanoforms thereof should be classified for a particular hazard class or category, the registrant shall indicate and justify the action or decision he has taken as a result.

▼C1

3.3. **Step 3: Identification of the PNEC**

3.3.1. Based on the available information, the PNEC for each environmental sphere shall be established. The PNEC may be calculated by applying an appropriate assessment factor to the effect values (e.g. LC50 or NOEC). An assessment factor expresses the difference between effects values derived for a limited number of species from laboratory tests and the PNEC for the environmental sphere ([1]).

3.3.2. If it is not possible to derive the PNEC, then this shall be clearly stated and fully justified.

4. PBT AND VPVB ASSESSMENT

4.0. **Introduction**

4.0.1. The objective of the PBT and vPvB assessment shall be to determine if the substance fulfils the criteria given in Annex XIII and if so, to characterise the potential emissions of the substance. A hazard assessment in accordance with Sections 1 and 3 of this Annex addressing all the long-term effects and the estimation of the long-term exposure of humans and the environment as carried out in accordance with Section 5 (Exposure Assessment), step 2 (Exposure Estimation), cannot be carried out with sufficient reliability for substances satisfying the PBT and vPvB criteria in Annex XIII. Therefore, a separate PBT and vPvB assessment is required.

▼M51

4.0.2. The PBT and vPvB assessment shall comprise the following two steps, which shall be clearly identified as such in Part B, Section 8 of the Chemical Safety report. The assessment shall address all nanoforms that are covered by the registration:

Step 1: Comparison with the Criteria.

Step 2: Emission Characterisation.

The assessment shall also be summarised in the Safety Data Sheet under heading 12.

▼M10

4.1. **Step 1: Comparison with the criteria**

This part of the PBT and vPvB assessment shall entail the comparison of the available information with the criteria given in Section 1 of Annex XIII and a statement of whether the substance fulfils or does not fulfil the criteria. The assessment shall be conducted in accordance with the provisions laid down in the introductory part of Annex XIII as well as Sections 2 and 3 of that Annex.

▼M51

4.2. **Step 2: Emission Characterisation**

If the substance fulfils the criteria or it is considered as if it is a PBT or vPvB in the registration dossier an emission characterisation shall be conducted comprising the relevant parts of the exposure assessment as described in Section 5. In particular it shall contain an estimation of the amounts of the substance released to the different environmental compartments during all activities carried out by the manufacturer or importer and all identified uses, and an identification of the likely routes by which humans and the environment are exposed to the substance. The estimation shall address all nanoforms that are covered by the registration.

([1]) In general, the more extensive the data and the longer the duration of the tests, the smaller is the degree of uncertainty and the size of the assessment factor. An assessment factor of 1 000 is typically applied to the lowest of three short term L(E)C50 values derived from species representing different trophic levels and a factor of 10 to the lowest of three long-term NOEC values derived from species representing different trophic levels.

▼C1

5. EXPOSURE ASSESSMENT

5.0. **Introduction**

▼M51

The objective of the exposure assessment shall be to make a quantitative and qualitative estimate of the dose/concentration of the substance to which humans and the environment are or may be exposed. The assessment shall consider all stages of the life-cycle of the substance resulting from the manufacture and identified uses and shall cover any exposures that may relate to the hazards identified in Sections 1 to 4. The assessment shall address all nanoforms that are covered by the registration. The exposure assessment shall entail the following two steps, which shall be clearly identified as such in the Chemical Safety Report:

▼C1

Step 1: Generation of exposure scenario(s) or the generation of relevant use and exposure categories.

Step 2: Exposure Estimation.

Where required and in accordance with Article 31, the exposure scenario shall also be included in an annex to the Safety Data Sheet.

5.1. **Step 1: Development of exposure scenarios**

5.1.1. Exposure scenarios as described in Sections 0.7 and 0.8 shall be generated. Exposure scenarios are the core of the process to carry out a chemical safety assessment. The chemical safety assessment process may be iterative. The first assessment will be based on the required minimum and all available hazard information and on the exposure estimation that corresponds to the initial assumptions about the operating conditions and risk management measures (an initial exposure scenario). If the initial assumptions lead to a risk characterisation indicating that risks to human health and the environment are not adequately controlled, then it is necessary to carry out an iterative process with amendment of one or a number of factors in hazard or exposure assessment with the aim to demonstrate adequate control. The refinement of hazard assessment may require generation of additional hazard information. The refinement of exposure assessment may involve appropriate alteration of the operational conditions or risk management measures in the exposure scenario or more precise exposure estimation. The exposure scenario, resulting from the final iteration (a final exposure scenario), shall be included in the chemical safety report and attached to the safety data sheet in accordance with Article 31.

The final exposure scenario shall be presented under the relevant heading of the chemical safety report, and included in an annex to the safety data sheet, using an appropriate short title giving a brief general description of the use, consistent with those given in Section 3.5 of Annex VI. Exposure scenarios shall cover any manufacture in the Community and all identified uses.

In particular, an exposure scenario includes, where relevant, a description of:

Operational conditions

— the processes involved, including the physical form in which the substance is manufactured, processed and/or used,

— the activities of workers related to the processes and the duration and frequency of their exposure to the substance,

▼C1

— the activities of consumers and the duration and frequency of their exposure to the substance,

— the duration and frequency of emissions of the substance to the different environmental compartments and sewage treatment systems and the dilution in the receiving environmental compartment.

Risk management measures

— the risk management measures to reduce or avoid direct and indirect exposure of humans (including workers and consumers) and the different environmental compartments to the substance,

— the waste management measures to reduce or avoid exposure of humans and the environment to the substance during waste disposal and/or recycling.

5.1.2. Where a manufacturer, importer or downstream user applies for an application for an authorisation for a specific use, exposure scenarios need only be developed for that use and the subsequent life-cycle steps.

5.2. **Step 2: Exposure Estimation**

5.2.1. The exposure shall be estimated for each exposure scenario developed and shall be presented under the relevant heading of the Chemical Safety Report and where required and in accordance with Article 31, summarised in an annex to the safety data sheet. The exposure estimation entails three elements: (1) emission estimation; (2) assessment of chemical fate and pathways; and (3) estimation of exposure levels.

5.2.2. The emission estimation shall consider the emissions during all relevant parts of the life-cycle of the substance resulting from the manufacture and each of the identified uses. The life-cycle stages resulting from the manufacture of the substance cover, where relevant, the waste stage. The life-cycle stages resulting from identified uses cover, where relevant, the service-life of articles and the waste stage. The emission estimation shall be performed under the assumption that the risk management measures and operational conditions described in the exposure scenario have been implemented. ►M51 When nanoforms are covered by the registration, the emission estimation for these shall, where relevant, take account of situations when the conditions outlined in Annex XI section 3.2 point (c) are fulfilled. ◄

▼M51

5.2.3. A characterisation of possible degradation, transformation, or reaction processes, and an estimation of environmental distribution and fate shall be performed.

When nanoforms are covered by the registration, a characterisation of the dissolution rate, the particle aggregation, the agglomeration and of the particle surface chemistry changes shall be included.

▼C1

5.2.4. An estimation of the exposure levels shall be performed for all human populations (workers, consumers and humans liable to exposure indirectly via the environment) and environmental spheres for which exposure to the substance is known or reasonably foreseeable. Each relevant route of human exposure (inhalation, oral, dermal and combined through all relevant routes and sources of exposure) shall be addressed. Such estimations shall take account of spatial and temporal variations in the exposure pattern. In particular, the exposure estimation shall take account of:

— adequately measured, representative exposure data,

▼C1

— any major impurities and additives in the substance,

— the quantity in which the substance is produced and/or imported,

— the quantity for each identified use,

— implemented or recommended risk management, including the degree of containment,

— duration and frequency of exposure according to the operational conditions,

— the activities of workers related to the processes and the duration and frequency of their exposure to the substance,

— the activities of consumers and the duration and frequency of their exposure to the substance,

— the duration and frequency of emissions of the substance to the different environmental compartments and the dilution in the receiving environmental compartment,

— the physicochemical properties of the substance,

— transformation and/or degradation products,

— the likely routes of exposure of and potential for absorption in humans,

— the likely pathways to the environment and environmental distribution and degradation and/or transformation (see also Section 3 Step 1),

— scale (geographical) of exposure,

— matrix dependent release/migration of the substance.

5.2.5. Where adequately measured representative exposure data are available, special consideration shall be given to them when conducting the exposure assessment. Appropriate models can be used for the estimation of exposure levels. Relevant monitoring data from substances with analogous use and exposure patterns or analogous properties can also be considered.

6. RISK CHARACTERISATION

6.1. The risk characterisation shall be carried out for each exposure scenario and shall be presented under the relevant heading of the Chemical Safety Report.

6.2. The risk characterisation shall consider the human populations (exposed as workers, consumers or indirectly via the environment and if relevant a combination thereof) and the environmental spheres for which exposure to the substance is known or reasonably foreseeable, under the assumption that the risk management measures described in the exposure scenarios in the Section 5 have been implemented. In addition, the overall environmental risk caused by the substance shall be reviewed by integrating the results for the overall releases, emissions and losses from all sources to all environmental compartments.

6.3. The risk characterisation consists of:

— a comparison of the exposure of each human population known to be or likely to be exposed with the appropriate DNEL,

— a comparison of the predicted environmental concentrations in each environmental sphere with the PNECs, and

— an assessment of the likelihood and severity of an event occurring due to the physicochemical properties of the substance.

▼C1

6.4. For any exposure scenario, the risk to humans and the environment can be considered to be adequately controlled, throughout the lifecycle of the substance that results from manufacture or identified uses, if:

— the exposure levels estimated in Section 6.2 do not exceed the appropriate DNEL or the PNEC, as determined in Sections 1 and 3, respectively, and,

— the likelihood and severity of an event occurring due to the physicochemical properties of the substance as determined in Section 2 is negligible.

6.5. For those human effects and those environmental spheres for which it was not possible to determine a DNEL or a PNEC, a qualitative assessment of the likelihood that effects are avoided when implementing the exposure scenario shall be carried out.

For substances satisfying the PBT and vPvB criteria, the manufacturer or importer shall use the information as obtained in Section 5, Step 2 when implementing on its site, and recommending for downstream users, risk management measures which minimise exposures and emissions to humans and the environment, throughout the lifecycle of the substance that results from manufacture or identified uses.

7. CHEMICAL SAFETY REPORT FORMAT

The Chemical Safety Report shall include the following headings:

CHEMICAL SAFETY REPORT FORMAT
PART A
1. SUMMARY OF RISK MANAGEMENT MEASURES
2. DECLARATION THAT RISK MANAGEMENT MEASURES ARE IMPLEMENTED
3. DECLARATION THAT RISK MANAGEMENT MEASURES ARE COMMUNICATED
PART B
1. IDENTITY OF THE SUBSTANCE AND PHYSICAL AND CHEMICAL PROPERTIES
2. MANUFACTURE AND USES
2.1. Manufacture
2.2. Identified uses
2.3. Uses advised against
3. CLASSIFICATION AND LABELLING
4. ENVIRONMENTAL FATE PROPERTIES
4.1. Degradation
4.2. Environmental distribution
4.3. Bioaccumulation
4.4. Secondary poisoning

▼C1

CHEMICAL SAFETY REPORT FORMAT

5. HUMAN HEALTH HAZARD ASSESSMENT

5.1. Toxicokinetics (absorption, metabolism, distribution and elimination)

5.2. Acute toxicity

5.3. Irritation

▼M10

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▼C1

5.4. Corrosivity

5.5. Sensitisation

▼M10

_____

▼C1

5.6. Repeated dose toxicity

▼M10

5.7. Germ cell mutagenicity

▼C1

5.8. Carcinogenicity

5.9. Toxicity for reproduction

▼M10

_____

▼C1

5.10. Other effects

5.11. Derivation of DNEL(s)

6. HUMAN HEALTH HAZARD ASSESSMENT OF PHYSICO-CHEMICAL PROPERTIES

6.1. Explosivity

6.2. Flammability

6.3. Oxidising potential

7. ENVIRONMENTAL HAZARD ASSESSMENT

7.1. Aquatic compartment (including sediment)

7.2. Terrestrial compartment

7.3. Atmospheric compartment

7.4. Microbiological activity in sewage treatment systems

8. PBT AND VPVB ASSESSMENT

9. EXPOSURE ASSESSMENT

9.1. (Title of exposure scenario 1)

9.1.1. Exposure scenario

9.1.2. Exposure estimation

▼C1

CHEMICAL SAFETY REPORT FORMAT

9.2. (Title of exposure scenario 2)

9.2.1. Exposure scenario

9.2.2. Exposure estimation

(etc.)

10. RISK CHARACTERISATION

10.1. (Title of exposure scenario 1)

10.1.1. Human health

10.1.1.1. Workers

10.1.1.2. Consumers

10.1.1.3. Indirect exposure to humans via the environment

10.1.2. Environment

10.1.2.1. Aquatic compartment (including sediment)

10.1.2.2. Terrestrial compartment

10.1.2.3. Atmospheric compartment

10.1.2.4. Microbiological activity in sewage treatment systems

10.2. (Title of exposure scenario 2)

10.2.1. Human health

10.2.1.1. Workers

10.2.1.2. Consumers

10.2.1.3. Indirect exposure to humans via the environment

10.2.2. Environment

10.2.2.1. Aquatic compartment (including sediment)

10.2.2.2. Terrestrial compartment

10.2.2.3. Atmospheric compartment

10.2.2.4. Microbiological activity in sewage treatment systems

(etc.)

10.x. Overall exposure (combined for all relevant emission/release sources)

10.x.1. Human health (combined for all exposure routes)

10.x.1.1.

10.x.2. Environment (combined for all emission sources)

10.x.2.1.

▼M58

ANNEX II

REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

PART A

0.1. **Introduction**

0.1.1. This Annex sets out the requirements that the supplier shall fulfil for the compilation of a safety data sheet that is provided for a substance or a mixture in accordance with Article 31.

0.1.2. The information on substances provided in the safety data sheet shall be consistent with the information in the registration and in the chemical safety report, where required. Where a chemical safety report has been completed, the relevant exposure scenario(s) shall be placed in an annex to the safety data sheet.

0.1.3. The safety data sheet shall mention in each relevant section whether and which different nanoforms it covers and link the relevant safety information to each of those nanoforms. As provided for in Annex VI, the term ‘nanoform’ in this Annex refers to a nanoform or a set of similar nanoforms.

0.2. **General requirements for compiling a safety data sheet**

0.2.1. The safety data sheet shall enable users to take the necessary measures relating to protection of human health and safety at the workplace, and protection of the environment. The writer of the safety data sheet shall take into account that a safety data sheet must inform its audience of the hazards of a substance or a mixture and provide information on the safe storage, handling and disposal of the substance or the mixture.

0.2.2. The information provided by safety data sheets shall also meet the requirements set out in Directive 98/24/EC. In particular, the safety data sheet shall enable employers to determine whether any hazardous chemical agents are present in the workplace and to assess any risk to the health and safety of workers arising from their use.

0.2.3. The information in the safety data sheet shall be written in a clear and concise manner. The safety data sheet shall be prepared by a competent person who shall take into account the specific needs and knowledge of the user audience, as far as they are known. Suppliers of substances and mixtures shall ensure that such competent persons have received appropriate training, including refresher training.

0.2.4. The language used in the safety data sheet shall be simple, clear and precise, avoiding jargon, acronyms and abbreviations. Statements such as ‘may be dangerous’, ‘no health effects’, ‘safe under most conditions of use’ or ‘harmless’ or any other statements indicating that the substance or mixture is not hazardous or any other statements that are inconsistent with the classification of that substance or mixture shall not be used.

0.2.5. The date of compilation of the safety data sheet shall be given on the first page. When a safety data sheet has been revised and the new, revised version is provided to recipients, the changes shall be brought to the attention of the recipients in Section 16 of the safety data sheet,

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unless the changes have been indicated elsewhere. For the revised safety data sheets, the date of compilation, identified as 'Revision: (date)', shall appear on the first page, as well as one or more indications of which version is replaced, such as version number, revision number, or supersedes date.

0.3. **Safety data sheet format**

0.3.1. A safety data sheet is not a fixed length document. The length of the safety data sheet shall be commensurate with the hazard of the substance or mixture and the information available.

0.3.2. All pages of a safety data sheet, including any annexes, shall be numbered and shall bear either an indication of the length of the safety data sheet (such as 'page 1 of 3') or an indication whether there is a page following (such as 'Continued on next page' or 'End of safety data sheet').

0.4. **Safety data sheet content**

The information required by this Annex shall be included in the safety data sheet, where applicable and available, in the relevant subsections set out in Part B. The safety data sheet shall not contain blank subsections.

0.5. **Other information requirements**

The inclusion of additional relevant and available information in the relevant subsections may be necessary in some cases in view of the wide range of properties of substances and mixtures.

Additional safety and environmental information is required to address the needs of seafarers and other transport workers in the bulk transport of dangerous goods in sea-going or inland navigation bulk carriers or tank-vessels subject to International Maritime Organisation (IMO) or national regulations. Subsection 14.7 recommends the inclusion of basic classification information when such cargoes are transported in bulk according to the relevant IMO instruments. In addition, ships carrying oil or oil fuel, as defined in Annex I of MARPOL ([1]), in bulk or bunkering oil fuel are required, before loading, to be provided with a 'material safety data sheet' in accordance with the IMO's Maritime Safety Committee (MSC) resolution 'Recommendations for Material Safety Data Sheets (MSDS) for MARPOL Annex I Oil Cargo and Oil Fuel' (MSC.286 (86)). Therefore, in order to have one harmonised safety data sheet for maritime and non-maritime use, the additional provisions of Resolution MSC.286(86) may be included in the safety data sheets, where appropriate, for marine transport of MARPOL Annex I cargoes and marine fuel oils.

0.6. **Units**

The units of measurement as set out in Council Directive 80/181/EEC ([2]) shall be used.

([1]) Marpol – Consolidated edition 2006, London, IMO 2007, ISBN 978-92-801-4216-7.

([2]) Council Directive 80/181/EEC of 20 December 1979 on the approximation of the laws of the Member States relating to units of measurement and on the repeal of Directive 71/354/EEC (OJ L 39, 15.2.1980, p. 40).

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0.7. **Special cases**

Safety data sheets shall also be required for the special cases listed in paragraph 1.3 of Annex I to Regulation (EC) No 1272/2008 for which there are labelling derogations.

1. ***SECTION 1: Identification of the substance/mixture and of the company/undertaking***

This section of the safety data sheet shall prescribe how the substance or mixture shall be identified and how the identified relevant uses, the name of the supplier of the substance or mixture and the contact detail information of the supplier of the substance or mixture, including an emergency contact, shall be provided in the safety data sheet.

1.1. **Product identifier**

The product identifier shall be provided in accordance with Article 18(2) of Regulation (EC) No 1272/2008 in the case of a substance and in accordance with Article 18(3)(a) of Regulation (EC) No 1272/2008 in the case of a mixture, and as provided on the label in the official language(s) of the Member State(s) where the substance or mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

For substances subject to registration, the product identifier shall be consistent with that provided in the registration and the registration number assigned under Article 20(3) of this Regulation shall also be indicated. Additional identifiers may be provided even if they have not been used in the registration.

Without affecting the obligations of downstream users laid down in Article 39 of this Regulation, the part of the registration number referring to the individual registrant of a joint submission may be omitted by a supplier who is a distributor or a downstream user provided that:

(a) this supplier assumes the responsibility to provide the full registration number upon request for enforcement purposes or, if the full registration number is not available to him, to forward the request to his supplier, in line with point (b); and

(b) this supplier provides the full registration number to the Member State authority responsible for enforcement (the enforcement authority) within 7 days upon request, received either directly from the enforcement authority or forwarded by his recipient, or, if the full registration number is not available to him, this supplier shall forward the request to his supplier within 7 days upon request and at the same time inform the enforcement authority thereof.

A single safety data sheet may be provided to cover more than one substance or mixture where the information in that safety data sheet fulfils the requirements of this Annex for each of those substances or mixtures.

Where different forms of a substance are covered by one safety data sheet, relevant information shall be included, clearly indicating which information is related to which form. Alternatively, a separate safety data sheet may be prepared per form or group of forms.

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If the safety data sheet pertains to one or more nanoforms, or substances that include nanoforms, this shall be indicated by using the word ‘nanoform’.

Other means of identification

Other names or synonyms by which the substance or mixture is labelled or commonly known may be provided.

Where a mixture has a unique formula identifier (UFI) in accordance with section 5 of Part A of Annex VIII to Regulation (EC) No 1272/2008 and that UFI is indicated in the safety data sheet, then the UFI shall be provided in this subsection.

1.2. **Relevant identified uses of the substance or mixture and uses advised against**

At least a brief description of the identified uses (for example, floor cleaning, or industrial use in polymer production, or professional use in cleaning agents) relevant for the recipient(s) of the substance or mixture shall be indicated.

The uses which the supplier advises against and the reasons why shall, where applicable, be stated. This need not be an exhaustive list.

Where a chemical safety report is required, the information in this subsection of the safety data sheet shall be consistent with the identified uses in the chemical safety report and the exposure scenarios from the chemical safety report set out in the annex to the safety data sheet.

1.3. **Details of the supplier of the safety data sheet**

The supplier of the safety data sheet, whether it is the manufacturer, importer, only representative, downstream user or distributor, shall be identified. The full address and telephone number of the supplier shall be given as well as an email address for a competent person responsible for the safety data sheet.

In addition, if the supplier is not located in the Member State where the substance or mixture is placed on the market and he has nominated a responsible person for that Member State, a full address and telephone number for that responsible person shall be given.

Where an only representative has been appointed, details of the non-Union manufacturer or formulator may also be provided.

For registrants, the information on the supplier of the safety data sheet and, if provided, on the supplier of the substance or mixture, shall be consistent with the information on the identity of the manufacturer, importer or only representative provided in the registration.

1.4. **Emergency telephone number**

References to emergency information services shall be provided. If an official advisory body exists in the Member State where the substance or mixture is placed on the market (this may be the body responsible for receiving information relating to health referred to in Article 45 of Regulation (EC) No 1272/2008), its telephone number shall be given and can suffice. If availability of such services is limited for any reasons, such as hours of operation, or if there are limits on specific types of information provided, this shall be clearly stated.

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2. ***SECTION 2: Hazards identification***

This section of the safety data sheet shall describe the hazards of the substance or mixture and the appropriate warning information associated with those hazards.

2.1. **Classification of the substance or mixture**

The classification of the substance or the mixture which results from the application of the classification criteria in Regulation (EC) No 1272/2008 shall be given. Where the supplier has notified information regarding the substance to the classification and labelling inventory in accordance with Article 40 of Regulation (EC) No 1272/2008, or has provided that information as part of a registration pursuant to this Regulation, the classification given in the safety data sheet shall be the same as the classification provided in that notification or registration.

If the mixture does not meet the criteria for classification in accordance with Regulation (EC) No 1272/2008, this shall be clearly stated.

Information on the substances in the mixture is provided under subsection 3.2.

If the classification, including the hazard statements, is not written out in full, reference shall be made to section 16 where the full text of each classification, including each hazard statement, shall be given.

The most important adverse physical, human health and environmental effects shall be listed in accordance with sections 9 to 12 of the safety data sheet, in such a way as to allow non-experts to identify the hazards of the substance or mixture.

2.2. **Label elements**

Based on the classification, at least the following elements appearing on the label in accordance with Regulation (EC) No 1272/2008 shall be provided: hazard pictogram(s), signal word(s), hazard statement(s) and precautionary statement(s). A graphical reproduction of the full hazard pictogram in black and white or a graphical reproduction of the symbol only may be substituted for the colour pictogram provided in Regulation (EC) No 1272/2008.

The applicable label elements in accordance with Article 25(1) to (6) and Article 32(6) of Regulation (EC) No 1272/2008 shall be provided.

2.3. **Other hazards**

Information shall be provided on whether the substance meets the criteria for persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with Annex XIII, whether the substance was included in the list established in accordance with Article 59(1) for having endocrine disrupting properties, and whether the substance is a substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 ([1]) or Commission Regulation (EU) 2018/605 ([2]). For a mixture, information shall be provided for each such substance that is present in the mixture at a concentration equal to or greater than 0,1 % by weight.

([1]) Commission Delegated Regulation (EU) 2017/2100 of 4 September 2017 setting out scientific criteria for the determination of endocrine-disrupting properties pursuant to Regulation (EU) No 528/2012 of the European Parliament and Council (OJ L 301, 17.11.2017, p. 1).

([2]) Commission Regulation (EU) 2018/605 of 19 April 2018 amending Annex II to Regulation (EC) No 1107/2009 by setting out scientific criteria for the determination of endocrine disrupting properties (OJ L 101, 20.4.2018, p. 33).

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Information shall be provided on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture, such as formation of air contaminants during hardening or processing, dustiness, explosive properties which do not fulfil the classification criteria of part 2 Section 2.1 of Annex I to Regulation (EC) No 1272/2008, dust explosion hazards, cross-sensitisation, suffocation, freezing, high potency for odour or taste, or environmental effects like hazards to soil-dwelling organisms, or photochemical ozone creation potential. The statement 'May form explosible dust-air mixture if dispersed' is appropriate in the case of a dust explosion hazard.

3. ***SECTION 3: Composition/information on ingredients***

This section of the safety data sheet shall describe the chemical identity of the ingredient(s) of the substance or mixture, including impurities and stabilising additives as set out below. Appropriate and available safety information on surface chemistry shall be indicated.

3.1. **Substances**

The chemical identity of the main constituent of the substance shall be provided by providing at least the product identifier or one of the other means of identification given in subsection 1.1.

The chemical identity of any impurity, stabilising additive, or individual constituent other than the main constituent, which is itself classified and which contributes to the classification of the substance shall be provided as follows:

(a) the product identifier in accordance with Article 18(2) of Regulation (EC) No 1272/2008;

(b) if the product identifier is not available, one of the other names (usual name, trade name, abbreviation) or identification numbers.

The specific concentration limit, the M-factor and the acute toxicity estimate for substances included in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or determined in accordance with Annex I to that Regulation shall be indicated, if available.

If the substance is registered and it covers a nanoform, the particle characteristics that specify the nanoform, as described in Annex VI, shall be indicated.

If the substance is not registered, but the safety data sheet covers nanoforms, the particle characteristics of which have impact on the safety of the substance, those characteristics shall be indicated.

Suppliers of substances may choose to list in addition all constituents including non-classified ones.

This subsection may also be used to provide information on multi-constituent substances.

3.2. **Mixtures**

The product identifier, the concentration or concentration ranges and the classifications shall be provided for at least all substances referred to in points 3.2.1 or 3.2.2. Suppliers of mixtures may choose to list in addition all substances in the mixture, including substances not meeting the criteria for classification. This information shall enable the recipient to identify readily the hazards of the substances in the mixture. The hazards of the mixture itself shall be given in section 2.

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The concentrations of the substances in a mixture shall be described as either of the following:

(a) exact percentages in descending order by mass or volume, if technically possible;

(b) ranges of percentages in descending order by mass or volume, if technically possible.

When using a range of percentages, if the effects of the mixture as a whole are not available, the health and environmental hazards shall describe the effects of the highest concentration of each ingredient.

If the effects of the mixture as a whole are available, the classification determined from this information shall be included under section 2.

Where the use of an alternative chemical name is permitted in accordance with Article 24 of Regulation (EC) No 1272/2008, that name can be used.

3.2.1. For a mixture meeting the criteria for classification in accordance with Regulation (EC) No 1272/2008, the following substances (see also Table 1.1) shall be indicated, together with their concentration or concentration range in the mixture:

(a) substances presenting a health or environmental hazard within the meaning of Regulation (EC) No 1272/2008, if those substances are present in concentrations equal to or greater than the lowest of any of the following:

(i) the generic cut-off values set out in Table 1.1 of Annex I to Regulation (EC) No 1272/2008;

(ii) the generic concentration limits given in parts 3 to 5 of Annex I to Regulation (EC) No 1272/2008, taking into account the concentrations specified in the notes to certain tables in part 3 in relation to the obligation to make available a safety data sheet for the mixture upon request, and for aspiration hazard (Section 3.10 of Annex I to Regulation (EC) No 1272/2008) ≥ 1 %;

(iii) the specific concentration limits given in Part 3 of Annex VI to Regulation (EC) No 1272/2008;

(iv) if a M-factor has been given in Part 3 of Annex VI to Regulation (EC) No 1272/2008, the generic cut-off value in Table 1.1 of Annex I to that Regulation, adjusted using the calculation set out in Section 4.1 of Annex I to that Regulation;

(v) the specific concentration limits provided to the classification and labelling inventory established under Regulation (EC) No 1272/2008;

(vi) one tenth of the specific concentration limit for a substance classified as skin sensitiser or respiratory sensitiser with a specific concentration limit;

(vii) the concentration limits set out in Annex II to Regulation (EC) No 1272/2008;

(viii) if an M-factor has been provided to the classification and labelling inventory established under Regulation (EC) No 1272/2008, the generic cut-off value in Table 1.1 of Annex I to that Regulation, adjusted using the calculation set out in Section 4.1 of Annex I to that Regulation;

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(b) substances for which there are Union workplace exposure limits which are not already included under point (a);

(c) provided that the concentration of an individual substance is equal to or greater than 0,1 %, substances that meet any of the following criteria:

— substances that are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII,

— substances included in the list established in accordance with Article 59(1) for reasons other than the hazards referred to in point (a) of this subsection such as endocrine disrupting properties,

— substances identified as having endocrine disrupting properties in accordance with the criteria set out in Delegated Regulation (EU) 2017/2100 or Regulation (EU) 2018/605.

Table 1.1

List of hazard classes, hazard categories and concentration limits for which a substance shall be listed as a substance in a mixture in subsection 3.2.1

Hazard class and category	Concentration limit (%)
Acute toxicity, category 1, 2 and 3	≥ 0,1
Acute toxicity, category 4	≥ 1
Skin corrosion/irritation, category 1, categories 1A, 1B, 1C and category 2	≥ 1
Serious damage to eyes/eye irritation, category 1 and 2	≥ 1
Respiratory sensitiser category 1 or category 1B	≥ 0,1
Respiratory sensitiser category 1A	≥ 0,01
Skin sensitiser category 1 or category 1B	≥ 0,1
Skin sensitiser category 1A	≥ 0,01
Germ cell mutagenicity category 1A and 1B	≥ 0,1
Germ cell mutagenicity category 2	≥ 1
Carcinogenicity category 1A, 1B and 2	≥ 0,1
Reproductive toxicity, category 1A, 1B, 2 and effects on or via lactation	≥ 0,1

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Hazard class and category	Concentration limit (%)
Specific target organ toxicity (STOT) – single exposure, category 1, 2 and 3	≥ 1
Specific target organ toxicity (STOT) – repeated exposure, category 1 and 2	≥ 1
Aspiration toxicity	≥ 1
Hazardous to the aquatic environment – Acute, category 1	≥ 0,1
Hazardous to the aquatic environment – Chronic, category 1	≥ 0,1
Hazardous to the aquatic environment – Chronic, category 2, 3 and 4	≥ 1
Hazardous for the ozone layer	≥ 0,1

3.2.2. For a mixture not meeting the criteria for classification in accordance with Regulation (EC) No 1272/2008, substances present in an individual concentration equal to or greater than the following concentrations shall be indicated, together with their concentration or concentration range:

(a) 1 % by weight in non-gaseous mixtures and 0,2 % by volume in gaseous mixtures for:

(i) substances which present a health or environmental hazard within the meaning of Regulation (EC) No 1272/2008; or

(ii) substances for which Union workplace exposure limits have been assigned;

(b) 0,1 % by weight for substances that meet any of the following criteria:

— substances that are persistent, bioaccumulative and toxic in accordance with the criteria set out in Annex XIII,

— substances that are very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII,

— substances included in the list established in accordance with Article 59(1) for reasons other than the hazards referred to in point (a) of this subsection such as endocrine disrupting properties;

— identified as having endocrine disrupting properties in accordance with the criteria set out in Delegated Regulation (EU) 2017/2100 or Regulation (EU) 2018/605;

(c) 0,1 % of a substance classified as skin sensitiser category 1 or 1B, respiratory sensitiser category 1 or 1B, or carcinogenic category 2;

(d) 0,01 % of a substance classified as skin sensitiser category 1A or respiratory sensitiser category 1A;

(e) one tenth of the specific concentration limit for a substance classified as skin sensitiser or respiratory sensitiser with a specific concentration limit;

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(f) 0,1 % of a substance classified as toxic to reproduction categories 1A, 1B or 2, or with effects on or via lactation.

3.2.3. For the substances indicated in subsection 3.2:

— the classification of the substance according to Regulation (EC) No 1272/2008, including the hazard class(es) and category code (s) as provided in Table 1.1 of Annex VI to that Regulation as well as the hazard statements and supplemental hazard statements, shall be provided. The hazard statements and the supplemental hazard statements do not need to be written out in full in this subsection; their codes shall be sufficient. In cases where they are not written out in full, reference shall be made to section 16, where the full text of each relevant hazard statement shall be listed. If the substance does not meet the classification criteria, the reason for indicating the substance in subsection 3.2 shall be described, such as 'non-classified vPvB substance' or 'substance with a Union workplace exposure limit'.

— the specific concentration limit, the M-factor and the acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation shall be indicated, if available.

— if the substance as used in the mixture is in nanoform and is as such registered or addressed by the downstream user chemical safety report, the particle characteristics that specify the nanoform, as described in Annex VI, shall be indicated. If the substance as used in the mixture is in nanoform but is not registered or addressed by the downstream user chemical safety report, the particle characteristics which have impact on the safety of the mixture, shall be provided.

3.2.4. For the substances indicated in subsection 3.2 the name and, if available, the registration number, as assigned under Article 20(3) of this Regulation, shall be given.

Without affecting the obligations of downstream users laid down in Article 39 of this Regulation, the part of the registration number referring to the individual registrant of a joint submission may be omitted by the supplier of the mixture provided that:

(a) this supplier assumes the responsibility to provide the full registration number upon request for enforcement purposes or, if the full registration number is not available to him, to forward the request to his supplier, in line with point (b); and

(b) this supplier provides the full registration number to the Member State authority responsible for enforcement (hereinafter referred to as the enforcement authority) within seven days upon request, received either directly from the enforcement authority or forwarded by his recipient, or, if the full registration number is not available to him, this supplier shall forward the request to his supplier within seven days upon request and at the same time inform the enforcement authority thereof.

The EC number, if available, shall be given in accordance with Regulation (EC) No 1272/2008. The CAS number, if available, and the IUPAC name, if available, may also be given.

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For substances indicated in this subsection by means of an alternative chemical name in accordance with Article 24 of Regulation (EC) No 1272/2008, the registration number, EC number and other precise chemical identifiers are not necessary.

4. ***SECTION 4: First aid measures***

This section of the safety data sheet shall describe the initial care in such a way that an untrained responder can understand and provide it without the use of sophisticated equipment and without the availability of a wide selection of medications. If medical attention is required, the instructions shall state this, including its urgency.

4.1. **Description of first aid measures**

4.1.1. First aid instructions shall be provided by relevant routes of exposure. Subdivisions shall be used to indicate the procedure for each route, such as inhalation, skin, eye and ingestion.

4.1.2. Advice shall be provided as to whether:

(a) immediate medical attention is required and if delayed effects can be expected after exposure;

(b) movement of the exposed individual from the area to fresh air is recommended;

(c) removal and handling of clothing and shoes from the individual is recommended; and

(d) personal protective equipment for first aid responders is recommended.

4.2. **Most important symptoms and effects, both acute and delayed**

Briefly summarised information shall be provided on the most important symptoms and effects, both acute and delayed, from exposure.

4.3. **Indication of any immediate medical attention and special treatment needed**

Where appropriate, information shall be provided on clinical testing and medical monitoring for delayed effects, specific details on antidotes (where they are known) and contraindications.

For some substances or mixtures, it may be important to emphasise that special means to provide specific and immediate treatment shall be available at the workplace.

5. ***SECTION 5: Firefighting measures***

This section of the safety data sheet shall describe the requirements for fighting a fire caused by the substance or mixture, or arising in its vicinity.

5.1. **Extinguishing media**

Suitable extinguishing media:

Information shall be provided on the appropriate extinguishing media.

Unsuitable extinguishing media:

Indications shall be given whether any extinguishing media are inappropriate for a particular situation involving the substance or mixture (e.g. avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture).

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5.2. **Special hazards arising from the substance or mixture**

Information shall be provided on hazards that may arise from the substance or mixture, like hazardous combustion products that form when the substance or mixture burns, such as ‘may produce toxic fumes of carbon monoxide if burning’ or ‘produces oxides of sulphur and nitrogen on combustion’.

5.3. **Advice for firefighters**

Advice shall be provided on any protective actions to be taken during firefighting, such as ‘keep containers cool with water spray’, and on special protective equipment for firefighters, such as boots, overalls, gloves, eye and face protection and breathing apparatus.

6. ***SECTION 6: Accidental release measures***

This section of the safety data sheet shall recommend the appropriate response to spills, leaks, or releases, to prevent or minimise the adverse effects on persons, property and the environment. It shall distinguish between responses to large and small spills, in cases where the spill volume has a significant impact on the hazard. If the procedures for containment and recovery indicate that different practices are required, these shall be indicated in the safety data sheet.

6.1. **Personal precautions, protective equipment and emergency procedures**

6.1.1. *For non-emergency personnel*

Advice shall be provided related to accidental spills and release of the substance or mixture such as:

(a) the wearing of suitable protective equipment (including personal protective equipment referred to under section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing;

(b) removal of ignition sources, provision of sufficient ventilation, control of dust; and

(c) emergency procedures such as the need to evacuate the danger area or to consult an expert.

6.1.2. *For emergency responders*

Advice shall be provided related to suitable fabric for personal protective clothing (such as ‘appropriate: butylene’; ‘not appropriate: PVC’).

6.2. **Environmental precautions**

Advice shall be provided on any environmental precautions to be taken related to accidental spills and release of the substance or mixture, such as keeping away from drains, surface and ground water.

6.3. **Methods and material for containment and cleaning up**

6.3.1. Appropriate advice shall be provided on how to contain a spill. Appropriate containment techniques may include any of the following:

(a) bunding, covering of drains;

(b) capping procedures.

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6.3.2. Appropriate advice shall be provided on how to clean-up a spill. Appropriate clean-up procedures may include any of the following:

(a) neutralisation techniques;

(b) decontamination techniques;

(c) adsorbent materials;

(d) cleaning techniques;

(e) vacuuming techniques;

(f) equipment required for containment/clean-up (include the use of non-sparking tools and equipment where applicable).

6.3.3. Any other information shall be provided relating to spills and releases, including advice on inappropriate containment or clean-up techniques, such as by indications like ‘never use …’.

6.4. **Reference to other sections**

If appropriate sections 8 and 13 shall be referred to.

7. ***SECTION 7: Handling and storage***

This section of the safety data sheet shall provide advice on safe handling practices. It shall emphasise precautions that are appropriate to the identified uses referred to under subsection 1.2 and to the unique properties of the substance or mixture.

Information in this section of the safety data sheet shall relate to the protection of human health, safety and the environment. It shall assist the employer in devising suitable working procedures and organisational measures according to Article 5 of Directive 98/24/EC and Article 5 of Directive 2004/37/EC.

Where a chemical safety report is required, the information in this section of the safety data sheet shall be consistent with the information given for the identified uses in the chemical safety report and the exposure scenarios showing control of risk from the chemical safety report set out in the annex to the safety data sheet.

In addition to information given in this section, relevant information may also be found in section 8.

7.1. **Precautions for safe handling**

7.1.1. Recommendations shall be specified to:

(a) allow safe handling of the substance or mixture, such as containment and measures to prevent fire as well as aerosol and dust generation;

(b) prevent handling of incompatible substances or mixtures;

(c) draw attention to operations and conditions which create new risks by altering the properties of the substance or mixture, and to appropriate countermeasures; and

(d) reduce the release of the substance or mixture to the environment, such as avoiding spills or keeping away from drains.

7.1.2. Advice on general occupational hygiene shall be provided, such as:

(a) not to eat, drink and smoke in work areas;

(b) to wash hands after use; and

(c) to remove contaminated clothing and protective equipment before entering eating areas.

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7.2. **Conditions for safe storage, including any incompatibilities**

The advice provided shall be consistent with the physical and chemical properties described in section 9 of the safety data sheet. If relevant, advice shall be provided on specific storage requirements including:

(a) how to manage risks associated with:

(i) explosive atmospheres;

(ii) corrosive conditions;

(iii) flammability hazards;

(iv) incompatible substances or mixtures;

(v) evaporative conditions; and

(vi) potential ignition sources (including electrical equipment);

(b) how to control the effects of:

(i) weather conditions;

(ii) ambient pressure;

(iii) temperature;

(iv) sunlight;

(v) humidity; and

(vi) vibration;

(c) how to maintain the integrity of the substance or mixture by the use of:

(i) stabilisers; and

(ii) antioxidants;

(d) other advice including:

(i) ventilation requirements;

(ii) specific designs for storage rooms or vessels (including retention walls and ventilation);

(iii) quantity limits under storage conditions (if relevant); and

(iv) packaging compatibilities.

7.3. **Specific end use(s)**

For substances and mixtures designed for specific end use(s), recommendations shall relate to the identified use(s) referred to in subsection 1.2 and be detailed and operational. If an exposure scenario is attached, reference to it may be made or the information as required in subsections 7.1 and 7.2 shall be provided. If an actor in the supply chain has carried out a chemical safety assessment for the mixture, it is sufficient that the safety data sheet and the exposure scenarios are consistent with the chemical safety report for the mixture, rather than with the chemical safety reports for each substance in the mixture. If industry or sector specific guidance is available, detailed reference to it (including source and issuing date) may be made.

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8. ***SECTION 8: Exposure controls/personal protection***

This section of the safety data sheet shall describe the applicable occupational exposure limits and necessary risk management measures.

Where a chemical safety report is required, the information in this section of the safety data sheet shall be consistent with the information given for the identified uses in the chemical safety report and the exposure scenarios showing control of risk from the chemical safety report set out in the annex to the safety data sheet.

8.1. **Control parameters**

8.1.1. Where available, the following national limit values, including the legal basis of each of them, which are currently applicable in the Member State in which the safety data sheet is being provided shall be listed for the substance or for each of the substances in the mixture. When listing occupational exposure limit values, the chemical identity as specified in section 3 shall be used.

8.1.1.1. the national occupational exposure limit values that correspond to Union occupational exposure limit values in accordance with Directive 98/24/EC, including any notations as referred to in Article 2(3) of Commission Decision 2014/113/EU [1];

8.1.1.2. the national occupational exposure limit values that correspond to Union limit values in accordance with Directive 2004/37/EC, including any notations as referred to in Article 2(3) of Decision 2014/113/EU;

8.1.1.3. any other national occupational exposure limit values;

8.1.1.4. the national biological limit values that correspond to Union biological limit values in accordance with Directive 98/24/EC, including any notations as referred to in Article 2(3) of Decision 2014/113/EU;

8.1.1.5. any other national biological limit values.

8.1.2. Information on currently recommended monitoring procedures shall be provided at least for the most relevant substances.

8.1.3. If air contaminants are formed when using the substance or mixture as intended, applicable occupational exposure limit values and/or biological limit values for these shall also be listed.

8.1.4. Where a chemical safety report is required or where a DNEL as referred to in Section 1.4 of Annex I or a PNEC as referred to in Section 3.3 of Annex I is available, the relevant DNELs and PNECs for the substance shall be given for the exposure scenarios from the chemical safety report set out in the annex to the safety data sheet.

8.1.5. Where a control banding approach is used to decide on risk management measures in relation to specific uses, sufficient detail shall be given to enable effective management of the risk. The context and limitations of the specific control banding recommendation shall be made clear.

[1] Commission Decision 2014/113/EU of 3 March 2014 on setting up a Scientific Committee on Occupational Exposure Limits for Chemical Agents and repealing Decision 95/320/EC (OJ L 62, 4.3.2014, p. 18).

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8.2. **Exposure controls**

The information required in this subsection shall be provided, unless an exposure scenario containing that information is attached to the safety data sheet.

Where the supplier has waived a test under Section 3 of Annex XI, he shall indicate the specific conditions of use relied on to justify the waiving.

Where a substance has been registered as an isolated intermediate (on-site or transported), the supplier shall indicate that this safety data sheet is consistent with the specific conditions relied on to justify the registration in accordance with Article 17 or 18.

8.2.1. *Appropriate engineering controls*

The description of appropriate exposure control measures shall relate to the identified use(s) of the substance or mixture as referred to in subsection 1.2. This information shall be sufficient to enable the employer to carry out an assessment of risk to the safety and health of workers arising from the presence of the substance or mixture in accordance with Articles 4 to 6 of Directive 98/24/EC and Articles 3 to 5 of Directive 2004/37/EC, where appropriate.

This information shall complement that already given under section 7.

8.2.2. *Individual protection measures, such as personal protective equipment*

8.2.2.1. The information on use of personal protective equipment shall be consistent with good occupational hygiene practices and in conjunction with other control measures, including engineering controls, ventilation and isolation. Where appropriate, section 5 shall be referred to for specific fire/chemical personal protective equipment advice.

8.2.2.2. Taking into account Regulation (EU) 2016/425 of the European Parliament and of the Council [1] and referring to the appropriate CEN standards, detailed specifications shall be given on which equipment will provide adequate and suitable protection, including:

(a) Eye/face protection

The type of eye/face protection equipment required shall be specified based on the hazard of the substance or mixture and potential for contact, such as safety glasses, safety goggles, face-shield.

(b) Skin protection

(i) *Hand protection*

The type of gloves to be worn when handling the substance or mixture shall be clearly specified based on the hazard of the substance or mixture and potential for contact and with regard to the amount and duration of dermal exposure, including:

— the type of material and its thickness,

— the typical or minimum breakthrough times of the glove material,

If necessary, any additional hand protection measures shall be indicated.

[1] Regulation (EU) 2016/425 of the European Parliament and of the Council of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (OJ L 81, 31.3.2016, p. 51).

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(ii) *Other*

If it is necessary to protect a part of the body other than the hands, the type and quality of protection equipment required shall be specified, such as gauntlets, boots, bodysuit based on the hazards associated with the substance or mixture and the potential for contact.

If necessary, any additional skin protection measures and specific hygiene measures shall be indicated.

(c) Respiratory protection

For gases, vapours, mist or dust, the type of protective equipment to be used shall be specified based on the hazard and potential for exposure, including air-purifying respirators, specifying the proper purifying element (cartridge or canister), the adequate particulate filters and the adequate masks, or self-contained breathing apparatus.

(d) Thermal hazards

When specifying protective equipment to be worn for materials that represent a thermal hazard, special consideration shall be given to the construction of the personal protective equipment.

8.2.3. *Environmental exposure controls*

The information required by the employer to fulfil his commitments under Union environmental protection legislation shall be specified.

Where a chemical safety report is required, a summary of the risk management measures that adequately control exposure of the environment to the substance shall be given for the exposure scenarios set out in the annex to the safety data sheet.

9. ***SECTION 9: Physical and chemical properties***

This section of the safety data sheet shall describe the empirical data relating to the substance or mixture, if relevant. Article 8(2) of Regulation (EC) No 1272/2008 shall apply.

To enable proper control measures to be taken, all relevant information on the substance or mixture shall be provided. The information in this section shall be consistent with the information provided in the registration or in the chemical safety report, where required, and with the classification of the substance or mixture.

In the case of a mixture, where information does not apply to the mixture as a whole, the entries shall clearly indicate to which substance in the mixture the data apply.

Reported properties shall be clearly identified and reported in the appropriate measurement units. The method of determination shall be provided, including measurement and reference conditions, if relevant for the interpretation of the numerical value. Unless specified otherwise, standard conditions of temperature and pressure are 20 °C and 101,3 kPa, respectively.

The properties listed in subsections 9.1 and 9.2 may be presented in a form of a list. Within the subsections, the order of listing the properties may be different if deemed appropriate.

9.1. **Information on basic physical and chemical properties**

Each safety data sheet shall include the properties mentioned below. If it is stated that a particular property does not apply or if information on a particular property is not available, this shall be clearly indicated, giving the reasons where possible.

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(a) *Physical state*

The physical state (gas, liquid or solid) shall generally be indicated at standard conditions of temperature and pressure.

The definitions of the terms gas, liquid and solid, as provided in Section 1.0 of Annex I to Regulation (EC) No 1272/2008, shall apply.

(b) *Colour*

The colour of the substance or mixture as supplied shall be indicated.

In cases where one safety data sheet is used to cover variants of a mixture which may have different colours, the term ‘various’ can be used to describe the colour.

(c) *Odour*

A qualitative description of the odour shall be given if it is well-known or described in the literature.

If available, the odour threshold shall be indicated (qualitatively or quantitatively).

(d) *Melting point/freezing point*

Does not apply to gases.

Melting point and freezing point shall be indicated at standard pressure.

In case the melting point is above the measuring range of the method, it shall be indicated up to which temperature no melting point was observed.

If decomposition or sublimation occur prior to or during melting, it shall be indicated.

As regards waxes and pastes, the softening point/range may be indicated instead of the melting point and freezing point.

As regards mixtures, if it is technically not possible to determine the melting point/freezing point, this shall be indicated.

(e) *Boiling point or initial boiling point and boiling range*

These properties shall be indicated at standard pressure. A boiling point at lower pressure might however be indicated, in case the boiling point is very high or in case decomposition occurs before boiling at standard pressure.

If the boiling point is above the measuring range of the method, the temperature up to which no boiling point was observed shall be indicated.

If decomposition occurs prior to or during boiling, this shall be indicated.

As regards mixtures, if it is technically not possible to determine their boiling point or range, this shall be indicated; in that case, the boiling point of the lowest boiling ingredient shall also be indicated.

(f) *Flammability*

Applies to gases, liquids and solids.

It shall be indicated whether the substance or mixture is ignitable, i.e. capable of catching fire or being set on fire, even if not classified for flammability.

If available and appropriate, further information may be indicated, such as whether the effect of ignition is other than a normal combustion (e.g. an explosion) and the ignitability under non-standard conditions.

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More specific information on the flammability may be indicated based on the respective hazard classification. The information provided in subsection 9.2.1 shall not be provided in this point.

(g) *Lower and upper explosion limit* [1]

Do not apply to solids.

As regards flammable liquids, at least the lower explosion limit shall be indicated. If the flash point is approximately – 25 °C or higher, it may not be possible to determine the upper explosion limit at standard temperature; in that case, it is recommended to indicate the upper explosion limit at a higher temperature. If the flash point is higher than 20 °C, it may not be possible to determine the lower or the upper explosion limit at standard temperature; in that case, it is recommended to indicate both the lower and the upper explosion limits at a higher temperature.

(h) *Flash point*

Does not apply to gases, aerosols and solids.

For mixtures, a value for the mixture shall be indicated, if available. Otherwise, the flash point(s) of the substance(s) with the lowest flash point(s) shall be indicated.

(i) *Auto-ignition temperature*

Only applies to gases and liquids.

As regards mixtures the auto-ignition temperature for the mixture shall be indicated, if available. If the value for the mixture is not available, the auto-ignition temperature(s) of the ingredients with the lowest auto-ignition temperature(s) shall be indicated.

(j) *Decomposition temperature*

Only applies to self-reactive substances and mixtures, organic peroxides, and other substances and mixtures that may decompose.

The self-accelerating decomposition temperature (SADT) and the volume to which it applies, or the decomposition onset temperature shall be indicated.

It shall be indicated whether the temperature given is the SADT or the decomposition onset temperature.

If no decomposition was observed, it shall be indicated up to which temperature no decomposition was observed, e.g. ‘no decomposition observed up to x °C’.

(k) *pH*

Does not apply to gases.

The pH of the substance or mixture as supplied, or where the product is a solid, the pH of an aqueous liquid or solution at a given concentration, shall be indicated.

The concentration of the test substance or mixture in water shall be indicated.

(l) *Kinematic viscosity*

Only applies to liquids.

The measurement unit shall be mm^2/s.

[1] *Note*: The term ‘explosion limit’ is synonymous to ‘flammability limit’, used outside the Union.

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For non-Newtonian liquids, the thixotropic or rheopexic behaviour shall be indicated.

(m) *Solubility*

Solubility shall generally be indicated at standard temperature.

The solubility in water shall be indicated.

The solubility in other polar and non-polar solvents may also be included.

As regards mixtures, it shall be indicated if the mixture is fully or only partially soluble in or miscible with water or other solvent.

As regards nanoforms, the dissolution rate in water or in other relevant biological or environmental media shall be indicated in addition to the water solubility.

(n) *Partition coefficient n-octanol/water (log value)*

Does not apply to inorganic and ionic liquids and does not generally apply to mixtures.

It shall be indicated whether the reported value is based on testing or on calculation.

As regards nanoforms of a substance for which the n-octanol/water partition coefficient does not apply, the dispersion stability in different media shall be indicated.

(o) *Vapour pressure*

Vapour pressure shall generally be indicated at standard temperature.

As regards volatile fluids, the vapour pressure at 50 °C shall also be indicated.

In cases where one safety data sheet is used to cover variants of a liquid mixture or liquefied gas mixture, a range for the vapour pressure shall be indicated.

As regards liquid mixtures or liquefied gas mixtures, a range for the vapour pressure or at least the vapour pressure of the most volatile ingredient(s), where the vapour pressure of the mixture is predominantly determined by that or those ingredient(s), shall be indicated.

The saturated vapour concentration may also be indicated.

(p) *Density and/or relative density*

Only apply to liquids and solids.

Density and relative density shall generally be indicated at standard conditions of temperature and pressure.

The absolute density and/or the relative density based on water at 4 °C as reference (also referred to as the specific gravity) shall be indicated.

In cases where variations in density are possible, e.g. due to batch manufacture, or where one safety data sheet is used to cover several variants of a substance or mixture, a range may be indicated.

The safety data sheet shall indicate whether the absolute density (units e.g. g/cm^3 or kg/m^3) and/or the relative density (dimensionless) is being reported.

(q) *Relative vapour density*

Only applies to gases and liquids.

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As regards gases, the relative density of the gas based on air at 20 °C as reference shall be indicated.

As regards liquids, the relative vapour density based on air at 20 °C as reference shall be indicated.

As regards liquids, the relative density D_m of the vapour/air-mixture at 20 °C may also be indicated.

(r) *Particle characteristics*

Only apply to solids.

The particle size (median equivalent diameter, method of calculation of the diameter (number-, surface- or volume-based) and the range in which this median value varies), shall be indicated. Other properties may also be indicated, such as size distribution (e.g. as a range), shape and aspect ratio, aggregation and agglomeration state, specific surface area and dustiness. If the substance is in nanoform or if the mixture supplied contains a nanoform, those characteristics shall be indicated in this subsection, or referred to if already specified elsewhere in the safety data sheet.

9.2. **Other information**

In addition to the properties mentioned in subsection 9.1, other physical and chemical parameters shall be indicated, such as the properties listed in subsections 9.2.1 and 9.2.2, if their indication is relevant for the safe use of the substance or mixture.

9.2.1. *Information with regard to physical hazard classes*

This subsection lists properties, safety characteristics and test results, which may be useful to include in the safety data sheet when a substance or mixture is classified in the respective physical hazard class. Data deemed relevant with regard to a specific physical hazard but not resulting in classification (e.g. negative test results close to the criterion), may also be appropriate to indicate.

The name of the hazard class to which the data relate may be indicated together with the data.

(a) Explosives

This point also applies to substances and mixtures referred to in Note 2 of section 2.1.3 of Annex I of Regulation (EC) No 1272/2008, and to other substances and mixtures which show a positive effect if heated under confinement.

The following information may be provided:

(i) sensitivity to shock;

(ii) effect of heating under confinement;

(iii) effect of ignition under confinement;

(iv) sensitivity to impact;

(v) sensitivity to friction;

(vi) thermal stability;

(vii) package (type, size, net mass of substance or mixture), based on which the ‘division’ within the explosive class was assigned, or based on which the substance or mixture was exempted from classification as explosive.

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(b) Flammable gases

As regards pure flammable gas, the following information may be provided in addition to data on the explosion limits referred to in point (g) of subsection 9.1:

(i) the T_{Ci} (maximum content of flammable gas which, when mixed with nitrogen, is not flammable in air, in mol. %);

(ii) the fundamental burning velocity if the gas is classified as Category 1B based on fundamental burning velocity.

As regards a flammable gas mixture, the following information may be provided in addition to data on the explosion limits referred to in point (g) of subsection 9.1:

(i) explosion limits, if tested, or an indication of whether the classification and category assignment is based on calculation;

(ii) fundamental burning velocity if the gas mixture is classified as Category 1B based on fundamental burning velocity.

(c) Aerosols

The following total percentage (by mass) of flammable components may be provided, unless the aerosol is classified as Aerosol category 1 because it contains more than 1 % (by mass) flammable components or has a heat of combustion of at least 20 kJ/g and is not submitted to the flammability classification procedures (see the Note in Paragraph 2.3.2.2 of Annex I to Regulation (EC) No 1272/2008);

(d) Oxidising gases

As regards pure gas, the C_i (coefficient of oxygen equivalency) as per ISO 10156 ‘Gases and gas mixtures – Determination of fire potential and oxidizing ability for the selection of cylinder valve outlets’, or as per an equivalent method, may be provided;

As regards a gas mixture, the words ‘oxidising gas Category 1 (tested as per ISO 10156 (or as per an equivalent method))’ may be indicated as regards tested mixtures, or the calculated oxidising power as per ISO 10156 or as per an equivalent method;

(e) Gases under pressure

As regards pure gas, critical temperature may be provided.

As regards gas mixture, pseudo-critical temperature may be provided;

(f) Flammable liquids

When the substance or mixture is classified as flammable liquid, data on the boiling point and flash point do not need to be provided under this point as that data are to be indicated in accordance with the subsection 9.1. Information on sustained combustibility may be provided.

(g) Flammable solids

The following information may be provided:

(i) burning rate, or burning time as regards metal powders,

(ii) statement on whether the wetted zone has been passed;

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(h) Self-reactive substances and mixtures

In addition to the indication of the SADT as specified in point (j) of subsection 9.1, the following information may be provided:

(i) decomposition temperature,

(ii) detonation properties,

(iii) deflagration properties,

(iv) effect of heating under confinement,

(v) explosive power, if applicable;

(i) Pyrophoric liquids

Information on whether spontaneous ignition or charring of filter paper occurs may be provided.

(j) Pyrophoric solids

The following information may be provided:

(i) statement on whether spontaneous ignition occurs when poured or within five minutes thereafter, as regards solids in powder form,

(ii) statement on whether pyrophoric properties could change over time.

(k) Self-heating substances and mixtures

The following information may be provided:

(i) statement on whether spontaneous ignition occurs and the maximum temperature rise obtained,

(ii) results of screening tests referred to in section 2.11.4.2 of Annex I to Regulation (EC) No 1272/2008, if relevant and available;

(l) Substances and mixtures, which emit flammable gases in contact with water

The following information may be provided:

(i) identity of the emitted gas, if known,

(ii) statement on whether the emitted gas ignites spontaneously,

(iii) gas evolution rate;

(m) Oxidising liquids

Information on whether spontaneous ignition occurs when mixed with cellulose may be provided.

(n) Oxidizing solids

Information on whether spontaneous ignition occurs when mixed with cellulose may be provided.

(o) Organic peroxides

In addition to the indication of the SADT as specified in point (j) of subsection 9.1, the following information may be provided:

(i) decomposition temperature,

(ii) detonation properties,

(iii) deflagration properties,

(iv) effect of heating under confinement,

(v) explosive power;

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(p) Corrosive to metals

The following information may be provided:

(i) metals that are corroded by the substance or mixture,

(ii.) corrosion rate and statement on whether it refers to steel or aluminium,

(iii.) reference to other sections of the safety data sheet with regard to compatible or incompatible materials.

(q) Desensitised explosives

The following information may be provided:

(i) desensitising agent used,

(ii) exothermic decomposition energy,

(iii) corrected burning rate (A_c);

(iv) explosive properties of the desensitised explosive in that state.

9.2.2. *Other safety characteristics*

Properties, safety characteristics and test results listed below may be useful to indicate as regards a substance or a mixture:

(a) mechanical sensitivity;

(b) self-accelerating polymerisation temperature;

(c) formation of explosible dust/air mixtures;

(d) acid/alkaline reserve;

(e) evaporation rate;

(f) miscibility;

(g) conductivity;

(h) corrosiveness;

(i) gas group;

(j) redox potential;

(k) radical formation potential;

(l) photocatalytic properties.

Other physical and chemical parameters shall be indicated if their indication is relevant for the safe use of the substance or mixture.

10. ***SECTION 10: Stability and reactivity***

This section of the safety data sheet shall describe the stability of the substance or mixture and the possibility of hazardous reactions occurring under certain conditions of use and also if released into the environment, including, where appropriate, a reference to the test methods used. If it is stated that a particular property does not apply or if information on a particular property is not available, the reasons shall be given.

10.1. **Reactivity**

10.1.1. The reactivity hazards of the substance or mixture shall be described. Specific test data shall be provided for the substance or mixture as a whole, where available. However, the information may also be based on general data for the class or family of substance or mixture if such data adequately represent the anticipated hazard of the substance or mixture.

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10.1.2. If data for mixtures are not available, data on substances in the mixture shall be provided. In determining incompatibility, the substances, containers and contaminants that the substance or mixture might be exposed to during transportation, storage and use shall be considered.

10.2. **Chemical stability**

It shall be indicated if the substance or mixture is stable or unstable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Any stabilisers which are, or may need to be, used to maintain the chemical stability of the substance or mixture shall be described. The safety significance of any change in the physical appearance of the substance or mixture shall be indicated. As regards desensitised explosives, information on the shelf life and instructions on how to verify desensitisation shall be provided, and it shall be indicated that removal of the desensitising agent will turn the product into an explosive.

10.3. **Possibility of hazardous reactions**

If relevant, it shall be stated if the substance or mixture may react or polymerise, releasing excess pressure or heat, or creating other hazardous conditions. The conditions under which the hazardous reactions may occur shall be described.

10.4. **Conditions to avoid**

Conditions such as temperature, pressure, light, shock, static discharge, vibrations or other physical stresses that might result in a hazardous situation shall be listed (‘conditions to avoid’) and if appropriate a brief description of measures to be taken to manage risks associated with such hazards shall be given. As regards desensitised explosives, information on measures to be taken in order to avoid the unintentional removal of the desensitising agent shall be provided, and conditions to avoid shall be listed if the substance or mixture is not sufficiently desensitised.

10.5. **Incompatible materials**

Families of substances or mixtures or specific substances, such as water, air, acids, bases, oxidising agents, with which the substance or mixture could react to produce a hazardous situation (like an explosion, a release of toxic or flammable materials, or a liberation of excessive heat), shall be listed and if appropriate a brief description of measures to be taken to manage risks associated with such hazards shall be given.

10.6. **Hazardous decomposition products**

Known and reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating shall be listed. Hazardous combustion products shall be included in section 5 of the safety data sheet.

11. ***SECTION 11: Toxicological information***

This section of the safety data sheet is meant for use primarily by medical professionals, occupational health and safety professionals and toxicologists. A concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects shall be provided, including where appropriate information on toxicokinetics, metabolism and distribution. The information in this section shall be consistent with the information provided in the registration and/or in the chemical safety report where required, and with the classification of the substance or mixture.

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11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008**

The relevant hazard classes, for which information shall be provided, are:

(a) acute toxicity;

(b) skin corrosion/irritation;

(c) serious eye damage/irritation;

(d) respiratory or skin sensitisation;

(e) germ cell mutagenicity;

(f) carcinogenicity;

(g) reproductive toxicity;

(h) STOT-single exposure;

(i) STOT-repeated exposure;

(j) aspiration hazard.

These hazards shall always be listed on the safety data sheet.

For substances subject to registration, brief summaries of the information derived from the application of Annexes VII to XI shall be given, including, where appropriate, a reference to the test methods used. For substances subject to registration, the information shall also include the result of the comparison of the available data with the criteria given in Regulation (EC) No 1272/2008 for CMR, categories 1A and 1B, following point 1.3.1 of Annex I to this Regulation.

11.1.1. Information shall be provided for each hazard class or differentiation. If it is stated that the substance or mixture is not classified for a particular hazard class or differentiation, the safety data sheet shall clearly state whether this is due to lack of data, technical impossibility to obtain the data, inconclusive data or data which are conclusive although insufficient for classification; in the latter case the safety data sheet shall specify ‘based on available data, the classification criteria are not met’.

11.1.2. The data included in this subsection shall apply to the substance or mixture as placed on the market. In the case of a mixture, the data should describe the toxicological properties of the mixture as a whole, except if Article 6(3) of Regulation (EC) No 1272/2008 applies. If available, the relevant toxicological properties of the hazardous substances in a mixture shall also be provided, such as the LD50, acute toxicity estimates or LC50.

11.1.3. Where there is a substantial amount of test data on the substance or mixture, it may be necessary to summarise results of the critical studies used, for example, by route of exposure.

11.1.4. Where the classification criteria for a particular hazard class are not met, information supporting this conclusion shall be provided.

11.1.5. *Information on likely routes of exposure*

Information shall be provided on likely routes of exposure and the effects of the substance or mixture via each possible route of exposure, that is, through ingestion (swallowing), inhalation or skin/eye exposure. If health effects are not known, this shall be stated.

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11.1.6. *Symptoms related to the physical, chemical and toxicological characteristics*

Potential adverse health effects and symptoms associated with exposure to the substance or mixture and its ingredients or known by-products shall be described. Available information shall be provided on the symptoms related to the physical, chemical, and toxicological characteristics of the substance or mixture following exposure. The first symptoms at low exposures through to the consequences of severe exposure shall be described, such as 'headaches and dizziness may occur, proceeding to fainting or unconsciousness; large doses may result in coma and death'.

11.1.7. *Delayed and immediate effects as well as chronic effects from short and long-term exposure*

Information shall be provided on whether delayed or immediate effects can be expected after short- or long-term exposure. Information on acute and chronic health effects relating to human exposure to the substance or mixture shall also be provided. Where human data are not available, information on the experimental data shall be summarised, with details on either animal data and the species clearly identified or the in vitro tests and the cell types clearly identified. It shall be indicated whether toxicological data is based on human or animal data or on in vitro tests.

11.1.8. *Interactive effects*

Information on interactions shall be included if relevant and available.

11.1.9. *Absence of specific data*

It may not always be possible to obtain information on the hazards of a substance or mixture. In cases where data on the specific substance or mixture are not available, data on similar substances or mixtures, if appropriate, may be used, provided the relevant similar substance or mixture is identified. Where specific data are not used, or where data are not available, this shall be clearly stated.

11.1.10. *Mixtures*

For a given health effect, if a mixture has not been tested for its health effects as a whole, relevant information on relevant substances listed under section 3 shall be provided.

11.1.11. *Mixture versus substance information*

11.1.11.1. The substances in a mixture may interact with each other in the body, resulting in different rates of absorption, metabolism and excretion. As a result, the toxic actions may be altered and the overall toxicity of the mixture may be different from that of the substances in it. This shall be taken into account when providing toxicological information in this subsection of the safety data sheet.

11.1.11.2. It is necessary to consider whether the concentration of each substance is sufficient to contribute to the overall health effects of the mixture. The information on toxic effects shall be presented for each substance, except for the following cases:

(a) if the information is duplicated, it shall be listed only once for the mixture overall, such as when two substances both cause vomiting and diarrhoea;

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(b) if it is unlikely that these effects will occur at the concentrations present, such as when a mild irritant is diluted to below a certain concentration in a non-irritant solution;

(c) where information on interactions between substances in a mixture is not available, assumptions shall not be made and instead the health effects of each substance shall be listed separately.

11.2 **Information on other hazards**

11.2.1. *Endocrine disrupting properties*

Information on adverse health effects caused by endocrine disrupting properties shall be provided, where available, for the substances identified as having endocrine disrupting properties in Subsection 2.3. This information shall consist of brief summaries of the information derived from application of the assessment criteria laid down in the corresponding Regulations ((EC) No 1907/2006, (EU) 2017/2100, (EU) 2018/605), that is relevant to assess endocrine disrupting properties for human health.

11.2.2. *Other information*

Other relevant information on adverse health effects shall be included even when not required by the classification criteria.

12. ***SECTION 12: Ecological information***

This section of the safety data sheet shall provide information to enable evaluation of the environmental impact of the substance or mixture where it is released to the environment. Subsections 12.1 to 12.7 of the safety data sheet shall provide a short summary of the data including, where available, relevant test data and clearly indicating species, media, units, test duration and test conditions. This information may assist in handling spills, and evaluating waste treatment practices, control of release, accidental release measures and transport. If it is stated that a particular property does not apply (because the available data shows that the substance or mixture does not meet the criteria for classification) or if information on a particular property is not available, the reasons shall be indicated. Additionally, if a substance or mixture is not classified for other reasons (for example, due to the technical impossibility of obtaining the data or to inconclusive data) this should be clearly stated on the safety data sheet.

Some properties are substance specific, i.e. bioaccumulation, persistence and degradability, and that information shall be given, where available and appropriate, for each relevant substance in the mixture (i.e. those which are required to be listed in section 3 of the safety data sheet and are hazardous to the environment or PBT/vPvB – substances). Information shall also be provided for hazardous transformation products arising from the degradation of substances and mixtures.

The information in this section shall be consistent with the information provided in the registration and/or in the chemical safety report where required, and with the classification of the substance or mixture.

Where reliable and relevant experimental data are available, that data shall be provided and take precedence over information obtained from models.

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12.1. **Toxicity**

Information on toxicity using data from tests performed on aquatic and/or terrestrial organisms shall be provided when available. This shall include relevant available data on aquatic toxicity, both acute and chronic for fish, crustaceans, algae and other aquatic plants. In addition, toxicity data on soil micro- and macroorganisms and other environmentally relevant organisms, such as birds, bees and plants, shall be included when available. Where the substance or mixture has inhibitory effects on the activity of microorganisms, the possible impact on sewage treatment plants shall be mentioned.

Where experimental data are not available, the supplier shall consider whether reliable and relevant information obtained from models can be provided.

For substances subject to registration, summaries of the information derived from the application of Annexes VII to XI of this Regulation shall be included.

12.2. **Persistence and degradability**

Degradability is the potential for the substance or the appropriate substances in a mixture to degrade in the environment, either through biodegradation or other processes, such as oxidation or hydrolysis. Persistence is the lack of demonstration of degradation in the situations defined in Sections 1.1.1 and 1.2.1 of Annex XIII. Test results relevant to assess persistence and degradability shall be given where available. If degradation half-lives are quoted it must be indicated whether these half-lives refer to mineralisation or to primary degradation. The potential of the substance or certain substances in a mixture to degrade in sewage treatment plants shall also be mentioned.

Where experimental data are not available, the supplier shall consider whether reliable and relevant information obtained from models can be provided.

This information shall be given where available and appropriate, for each individual substance in the mixture, which is required to be listed in section 3 of the safety data sheet.

12.3. **Bioaccumulative potential**

Bioaccumulative potential is the potential of the substance or certain substances in a mixture to accumulate in biota and, eventually, to pass through the food chain. Test results relevant to assess the bioaccumulative potential shall be given. This shall include reference to the octanol-water partition coefficient (K_{ow}) and bioconcentration factor (BCF), or other relevant parameters related to bioaccumulation, if available.

Where experimental data are not available, it shall be considered whether model predictions can be provided.

This information shall be given where available and appropriate, for each individual substance in the mixture which is required to be listed in section 3 of the safety data sheet.

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12.4. **Mobility in soil**

Mobility in soil is the potential of the substance or the components of a mixture, if released to the environment, to move under natural forces to the groundwater or to a distance from the site of release. The potential for mobility in soil shall be given where available. Information on mobility in soil can be determined from relevant mobility data such as adsorption studies or leaching studies, known or predicted distribution to environmental compartments, or surface tension. For example, soil adsorption coefficient (Koc) values can be predicted from Kow. Leaching and mobility can be predicted from models.

This information shall be given where available and appropriate, for each individual substance in the mixture which is required to be listed in section 3 of the safety data sheet.

12.5. **Results of PBT and vPvB assessment**

Where a chemical safety report is required, the results of the PBT and vPvB assessment as set out in the chemical safety report shall be given.

12.6. **Endocrine disrupting properties**

Information on adverse effects on the environment caused by endocrine disrupting properties shall be provided where available, for the substances identified as having endocrine disrupting properties in subsection 2.3. This information shall consist of brief summaries of the information derived from application of the assessment criteria laid down in the corresponding Regulations ((EC) No 1907/2006, (EU) 2017/2100, (EU) 2018/605), that is relevant to assess endocrine disrupting properties for the environment.

12.7. **Other adverse effects**

Information on any other adverse effects on the environment shall be included where available, such as environmental fate (exposure), photochemical ozone creation potential, ozone depletion potential or global warming potential.

13. ***SECTION 13: Disposal considerations***

This section of the safety data sheet shall provide information for proper waste management of the substance or mixture and/or its container to assist in the determination of safe and environmentally preferred waste management options, consistent with the requirements of Directive 2008/98/EC of the European Parliament and of the Council [1] by the Member State in which the safety data sheet is being supplied. Information relevant for the safety of persons conducting waste management activities shall complement the information given in section 8.

Where a chemical safety report is required and where a waste stage analysis has been performed, the information on the waste management measures shall be consistent with the identified uses in the chemical safety report and the exposure scenarios from the chemical safety report set out in the annex to the safety data sheet.

13.1. **Waste treatment methods**

This subsection of the safety data sheet shall:

(a) specify waste treatment containers and methods including the appropriate methods of waste treatment of both the substance or mixture and any contaminated packaging (for example, incineration, recycling, landfilling);

[1] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312, 22.11.2008, p. 3).

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(b) specify the physical/chemical properties that may affect waste treatment options;

(c) discourage sewage disposal;

(d) identify, where appropriate, any special precautions for any recommended waste treatment option.

Any relevant Union provisions relating to waste or, in their absence, any relevant national or regional provisions in force shall be referred to.

14. ***SECTION 14: Transport information***

This section of the safety data sheet shall provide basic classification information for the transport/shipment of substances or mixtures mentioned in section 1 by road, rail, sea, inland waterways or air. Where such information is not available or relevant this shall be stated.

Where relevant, this section shall provide information on the transport classification for each of the following international agreements which are transposing the UN Model Regulations for specific transport modes: the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) and the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN), all three of which have been implemented by Directive 2008/68/EC of the European Parliament and of the Council ([1]), as well as the International Maritime Dangerous Goods (IMDG) Code ([2]) for the transport of packaged goods and the relevant IMO codes for the transport of bulk cargo by sea ([3]) and the Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) ([4]).

14.1. **UN number or ID number**

The UN number or the ID number (i.e. the four-figure identification number of the substance, mixture or article preceded by the letters 'UN' or 'ID') from the UN Model Regulations, IMDG, ADR, RID, ADN or ICAO TI shall be provided.

14.2. **UN proper shipping name**

The proper shipping name as provided in column 2, 'Name and description', of Table A of Chapter 3.2 Dangerous Goods List of the UN Model Regulations, in ADR, in RID and in Tables A and C of Chapter 3.2 of ADN, supplemented, when applicable, with the technical name in brackets as required, shall be provided, unless it was used as the product identifier in subsection 1.1. If the UN

([1]) Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods (OJ L 260, 30.9.2008, p. 13).

([2]) Compliance with the IMDG Code is mandatory for the carriage of packaged dangerous goods by sea as provided for in Chapter VII/Reg. 3 of SOLAS and MARPOL Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form.

([3]) The IMO has developed various legal instruments related to dangerous and polluting goods differentiating between how the goods are carried (packaged and bulk) and by type of cargo (solid, liquid and liquefied gases). Rules on the carriage of dangerous cargoes and the ships that carry these cargoes are found in the International Convention for the Safety of Life at Sea (SOLAS, 1974), as amended, and the International Convention on Maritime Pollution (MARPOL 73/78), as amended. These conventions are supplemented by the following codes: IMDG, IMSBC, IBC and IGC.

([4]) IATA, 2007-2008 edition.

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number and the proper shipping name remain unchanged in different transport modes, it is not necessary to repeat this information. As regards maritime transport, in addition to the UN proper shipping name, the technical name for goods to be transported covered by the IMDG Code shall be indicated, where appropriate.

14.3. **Transport hazard class(es)**

The transport hazard class (and subsidiary risks) assigned to the substances or mixtures on the basis of the predominant hazard that they present according to the UN Model Regulations shall be provided. As regards inland transport, the transport hazard class (and subsidiary risks) assigned to the substances or mixtures on the basis of the predominant hazard that they present according to ADR, RID and ADN shall be provided.

14.4. **Packing group**

The packing group number from the UN Model Regulations shall be provided, if applicable, as required by the UN Model Regulations, ADR, RID and ADN. The packing group number is assigned to certain substances in accordance with their degree of hazard.

14.5. **Environmental hazards**

It shall be indicated whether the substance or mixture is environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in ADR, RID and ADN), and whether it is a marine pollutant according to the IMDG Code and the Emergency Response Procedures for Ships Carrying Dangerous Goods. If the substance or mixture is authorised or intended for carriage by inland waterways in tank-vessels, it shall be indicated whether the substance or mixture is environmentally hazardous in tank-vessels only according to ADN.

14.6. **Special precautions for user**

Information shall be provided on any special precautions, which a user should or must take or be aware of in connection with transport or conveyance either within or outside his premises, for all relevant modes of transport.

14.7. **Maritime transport in bulk according to IMO instruments**

This subsection only applies when cargoes are intended to be carried in bulk according to IMO instruments: Chapter VI or Chapter VII of SOLAS ([1]), Annex II or Annex V of MARPOL, the IBC Code ([2]), the IMSBC Code ([3]), and the IGC Code ([4]) or its earlier versions, namely EGC Code ([5]) or GC Code ([6]).

([1]) SOLAS means the International Convention for the Safety of Life at Sea, 1974, as amended.

([2]) IBC Code means the International Code for the Construction and Equipment of Ships carrying dangerous Chemicals in Bulk, as amended.

([3]) IMSBC Code means the International Maritime Solid Bulk Cargoes Code, as amended.

([4]) IGC Code means the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, including applicable amendments in accordance with which the vessel has been certified.

([5]) EGC Code means the Code for Existing Ships Carrying Liquefied Gases in Bulk, as amended.

([6]) GC Code means the Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (Gas Carrier Code), as amended.

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As regards liquid bulk cargoes, the product name shall be provided (if different from that given in subsection 1.1) as required by the shipment document and in accordance with the name used in the lists of product names given in chapters 17 or 18 of the IBC Code or the latest edition of the IMO's Maritime Environment Protection Committee (MEPC).2/Circular ([1]). Ship type required and pollution category shall be indicated, as well as the IMO hazard class, in accordance with Annex I (3) B (a) of Directive 2002/59/EC of the European Parliament and of the Council ([2]).

As regards solid bulk cargoes, the bulk cargo shipping name shall be provided. It shall be indicated whether or not the cargo is considered harmful to the marine environment (HME) according to Annex V of MARPOL, whether it is a material hazardous only in bulk (MHB) ([3]) according to the IMSBC Code, and as which cargo group it should be considered according to the IMSBC.

As regards liquefied gas cargoes in bulk, the product name and the ship type required according to the IGC Code or its earlier versions, namely EGC Code or GC Code shall be provided.

15. ***SECTION 15: Regulatory information***

This section of the safety data sheet shall describe the other regulatory information on the substance or mixture that is not already provided in the safety data sheet (such as whether the substance or mixture is subject to Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer ([4]), Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC ([5]) or Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals ([6])).

15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture**

Information shall be provided regarding relevant Union safety, health and environmental provisions (for example, Seveso category/named substances in Annex I to Council Directive 96/82/EC ([7])) or regarding the national regulatory status of the substance or mixture (including the substances in the mixture), including advice on action that should be taken by the recipient as a result of these provisions. Where relevant the national laws of the relevant Member States which implement these provisions and any other national measures that may be relevant shall be mentioned.

If the substance or mixture covered by this safety data sheet is the subject of specific provisions in relation to the protection of human health or the environment at Union level (such as authorisations given under Title VII or restrictions under Title VIII) these provisions shall be mentioned. Where an authorisation granted under Title VII imposes conditions or monitoring arrangements to a downstream user of the substance or mixture, they shall be provided.

([1]) MEPC.2/Circular, Provisional categorisation of liquid substances, version 19, effective 17 December 2013.
([2]) Directive 2002/59/EC of the European Parliament and of the Council of 27 June 2002 establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC (OJ L 208, 5.8.2002, p. 10).
([3]) Materials hazardous only in bulk (MHB) means materials which may possess chemical hazards when carried in bulk other than materials classified as dangerous goods in the IMDG Code.
([4]) OJ L 286, 31.10.2009, p. 1.
([5]) OJ L 158, 30.4.2004, p. 7.
([6]) OJ L 201, 27.7.2012, p. 60.
([7]) OJ L 10, 14.1.1997, p. 13.

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15.2. **Chemical safety assessment**

This subsection of the safety data sheet shall indicate whether the supplier has carried out a chemical safety assessment for the substance or the mixture.

16. ***SECTION 16: Other information***

This section of the safety data sheet shall contain other information that is not included in sections 1 to 15, including information on the revision of the safety data sheet such as:

(a) in the case of a revised safety data sheet, a clear indication of where changes have been made to the previous version of the safety data sheet, unless such indication is given elsewhere in the safety data sheet, with an explanation of the changes, if appropriate. A supplier of a substance or mixture shall be able to provide an explanation of the changes upon request;

(b) a key or legend to abbreviations and acronyms used in the safety data sheet;

(c) key literature references and sources for data;

(d) in the case of mixtures, an indication of which of the methods of evaluating information referred to in Article 9 of Regulation (EC) No 1272/2008 was used for the purpose of classification;

(e) a list of relevant hazard statements and/or precautionary statements. Write out the full text of any statements, which are not written out in full under sections 2 to 15;

(f) advice on any training appropriate for workers to ensure protection of human health and the environment.

PART B

The safety data sheet shall include the following 16 headings in accordance with Article 31(6) and in addition the subheadings also listed except section 3, where only subsection 3.1 or subsection 3.2 needs to be included as appropriate:

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.2. Label elements

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

3.2. Mixtures

SECTION 4: First aid measures

4.1. Description of first aid measures

4.2. Most important symptoms and effects, both acute and delayed

▼**M58**

4.3. Indication of any immediate medical attention and special treatment needed

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture

5.3. Advice for firefighters

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

7.2. Conditions for safe storage, including any incompatibilities

7.3. Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

11.2. Information on other hazards

SECTION 12: Ecological information

12.1. Toxicity

12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

12.6. Endocrine disrupting properties

12.7. Other adverse effects

▼**M58**

SECTION 13: Disposal considerations

13.1. Waste treatment methods

SECTION 14: Transport information

14.1. UN number or ID number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

14.7. Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical safety assessment

SECTION 16: Other information

▼**M51**

ANNEX III

CRITERIA FOR SUBSTANCES REGISTERED IN QUANTITIES BETWEEN 1 AND 10 TONNES

Criteria for substances and, when applicable, for nanoforms thereof, registered between 1 and 10 tonnes, with reference to Article 12(1)(a) and (b):

(a) substances for which it is predicted (i.e. by the application of (Q)SARs or other evidence) that they are likely to meet the criteria for category 1A or 1B classification in the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity or the criteria in Annex XIII;

(b) substances:

(i) with dispersive or diffuse use(s) particularly where such substances are used in consumer mixtures or incorporated into consumer articles; and

(ii) for which it is predicted (i.e. by application of (Q)SARs or other evidence) that they are likely to meet the classification criteria for any health or environmental hazard classes or differentiations under Regulation (EC) No 1272/2008 or for substances with nanoforms, unless those nanoforms are soluble in biological and environmental media.

▼M2

ANNEX IV

EXEMPTIONS FROM THE OBLIGATION TO REGISTER IN ACCORDANCE WITH ARTICLE 2(7)(a)

Einecs No	Name/Group	CAS No
200-061-5	D-glucitol $C_6H_{14}O_6$	50-70-4
200-066-2	Ascorbic acid $C_6H_8O_6$	50-81-7
200-075-1	Glucose $C_6H_{12}O_6$	50-99-7
200-233-3	Fructose $C_6H_{12}O_6$	57-48-7
200-294-2	L-lysine $C_6H_{14}N_2O_2$	56-87-1
200-334-9	Sucrose, pure $C_{12}H_{22}O_{11}$	57-50-1
200-405-4	α-tocopheryl acetate $C_{31}H_{52}O_3$	58-95-7
200-416-4	Galactose $C_6H_{12}O_6$	59-23-4
200-432-1	DL-methionine $C_5H_{11}NO_2S$	59-51-8
200-559-2	Lactose $C_{12}H_{22}O_{11}$	63-42-3
200-711-8	D-mannitol $C_6H_{14}O_6$	69-65-8
201-771-8	L-sorbose $C_6H_{12}O_6$	87-79-6
204-664-4	Glycerol stearate, pure $C_{21}H_{42}O_4$	123-94-4
204-696-9	Carbon dioxide CO_2	124-38-9
205-278-9	Calcium pantothenate, D-form $C_9H_{17}NO_{5.1/2}Ca$	137-08-6
205-756-7	DL-phenylalanine $C_9H_{11}NO_2$	150-30-1
208-407-7	Sodium gluconate $C_6H_{12}O_7.Na$	527-07-1
215-665-4	Sorbitan oleate $C_{24}H_{44}O_6$	1338-43-8
231-098-5	Krypton Kr	7439-90-9
231-110-9	Neon Ne	7440-01-9
231-147-0	Argon Ar	7440-37-1
231-168-5	Helium He	7440-59-7
231-172-7	Xenon Xe	7440-63-3
231-783-9	Nitrogen N_2	7727-37-9
231-791-2	Water, distilled, conductivity or of similar purity H_2O	7732-18-5
232-307-2	Lecithins The complex combination of diglycerides of fatty acids linked to the choline ester of phosphoric acid	8002-43-5
232-436-4	Syrups, hydrolyzed starch A complex combination obtained by the hydrolysis of cornstarch by the action of acids or enzymes. It consists primarily of d-glucose, maltose and maltodextrins	8029-43-4

▼**M2**

Einecs No	Name/Group	CAS No
232-442-7	Tallow, hydrogenated	8030-12-4
232-675-4	Dextrin	9004-53-9
232-679-6	Starch High-polymeric carbohydrate material usually derived from cereal grains such as corn, wheat and sorghum, and from roots and tubers such as potatoes and tapioca. Includes starch which has been pregelatinised by heating in the presence of water	9005-25-8
232-940-4	Maltodextrin	9050-36-6
238-976-7	Sodium D-gluconate $C_6H_{12}O_7$.xNa	14906-97-9
248-027-9	D-glucitol monostearate $C_{24}H_{48}O_7$	26836-47-5
262-988-1	Fatty acids, coco, Me esters	61788-59-8
265-995-8	Cellulose pulp	65996-61-4
266-948-4	Glycerides, C_{16-18} and C_{18}-unsaturated. This substance is identified by SDA Substance Name: C_{16}-C_{18} and C_{18} unsaturated trialkyl glyceride and SDA Reporting Number: 11-001-00	67701-30-8
268-616-4	Syrups, corn, dehydrated	68131-37-3
269-658-6	Glycerides, tallow mono-, di- and tri-, hydrogenated	68308-54-3
270-312-1	Glycerides, C_{16-18} and C_{18}-unsaturated, mono- and di- This substance is identified by SDA Substance Name: C_{16}-C_{18} and C_{18} unsaturated alkyl and C_{16}-C_{18} and C_{18} unsaturated dialkyl glyceride and SDA Reporting Number: 11-002-00	68424-61-3
288-123-8	Glycerides, C_{10-18}	85665-33-4

▼M2

ANNEX V

EXEMPTIONS FROM THE OBLIGATION TO REGISTER IN ACCORDANCE WITH ARTICLE 2(7)(b)

1. Substances which result from a chemical reaction that occurs incidental to exposure of another substance or article to environmental factors such as air, moisture, microbial organisms or sunlight.

2. Substances which result from a chemical reaction that occurs incidental to storage of another substance, ►M3 mixture ◄ or article.

3. Substances which result from a chemical reaction occurring upon end use of other substances, ►M3 mixtures ◄ or articles and which are not themselves manufactured, imported or placed on the market.

4. Substances which are not themselves manufactured, imported or placed on the market and which result from a chemical reaction that occurs when:

   (a) a stabiliser, colorant, flavouring agent, antioxidant, filler, solvent, carrier, surfactant, plasticiser, corrosion inhibitor, antifoamer or defoamer, dispersant, precipitation inhibitor, desiccant, binder, emulsifier, de-emulsifier, dewatering agent, agglomerating agent, adhesion promoter, flow modifier, pH neutraliser, sequesterant, coagulant, flocculant, fire retardant, lubricant, chelating agent, or quality control reagent functions as intended; or

   (b) a substance solely intended to provide a specific physicochemical characteristic functions as intended.

5. By-products, unless they are imported or placed on the market themselves.

6. Hydrates of a substance or hydrated ions, formed by association of a substance with water, provided that the substance has been registered by the manufacturer or importer using this exemption.

7. The following substances which occur in nature, if they are not chemically modified:

   Minerals, ores, ore concentrates, raw and processed natural gas, crude oil, coal.

8. Substances which occur in nature other than those listed under paragraph 7, if they are not chemically modified, unless they meet the criteria for classification as dangerous according to ►M3 Regulation (EC) No 1272/2008 ◄ or unless they are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII or unless they were identified in accordance with Article 59(1) at least two years previously as substances giving rise to an equivalent level of concern as set out in Article 57(f).

9. The following substances obtained from natural sources, if they are not chemically modified, unless they meet the criteria for classification as dangerous according to Directive 67/548/EEC with the exception of those only classified as flammable [R10], as a skin irritant [R38] or as an eye irritant [R36] or unless they are persistent, bioaccumulative and toxic or very persistent and very bioaccumulative in accordance with the criteria set out in Annex XIII or unless they were identified in accordance with Article 59(1) at least two years previously as substances giving rise to an equivalent level of concern as set out in Article 57(f):

   Vegetable fats, vegetable oils, vegetable waxes; animal fats, animal oils, animal waxes; fatty acids from C_6 to C_{24} and their potassium, sodium, calcium and magnesium salts; glycerol.

▼**M2**

10. The following substances if they are not chemically modified:

    Liquefied petroleum gas, natural gas condensate, process gases and components thereof, coke, cement clinker, magnesia.

11. The following substances unless they meet the criteria for classification as dangerous according to Directive 67/548/EEC and provided that they do not contain constituents meeting the criteria as dangerous in accordance with Directive 67/548/EEC present in concentrations above the lowest of the applicable concentration limits set out in Directive 1999/45/EC or concentration limits set out in Annex I to Directive 67/548/EEC, unless conclusive scientific experimental data show that these constituents are not available throughout the lifecycle of the substance and those data have been ascertained to be adequate and reliable:

    Glass, ceramic frits.

▼**M55**

12. Compost, biogas and digestate.

▼**M2**

13. Hydrogen and oxygen.

▼C1

ANNEX VI

INFORMATION REQUIREMENTS REFERRED TO IN ARTICLE 10

▼M51

NOTE ON FULFILLING THE REQUIREMENTS OF ANNEXES VI TO XI

Annexes VI to XI specify the information that shall be submitted for registration and evaluation purposes according to Articles 10, 12, 13, 40, 41 and 46. For the lowest tonnage level, the standard requirements are in Annex VII, and every time a new tonnage level is reached, the requirements of the corresponding Annex have to be added. For each registration the precise information requirements will differ, according to tonnage, use, and exposure. The Annexes shall thus be considered as a whole, and in conjunction with the overall requirements of registration, evaluation and the duty of care.

A substance is defined in accordance with Article 3(1) and identified in accordance with section 2 in this Annex. A substance is always manufactured or imported in at least one form. A substance can also occur in more than one form.

For all nanoforms covered by the registration certain specific information items shall be provided. Nanoforms shall be characterised as provided for in this Annex. The registrant shall justify why the information provided in the joint registration, covering the information requirements for the registered substances with nanoforms, is adequate for assessing the nanoforms. Information relevant to cover information requirements for such a substance can also be submitted separately by individual registrants, where justified in accordance with Article 11(3).

More than one dataset may be required for one or more information requirements whenever there are significant differences in the properties relevant for the hazard, exposure and risk assessment and management of nanoforms. The information shall be reported in such a manner that it is clear which information in the joint submission pertains to which nanoform of the substance.

Where technically and scientifically justified, the methodologies set out in Annex XI.1.5 shall be used within a registration dossier when two or more forms of a substance are ‘grouped’ for the purposes of one, more or possibly all the information requirements.

The requirements specific to nanoforms apply without prejudice to requirements applicable to other forms of a substance.

Definition of a nanoform and a set of similar nanoforms:

On the basis of the Commission Recommendation of 18 October 2011 on the definition of nanomaterial ([1]), a nanoform is a form of a natural or manufactured substance containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 % or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm-100 nm, including also by derogation fullerenes, graphene flakes and single wall carbon nanotubes with one or more external dimensions below 1 nm.

For this purpose, ‘particle’ means a minute piece of matter with defined physical boundaries; ‘agglomerate’ means a collection of weakly bound particles or aggregates where the resulting external surface area is similar to the sum of the surface areas of the individual components and ‘aggregate’ means a particle comprising of strongly bound or fused particles.

([1]) OJ L 275, 20.10.2011, p. 38.

▼M51

A nanoform shall be characterised in accordance with section 2.4 below. A substance may have one or more different nanoforms, based on differences in the parameters in points 2.4.2 to 2.4.5.

A ‘set of similar nanoforms’ is a group of nanoforms characterised in accordance with section 2.4 where the clearly defined boundaries in the parameters in the points 2.4.2 to 2.4.5 of the individual nanoforms within the set still allow to conclude that the hazard assessment, exposure assessment and risk assessment of these nanoforms can be performed jointly. A justification shall be provided to demonstrate that a variation within these boundaries does not affect the hazard assessment, exposure assessment and risk assessment of the similar nanoforms in the set. A nanoform can only belong to one set of similar nanoforms

The term ‘nanoform’, when it is referred to in the other Annexes, shall refer to a nanoform or a set of similar nanoforms, when one has been defined, as defined in this Annex.

STEP 1 — GATHER AND SHARE EXISTING INFORMATION

The registrant should gather all existing available test data on the substance to be registered, this would include a literature search for relevant information on the substance.

Wherever practicable, registrations should be submitted jointly, in accordance with Articles 11 or 19. This will enable test data to be shared, thereby avoiding unnecessary testing and reducing costs. The registrant should also collect all other available and relevant information on the substance including on all nanoforms of the substance that are covered by the registration, regardless whether testing for a given endpoint is required or not at the specific tonnage level. This should include information from alternative sources (e.g. from (Q) SARs, read-across from other substances, *in vivo* and *in vitro* testing, epidemiological data) which may assist in identifying the presence or absence of hazardous properties of the substance and which can in certain cases replace the results of animal tests.

In addition, information on exposure, use and risk management measures in accordance with article 10 and this Annex should be collected. Considering all this information together, the registrant will be able to determine the need to generate further information.

▼C1

STEP 2 — CONSIDER INFORMATION NEEDS

The registrant shall identify what information is required for the registration. First, the relevant Annex or Annexes to be followed shall be identified, according to tonnage. These Annexes set out the standard information requirements, but shall be considered in conjunction with Annex XI, which allows variation from the standard approach, where it can be justified. In particular, information on exposure, use and risk management measures shall be considered at this stage in order to determine the information needs for the substance.

▼M51

STEP 3 — IDENTIFY INFORMATION GAPS

The registrant shall then compare the information needs for the substance with the information already available and the extent to which currently available information can be applied to all nanoforms covered by the registration and identify where there are gaps.

It is important at this stage to ensure that the available data is relevant and has sufficient quality to fulfil the requirements.

▼M51

STEP 4 — GENERATE NEW DATA/PROPOSE TESTING STRATEGY

In some cases it will not be necessary to generate new data. However, where there is an information gap that needs to be filled, new data shall be generated (Annexes VII and VIII), or a testing strategy shall be proposed (Annexes IX and X), depending on the tonnage. New tests on vertebrates shall only be conducted or proposed as a last resort when all other data sources have been exhausted.

The above approach shall also apply if there is a gap of available information for one or more nanoforms of the substance included in the jointly submitted registration dossier.

In some cases, the rules set out in Annexes VII to XI may require certain tests to be undertaken earlier than or in addition to the standard requirements.

NOTES

Note 1: If it is not technically possible, or if it does not appear scientifically necessary to give information, the reasons shall be clearly stated, in accordance with the relevant provisions.

Note 2: The registrant may wish to declare that certain information submitted in the registration dossier is commercially sensitive and its disclosure might harm him commercially. If this is the case, he shall list the items and provide a justification.

▼C1

INFORMATION REFERRED TO IN ARTICLE 10(a) (i) TO (v)

1. GENERAL REGISTRANT INFORMATION

1.1. Registrant

▼M70

1.1.1. Name, address, telephone number and email address

▼C1

1.1.2. Contact person

1.1.3. Location of the registrant's production and own use site(s), as appropriate

▼M70

1.1.4. Where an only representative has been appointed in accordance with Article 8(1), the following information regarding the natural or legal person established outside the Union who appointed the only representative: name, address, telephone number, email address, contact person, location of the production site(s) or formulation site(s), as appropriate, company website, as appropriate and national company identification number(s), as appropriate.

1.2. Joint submission of data

Articles 11 and 19 provide for the possibility for the lead registrant to submit parts of the registration information on behalf of other member registrants.

▼M70

When, in accordance with Article 11(1), the lead registrant submits information referred to in Article 10, point (a)(iv), (vi), (vii) and (ix), the lead registrant shall describe the composition(s), nanoform or set of similar nanoforms to which this information relates in accordance with points 2.3.1 to 2.3.4 and subsection 2.4 of this Annex. Each member registrant relying on information submitted by the lead registrant shall indicate which information thus submitted pertains to which composition, nanoform or set of similar nanoforms of the substance that the registrant identifies in accordance with Article 10, point (a)(ii), and Article 11(1).

When, in accordance with Article 11(3), a registrant submits information referred to in Article 10, point (a)(iv), (vi), (vii) or (ix), separately, this registrant shall describe the composition(s), nanoform or set of similar nanoforms of the substance to which this information relates in accordance with points 2.3.1 to 2.3.4 and subsection 2.4 of this Annex.

▼C1

1.3 Third party appointed under Article 4

▼M70

1.3.1. Name, address, telephone number and email address

▼C1

1.3.2. Contact person

2. IDENTIFICATION OF THE SUBSTANCE

▼M51

For each substance, the information given in this section shall be sufficient to enable each substance to be identified and the different nanoforms to be characterised. If it is not technically possible or if it does not appear scientifically necessary to give information on one or more of the items below, the reasons shall be clearly stated.

▼M70

2.1. Name and any other identifier of each substance

2.1.1. Name(s) in the IUPAC nomenclature. If unavailable, other international chemical name(s)

▼C1

2.1.2. Other names (usual name, trade name, abbreviation)

▼M70

2.1.3. EC number, i.e. Einecs, Elincs or NLP number, or the number assigned by the Agency (if available and appropriate)

▼C1

2.1.4. CAS name and CAS number (if available)

▼M70

2.1.5. Other identity code, such as customs number (if available)

2.2. Information related to molecular and structural formula or crystal structure of each substance

2.2.1. Molecular formula and structural formula (including SMILES notation and other representation if available) and description of crystal structure (s)

▼C1

2.2.2. Information on optical activity and typical ratio of (stereo) isomers (if applicable and appropriate)

2.2.3. Molecular weight or molecular weight range

▼M51

2.3. Composition of each substance. Where a registration covers one or more nanoforms, these nanoforms shall be characterised pursuant to section 2.4 of this Annex.

▼M70

2.3.1. Degree of purity (%), if applicable

2.3.2. Names of constituents and impurities

In the case of a substance of unknown or variable composition, complex reaction products or biological materials (UVCB):

— names of constituents present at a concentration of ≥ 10 %;

— names of known constituents present at a concentration of < 10 %;

— for constituents that cannot be identified individually, description of groups of constituents based on chemical nature;

— description of the origin or source and the manufacturing process

2.3.3. Typical concentration and concentration range (in percentage) of constituents, groups of constituents that cannot be identified individually and impurities as specified in point 2.3.2

2.3.4. Names and typical concentration and concentration range (in percentage) of additives

2.3.5. All necessary qualitative analytical data specific for the identification of the substance, such as ultra-violet, infra-red, nuclear magnetic resonance, mass spectrum or diffraction data

2.3.6. All necessary quantitative analytical data specific for the identification of the substance, such as chromatographic, titrimetric, elemental analysis or diffraction data

2.3.7. Description of the analytical methods or the appropriate bibliographical references that are necessary for the identification of the substance (including the identification and quantification of its constituents and, where appropriate, its impurities and additives). The description shall consist of the experimental protocols followed and the relevant interpretation of the results reported under points 2.3.1 to 2.3.6. This information shall be sufficient to allow the methods to be reproduced.

▼M51

2.4. Characterisation of nanoforms of a substance: For each of the characterisation parameters, the information provided may be applicable to either an individual nanoform or a set of similar nanoforms provided that the boundaries of the set are clearly specified.

The information in points 2.4.2 – 2.4.5 shall be clearly assigned to the different nanoforms or sets of similar nanoforms identified in point 2.4.1

▼M51

2.4.1. Names or other identifiers of the nanoforms or sets of similar nanoforms of the substance

2.4.2. Number based particle size distribution with indication of the number fraction of constituent particles in the size range within 1 nm – 100 nm

2.4.3. Description of surface functionalisation or treatment and identification of each agent including IUPAC name and CAS or EC number

2.4.4. Shape, aspect ratio and other morphological characterisation: crystallinity, information on assembly structure including e.g. shell like structures or hollow structures, if appropriate

2.4.5. Surface area (specific surface area by volume, specific surface area by mass or both)

▼M70

2.4.6. Description of the analytical methods or the appropriate bibliographical references for the information elements in this subsection (2.4). The description shall consist of the experimental protocols followed and the relevant interpretation of the results reported under points 2.4.2 to 2.4.5. This information shall be sufficient to allow the methods to be reproduced.

2.5. Any other available information relevant for the identification of the substance

▼C1

3. INFORMATION ON MANUFACTURE AND USE(S) OF THE SUBSTANCE(S)

▼M51

Where a substance being registered is manufactured or imported in one or several nanoforms, the information on manufacture and use under 3.1-3.7 shall include separate information on the different nanoforms or sets of similar nanoforms as characterised in subsection 2.4.

▼C1

3.1. Overall manufacture, quantities used for production of an article that is subject to registration, and/or imports in tonnes per registrant per year in:

the calendar year of the registration (estimated quantity)

3.2. In the case of a manufacturer or producer of articles: brief description of the technological process used in manufacture or production of articles.

Precise details of the process, particularly those of a commercially sensitive nature, are not required.

3.3. An indication of the tonnage used for his own use(s)

3.4. Form (substance, ►M3 mixture ◄ or article) and/or physical state under which the substance is made available to downstream users. Concentration or concentration range of the substance in ►M3 mixtures ◄ made available to downstream users and quantities of the substance in articles made available to downstream users.

▼M70

3.5. General description of the identified use(s)

▼C1

3.6. Information on waste quantities and composition of waste resulting from manufacture of the substance, the use in articles and identified uses

3.7. Uses advised against ►M7 (see Section 1 of the safety data sheet) ◄

Where applicable, an indication of the uses which the registrant advises against and why (i.e. non-statutory recommendations by supplier). This need not be an exhaustive list.

▼C1

4. CLASSIFICATION AND LABELLING

▼M3

4.1 The hazard classification of the substance(s), resulting from the application of Title I and II of Regulation (EC) No 1272/2008 for all hazard classes and categories in that Regulation,

In addition, for each entry, the reasons why no classification is given for a hazard class or differentiation of a hazard class should be provided (i.e. if data are lacking, inconclusive, or conclusive but not sufficient for classification),

4.2 The resulting hazard label for the substance(s), resulting from the application of Title III of Regulation (EC) No 1272/2008,

4.3 Specific concentration limits, where applicable, resulting from the application of Article 10 of Regulation (EC) No 1272/2008.

▼C1

5. GUIDANCE ON SAFE USE CONCERNING:

▼M51

This information shall be consistent with that in the Safety Data Sheet where such a Safety Data Sheet is required according to Article 31.

Where a substance being registered is also manufactured or imported in one or several nanoforms, the information pursuant to this Section shall address the different nanoforms or sets of similar nanoforms as characterised in subsection 2.4 where relevant.

▼C1

5.1. First-aid measures (Safety Data Sheet heading 4)

5.2. Fire-fighting measures (Safety Data Sheet heading 5)

5.3. Accidental release measures (Safety Data Sheet heading 6)

5.4. Handling and storage (Safety Data Sheet heading 7)

5.5. Transport information (Safety Data Sheet heading 14)

Where a Chemical Safety Report is not required, the following additional information is required:

5.6. Exposure controls/personal protection (Safety Data Sheet heading 8)

5.7. Stability and reactivity (Safety Data Sheet heading 10)

5.8. Disposal considerations

5.8.1. Disposal considerations (Safety Data Sheet heading 13)

5.8.2. Information on recycling and methods of disposal for industry

5.8.3. Information on recycling and methods of disposal for the public.

6. INFORMATION ON EXPOSURE FOR SUBSTANCES REGISTERED IN QUANTITIES BETWEEN 1 AND 10 TONNES PER YEAR PER MANUFATCURER OR IMPORTER

▼M51

Where a substance being registered is manufactured or imported in one or several nanoforms, the information pursuant to this Section shall address the different nanoforms or sets of similar nanoforms as characterised in subsection 2.4 separately.

▼C1

6.1. Main use category:

6.1.1. (a) industrial use; and/or

(b) professional use; and/or

(c) consumer use.

6.1.2. Specification for industrial and professional use:

(a) used in closed system; and/or

(b) use resulting in inclusion into or onto matrix; and/or

(c) non-dispersive use; and/or

(d) dispersive use.

6.2. Significant route(s) of exposure:

6.2.1. Human exposure:

(a) oral; and/or

(b) dermal; and/or

(c) inhalatory.

6.2.2. Environmental exposure:

(a) water; and/or

(b) air; and/or

(c) solid waste; and/or

(d) soil.

6.3. Pattern of exposure:

(a) accidental/infrequent; and/or

(b) occasional; and/or

(c) continuous/frequent.

▼C1

ANNEX VII

STANDARD INFORMATION REQUIREMENTS FOR SUBSTANCES MANUFACTURED OR IMPORTED IN QUANTITIES OF ONE TONNE OR MORE ([1])

Column 1 of this Annex establishes the standard information required for:

(a) non-phase-in substances manufactured or imported in quantities of 1 to 10 tonnes;

(b) phase-in substances manufactured or imported in quantities of 1 to 10 tonnes and meeting the criteria in Annex III in accordance with Article 12(1)(a) and (b); and

(c) substances manufactured or imported in quantities of 10 tonnes or more.

Any other relevant physicochemical, toxicological and ecotoxicological information that is available shall be provided. For substances not meeting the criteria in Annex III only the physicochemical requirements as set out in section 7 of this Annex are required.

Column 2 of this Annex lists specific rules according to which the required standard information may be omitted, replaced by other information, provided at a different stage or adapted in another way. If the conditions are met under which column 2 of this Annex allows adaptations, the registrant shall clearly state this fact and the reasons for each adaptation under the appropriate headings in the registration dossier.

▼M51

Without prejudice to the information submitted for other forms, any relevant physicochemical, toxicological and ecotoxicological information shall include characterisation of the nanoform tested and test conditions. A justification shall be provided where QSARs are used or evidence is obtained by means other than testing, as well as a description of the range of the characteristics/properties of the nanoforms to which the evidence can be applied.

▼C1

In addition to these specific rules, a registrant may adapt the required standard information set out in column 1 of this Annex according to the general rules contained in Annex XI with the exception of Section 3 on substance-tailored exposure waiving. In this case as well, he shall clearly state the reasons for any decision to adapt the standard information under the appropriate headings in the registration dossier referring to the appropriate specific rule(s) in column 2 or in Annex XI ([2]).

Before new tests are carried out to determine the properties listed in this Annex, all available *in vitro* data, *in vivo* data, historical human data, data from valid (Q)SARs and data from structurally related substances (read-across approach) shall be assessed first. *In vivo* testing with corrosive substances at concentration/dose levels causing corrosivity shall be avoided. Prior to testing, further guidance on testing strategies should be consulted in addition to this Annex.

▼M64

Where a test method offers flexibility in the study design, for example in relation to the choice of dose levels, the chosen study design shall ensure that the data generated are adequate for hazard identification and risk assessment. To this end,

([1]) This Annex shall apply to producers of articles that are required to register in accordance with Article 7 and to other downstream users that are required to carry out tests under this Regulation adapted as necessary.

([2]) Note: conditions for not requiring a specific test that are set out in the appropriate test methods in the Commission Regulation on test methods as specified in Article 13(3) that are not repeated in column 2, also apply.

▼M64

testing shall be performed at appropriately high dose levels. If dose (concentration) selection is limited by the physicochemical properties or biological effects of the test substance, justification shall be provided.

▼C1

When, for certain endpoints, information is not provided for other reasons than those mentioned in column 2 of this Annex or in Annex XI, this fact and the reasons shall also be clearly stated.

7. INFORMATION ON THE PHYSICOCHEMICAL PROPERTIES OF THE SUBSTANCE

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
7.1. State of the substance at 20 ° C and 101,3 kPa	
7.2. Melting/freezing point	7.2. The study does not need to be conducted below a lower limit of - 20 °C.
7.3. Boiling point	7.3. The study does not need to be conducted: — for gases, or — for solids which either melt above 300 °C or decompose before boiling. In such cases the boiling point under reduced pressure may be estimated or measured, or — for substances which decompose before boiling (e.g. auto-oxidation, rearrangement, degradation, decomposition, etc.).
7.4. Relative density	7.4. The study does not need to be conducted if: — the substance is only stable in solution in a particular solvent and the solution density is similar to that of the solvent. In such cases, an indication of whether the solution density is higher or lower than the solvent density is sufficient, or — the substance is a gas. In this case, an estimation based on calculation shall be made from its molecular weight and the Ideal Gas Laws.
7.5. Vapour pressure	7.5. The study does not need to be conducted if the melting point is above 300 °C. If the melting point is between 200 °C and 300 °C, a limit value based on measurement or a recognised calculation method is sufficient.
►M64 7.6. Surface tension of an aqueous solution ◄	7.6. The study need only be conducted if: — based on structure, surface activity is expected or can be predicted, or — surface activity is a desired property of the material. If the water solubility is below 1 mg/l at 20 °C the test does not need to be conducted.
▼M51 7.7. Water solubility For nanoforms, in addition the testing of dissolution rate in water as well as in relevant biological and environmental media shall be considered.	7.7. The study does not need to be conducted if: — the substance is hydrolytically unstable at pH 4, 7 and 9 (half-life less than 12 hours), or — the substance is readily oxidisable in water. If the substance appears ‘insoluble’ in water, a limit test up to the detection limit of the analytical method shall be performed.

▼M51

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	For nanoforms the potential confounding effect of dispersion shall be assessed when conducting the study. ►M64 For metals and sparingly soluble metal compounds, information on transformation/dissolution in aqueous media shall be provided. ◄
7.8. Partition coefficient n-octanol/water	7.8. The study does not need to be conducted if the substance is inorganic. If the test cannot be performed (e.g. the substance decomposes, has a high surface activity, reacts violently during the performance of the test or does not dissolve in water or in octanol, or it is not possible to obtain a sufficiently pure substance), a calculated value for log P as well as details of the calculation method shall be provided. For nanoforms the potential confounding effect of dispersion in octanol and water shall be assessed when conducting the study. For nanoforms, whether of inorganic or organic substances, for which the partition coefficient n-octanol/water is not applicable the study of dispersion stability shall be considered instead.

▼C1

7.9. Flash-point	7.9. The study does not need to be conducted if: — the substance is inorganic, or — the substance only contains volatile organic components with flash-points above 100 °C for aqueous solutions, or — the estimated flash-point is above 200 °C, or — the flash-point can be accurately predicted by interpolation from existing characterised materials.
7.10. Flammability	7.10. The study does not need to be conducted: — if the substance is a solid which possesses explosive or pyrophoric properties. These properties should always be considered before considering flammability, or — for gases, if the concentration of the flammable gas in a mixture with inert gases is so low that, when mixed with air, the concentration is all time below the lower limit, or — for substances which spontaneously ignite when in contact with air.
7.11. Explosive properties	7.11. The study does not need to be conducted if: — there are no chemical groups associated with explosive properties present in the molecule, or — the substance contains chemical groups associated with explosive properties which include oxygen and the calculated oxygen balance is less than -200, or

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	— the organic substance or a homogenous mixture of organic substances contains chemical groups associated with explosive properties, but the exothermic decomposition energy is less than 500 J/g and the onset of exothermic decomposition is below 500 °C, or — for mixtures of inorganic oxidising substances (UN Division 5.1) with organic materials, the concentration of the inorganic oxidising substance is: — less than 15 %, by mass, if assigned to UN Packaging Group I (high hazard) or II (medium hazard), — less than 30 %, by mass, if assigned to UN Packaging Group III (low hazard). *Note*: Neither a test for propagation of detonation nor a test for sensitivity to detonative shock is required if the exothermic decomposition energy of organic materials is less than 800 J/g.
7.12. Self-ignition temperature	7.12. The study does not need to be conducted: — if the substance is explosive or ignites spontaneously with air at room temperature, or — for liquids non flammable in air, e.g. no flash point up to 200 °C, or — for gases having no flammable range, or — for solids, if the substance has a melting point ≤ 160 °C, or if preliminary results exclude self-heating of the substance up to 400 °C.
7.13. Oxidising properties	7.13. The study does not need to be conducted if: — the substance is explosive, or — the substance is highly flammable, or — the substance is an organic peroxide, or — the substance is incapable of reacting exothermically with combustible materials, for example on the basis of the chemical structure (e.g. organic substances not containing oxygen or halogen atoms and these elements are not chemically bonded to nitrogen or oxygen, or inorganic substances not containing oxygen or halogen atoms). The full test does not need to be conducted for solids if the preliminary test clearly indicates that the test substance has oxidising properties. Note that as there is no test method to determine the oxidising properties of gaseous mixtures, the evaluation of these properties must be realised by an estimation method based on the comparison of the oxidising potential of gases in a mixture with that of the oxidising potential of oxygen in air.
7.14. Granulometry	7.14. The study does not need to be conducted if the substance is marketed or used in a non solid or granular form.

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M51	
7.14*bis.* Dustiness For nanoforms	7.14*bis.* The study does not need to be conducted if exposure to granular form of the substance during its life-cycle can be excluded.

▼C1

8. TOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M36	
8.1. Skin corrosion/irritation	8.1. The study/ies do(es) not need to be conducted if: — the substance is a strong acid (pH ≤ 2,0) or base (pH ≥ 11,5) and the available information indicates that it should be classified as skin corrosion (Category 1), or — the substance is spontaneously flammable in air or in contact with water or moisture at room temperature, or — the substance is classified as acute toxicity by the dermal route (Category 1), or — an acute toxicity study by the dermal route does not indicate skin irritation up to the limit dose level (2 000 mg/kg body weight). If results from one of the two studies under point 8.1.1 or 8.1.2 already allow a conclusive decision on the classification of a substance or on the absence of skin irritation potential, the second study need not be conducted.
8.1.1. Skin corrosion, *in vitro* 8.1.2. Skin irritation, *in vitro*	
8.2. Serious eye damage/eye irritation	8.2. The study/ies do(es) not need to be conducted if: — the substance is classified as skin corrosion, leading to classification as serious eye damage (Category 1), or — the substance is classified as skin irritation and the available information indicates that it should be classified as eye irritation (Category 2), or — the substance is a strong acid (pH ≤ 2,0) or base (pH ≥ 11,5) and the available information indicates that it should be classified as serious eye damage (Category 1), or — the substance is spontaneously flammable in air or in contact with water or moisture at room temperature.

▼M36

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
8.2.1. Serious eye damage/eye irritation, *in vitro*	►M64 8.2.1. If results from a first in vitro study do not allow a conclusive decision on the classification of a substance or on the absence of eye irritation potential, (an)other in vitro study/studies for this endpoint shall be performed by the registrant or may be required by the Agency. ◄

▼M42

8.3. Skin sensitisation Information allowing: — a conclusion whether the substance is a skin sensitiser and whether it can be presumed to have the potential to produce significant sensitisation in humans (Cat. 1A), and — risk assessment, where required.	The study(ies) under point 8.3.1 and 8.3.2 do not need to be conducted if: — the substance is classified as skin corrosion (Category 1), or — the substance is a strong acid (pH ≤ 2,0) or base (pH ≥ 11,5), or — the substance is spontaneously flammable in air or in contact with water or moisture at room temperature.
8.3.1. Skin sensitisation, *in vitro/in chemico* Information from *in vitro/in chemico* test method(s) recognised according to Article 13(3), addressing each of the following key events of skin sensitisation: (a) molecular interaction with skin proteins; (b) inflammatory response in keratinocytes; (c) activation of dendritic cells.	The(se) test(s) do not need to be conducted if: — an *in vivo* study according to point 8.3.2 is available, or — the available *in vitro/in chemico* test methods are not applicable for the substance or are not adequate for classification and risk assessment according to point 8.3. If information from test method(s) addressing one or two of the key events in column 1 already allows classification and risk assessment according to point 8.3, studies addressing the other key event(s) need not be conducted.
8.3.2. Skin sensitisation, *in vivo*	An *in vivo* study shall be conducted only if *in vitro/in chemico* test methods described under point 8.3.1 are not applicable, or the results obtained from those studies are not adequate for classification and risk assessment according to point 8.3. The murine local lymph node assay (LLNA) is the first-choice method for *in vivo* testing. Only in exceptional circumstances should another test be used. Justification for the use of another *in vivo* test shall be provided. *In vivo* skin sensitisation studies that were carried out or initiated before 10 May 2017, and that meet the requirements set out in Article 13(3), first subparagraph, and Article 13(4) shall be considered appropriate to address this standard information requirement.

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
8.4. Mutagenicity	►M70 8.4. In case of a positive result in the *in vitro* gene mutation study in bacteria referred to in point 8.4.1 of this Annex, which gives rise to concern, the registrant shall perform an *in vitro* study referred to in Annex VIII, point 8.4.2. Based on the positive result of any of those *in vitro* genotoxicity studies, the registrant shall propose, or the Agency may require, an appropriate *in vivo* study referred to in Annex IX, point 8.4.4. The *in vivo* study shall address the chromosomal aberration concern or the gene mutation concern or both, as appropriate. The *in vitro* gene mutation study in bacteria does not need to be conducted if this test is not applicable for the substance. In this case, the registrant shall provide a justification and perform an *in vitro* study referred to in Annex VIII, point 8.4.3. In case of a positive result in that study the registrant shall perform an *in vitro* cytogenicity study referred to in Annex VIII, point 8.4.2. Based on the positive result in any of those *in vitro* genotoxicity studies, or in case one of the Annex VIII *in vitro* tests is not applicable for the substance, the registrant shall propose, or the Agency may require, an appropriate *in vivo* study referred to in Annex IX, point 8.4.4. The *in vivo* study shall address the chromosomal aberration concern or the gene mutation concern or both, as appropriate. The *in vitro* gene mutation study in bacteria referred to in point 8.4.1 and follow-up testing do not need to be conducted in any of the following cases: — the substance is known to cause germ cell mutagenicity, meeting the criteria for classification in the hazard class germ cell mutagenicity category 1A or 1B, and appropriate risk management measures are implemented, — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity category 1A, 1B or 2 and in the hazard class carcinogenicity category 1A or 1B, and appropriate risk management measures are implemented. ◄

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M51	
8.4.1. *In vitro* gene mutation study in bacteria	►M70 8.4.1. The *in vitro* gene mutation study in bacteria does not need to be conducted for nanoforms where it is not appropriate. In such case, an *in vitro* study referred to in Annex VIII, point 8.4.3, shall be provided. ◄
▼C1	
8.5. Acute toxicity	8.5. The study/ies do(es) not generally need to be conducted if: — the substance is classified as corrosive to the skin.
▼M51	
8.5.1. By oral route	8.5.1. The study need not be conducted if a study on acute toxicity by the inhalation route (8.5.2) is available. For nanoforms, a study by the oral route shall be replaced by a study by the inhalation route (8.5.2), unless exposure of humans via inhalation is unlikely, taking into account the possibility of exposure to aerosols, particles or droplets of an inhalable size.

▼C1

9. ECOTOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
9.1. Aquatic toxicity	
▼M51	
9.1.1. Short-term toxicity testing on invertebrates (preferred species *Daphnia*) ►M70 ———— ◄	►M70 9.1.1. The study does not need to be conducted in any of the following cases: — there are factors indicating that short-term aquatic toxicity is unlikely to occur, for instance if the substance is highly insoluble in water or the substance is unlikely to cross biological membranes, — a long-term aquatic toxicity study on invertebrates is available. For nanoforms, the study may not be waived on the basis of high insolubility in water alone. The registrant may propose long-term toxicity testing instead of short-term toxicity testing.

▼M51

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	Long-term toxicity testing on invertebrates (preferred species *Daphnia*), (Annex IX, point 9.1.5) shall be proposed by the registrant or may be required by the Agency when it is unlikely that short-term toxicity testing can provide a true measure of the intrinsic aquatic toxicity of the substance, for instance: — if the substance is poorly water soluble (solubility below 1 mg/L), or — for nanoforms with low dissolution rate in the relevant test media. ◄
9.1.2. Growth inhibition study aquatic plants (algae preferred)	►M70 9.1.2. The study does not need to be conducted if there are factors indicating that aquatic toxicity is unlikely to occur for instance if the substance is highly insoluble in water or the substance is unlikely to cross biological membranes. For nanoforms, the study may not be waived on the basis of high insolubility in water alone. ◄
▼C1 9.2. Degradation 9.2.1. Biotic 9.2.1.1. Ready biodegradability	9.2.1.1. The study does not need to be conducted if the substance is inorganic.

Any other relevant physicochemical, toxicological and ecotoxicological information that is available shall be provided.

▼C1

ANNEX VIII

STANDARD INFORMATION REQUIREMENTS FOR SUBSTANCES MANUFACTURED OR IMPORTED IN QUANTITIES OF 10 TONNES OR MORE ([1])

Column 1 of this Annex establishes the standard information required for all substances manufactured or imported in quantities of 10 tonnes or more in accordance with Article 12(1)(c). Accordingly, the information required in column 1 of this Annex is additional to that required in column 1 of Annex VII. Any other relevant physicochemical, toxicological and ecotoxicological information that is available shall be provided. Column 2 of this Annex lists specific rules according to which the required standard information may be omitted, replaced by other information, provided at a different stage or adapted in another way. If the conditions are met under which column 2 of this Annex allows adaptations, the registrant shall clearly state this fact and the reasons for each adaptation under the appropriate headings in the registration dossier.

▼M51

Without prejudice to the information submitted for other forms, any relevant physicochemical, toxicological and ecotoxicological information shall include characterisation of the nanoform tested and test conditions. A justification shall be provided where QSARs are used or evidence is obtained by means other than testing, as well as a description of the range of the characteristics/properties of the nanoforms to which the evidence can be applied.

▼C1

In addition to these specific rules, a registrant may adapt the required standard information set out in column 1 of this Annex according to the general rules contained in Annex XI. In this case as well, he shall clearly state the reasons for any decision to adapt the standard information under the appropriate headings in the registration dossier referring to the appropriate specific rule(s) in column 2 or in Annex XI ([2]).

Before new tests are carried out to determine the properties listed in this Annex, all available *in vitro* data, *in vivo* data, historical human data, data from valid (Q)SARs and data from structurally related substances (read-across approach) shall be assessed first. *In vivo* testing with corrosive substances at concentration/dose levels causing corrosivity shall be avoided. Prior to testing, further guidance on testing strategies should be consulted in addition to this Annex.

▼M64

Where a test method offers flexibility in the study design, for example in relation to the choice of dose levels, the chosen study design shall ensure that the data generated are adequate for hazard identification and risk assessment. To this end, testing shall be performed at appropriately high dose levels. If dose (concentration) selection is limited by the physicochemical properties or biological effects of the test substance, justification shall be provided.

▼C1

When, for certain endpoints, information is not provided for other reasons than those mentioned in column 2 of this Annex or in Annex XI, this fact and the reasons shall also be clearly stated.

([1]) This Annex shall apply to producers of articles that are required to register in accordance with Article 7 and to other downstream users that are required to carry out tests under this Regulation adapted as necessary.

([2]) Note: conditions for not requiring a specific test that are set out in the appropriate test methods in the Commission Regulation on test methods as specified in Article 13(3) that are not repeated in column 2, also apply.

▼M51

7. INFORMATION ON THE PHYSICOCHEMICAL PROPERTIES OF THE SUBSTANCE

7.14ter. Further information on physicochemical properties Only for nanoforms	Further testing for nanoforms covered by the registration shall be considered by the registrant or may be required by the Agency in accordance with Article 41, if there is an indication that specific additional particle properties significantly influence the hazard of or the exposure to those nanoforms.

▼C1

8. TOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M36 8.1. Skin corrosion/irritation	►M64 8.1. An in vivo study for skin corrosion/irritation shall be conducted only if the in vitro study/studies under points 8.1.1 and/or 8.1.2 of Annex VII is(are) not applicable, or the results of this/these study/studies is/are not adequate for classification and risk assessment. ◄ The study does not need to be conducted if: — the substance is a strong acid (pH ≤ 2,0) or base (pH ≥ 11,5), or — the substance is spontaneously flammable in air or in contact with water or moisture at room temperature, or — the substance is classified as acute toxicity by the dermal route (Category 1), or — an acute toxicity study by the dermal route does not indicate skin irritation up to the limit dose level (2 000 mg/kg body weight).
8.2. Serious eye damage/eye irritation	►M64 8.2. An in vivo study for serious eye damage/eye irritation shall be conducted only if the in vitro study/studies) under point 8.2.1 of Annex VII is/are not applicable, or the results of this/these study/studies) are not adequate for classification and risk assessment. ◄ The study does not need to be conducted if: — the substance is classified as skin corrosion, or — the substance is a strong acid (pH ≤ 2,0) or base (pH ≥ 11,5), or — the substance is spontaneously flammable in air or in contact with water or moisture at room temperature.
▼C1 8.4. Mutagenicity	►M70 8.4. The studies referred to in points 8.4.2 and 8.4.3 do not need to be conducted in any of the following cases:

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	— adequate data from the corresponding *in vivo* study, (namely *in vivo* chromosomal aberration (or micronucleus) study regarding point 8.4.2 or *in vivo* mammalian gene mutation study regarding point 8.4.3), are available, — the substance is known to cause germ cell mutagenicity, meeting the criteria for classification as germ cell mutagen category 1A or 1B, and appropriate risk management measures are implemented, — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity category 1A, 1B or 2 and in the hazard class carcinogenicity category 1A or 1B, and appropriate risk management measures are implemented. In case of a positive result in any of the *in vitro* genotoxicity studies referred to in Annex VII or this Annex, which gives rise to concern, the registrant shall propose, or the Agency may require, an appropriate *in vivo* study referred to in Annex IX, point 8.4. The *in vivo* study shall address the chromosomal aberration concern or the gene mutation concern or both as appropriate. In case an *in vitro* mutagenicity study referred to in points 8.4.2 or 8.4.3 is not applicable for the substance, the registrant shall provide a justification and shall propose or the Agency may require an appropriate *in vivo* study referred to in Annex IX, point 8.4.4. The *in vivo* study shall address the chromosomal aberration concern or the gene mutation concern or both as appropriate. ◄
►M70 8.4.2. *In vitro* mammalian chromosomal aberration study or *in vitro* mammalian micronucleus study ◄	►M70 ——————— ◄

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
8.4.3. *In vitro* gene mutation study in mammalian cells, if a negative result in Annex VII, Section 8.4.1. and Annex VIII, Section 8.4.2.	►M70 ——————— ◄ 8.4. Appropriate *in vivo* mutagenicity studies shall be considered in case of a positive result in any of the genotoxicity studies in Annex VII or VIII.

▼M51

8.5. Acute toxicity	8.5. The study/ies do(es) not generally need to be conducted if: — the substance is classified as corrosive to the skin. In addition to the oral route (8.5.1.) or to the inhalation route (8.5.2) for nanoforms, for substances other than gases, the information mentioned under 8.5.1. to 8.5.3. shall be provided for at least one other route. The choice for the second route will depend on the nature of the substance and the likely route of human exposure. If there is only one route of exposure, information for only that route needs to be provided.

▼M36

8.5.2. By inhalation	8.5.2. Testing by the inhalation route is appropriate if exposure of humans via inhalation is likely taking into account the vapour pressure of the substance and/or the possibility of exposure to aerosols, particles or droplets of an inhalable size.
8.5.3. By dermal route	8.5.3. Testing by the dermal route is appropriate if: (1) inhalation of the substance is unlikely; and (2) skin contact in production and/or use is likely; and (3) the physicochemical and toxicological properties suggest potential for a significant rate of absorption through the skin. Testing by the dermal route does not need to be conducted if: — the substance does not meet the criteria for classification as acute toxicity or STOT SE by the oral route and — no systemic effects have been observed in *in vivo* studies with dermal exposure (e.g. skin irritation, skin sensitisation) or, in the absence of an *in vivo* study by the oral route, no systemic effects after dermal exposure are predicted on the basis of non-testing approaches (e.g. read across, QSAR studies).

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
8.6. Repeated dose toxicity	
▼M51	
8.6.1. Short-term repeated dose toxicity study (28 days), one species, male and female, most appropriate route of administration, having regard to the likely route of human exposure.	8.6.1. The short-term toxicity study (28 days) does not need to be conducted if: ►M64 — da reliable sub-chronic (90 days) or chronic toxicity study is available or proposed by the registrant, provided that an appropriate species, dosage, solvent and route of administration are used, or ◄ — where a substance undergoes immediate disintegration and there are sufficient data on the cleavage products, or — relevant human exposure can be excluded in accordance with Annex XI Section 3. The appropriate route shall be chosen on the following basis: Testing by the dermal route is appropriate if: — inhalation of the substance is unlikely, and — skin contact in production and/or use is likely, and — the physicochemical and toxicological properties suggest potential for a significant rate of absorption through the skin. Testing by the inhalation route is appropriate if exposure of humans via inhalation is likely taking into account the vapour pressure of the substance and/or the possibility of exposure to aerosols, particles or droplets of an inhalable size. ►M64 For nanoforms without high dissolution rate in biological media, the study shall include toxicokinetic investigations on, among others, the recovery period and, where relevant, lung clearance. Toxicokinetic investigations do not need to be performed if equivalent toxicokinetic information on the nanoform is already available. The sub-chronic toxicity study (90 days) (Annex IX, point 8.6.2) shall be proposed by the registrant, or may be required by the Agency if: the frequency and duration of human exposure indicates that a longer term study is appropriate;

▼M51

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	and one of the following conditions is met: — other available data indicate that the substance may have a dangerous property that cannot be detected in a short-term toxicity study, or — appropriately designed toxicokinetic studies reveal accumulation of the substance or its metabolites in certain tissues or organs which would possibly remain undetected in a short-term toxicity study but which are liable to result in adverse effects after prolonged exposure. ◄ ►M70 Further studies shall be proposed by the registrant or may be required by the Agency in case of: ◄ — failure to identify a NOAEL in the 28 or the 90 days study, unless the reason for the failure to identify a NOAEL is absence of adverse toxic effects, or — toxicity of particular concern (e.g. serious/severe effects), or — indications of an effect for which the available evidence is inadequate for toxicological and/or risk characterisation. In such cases it may also be more appropriate to perform specific toxicological studies that are designed to investigate these effects (e.g. immunotoxicity, neurotoxicity, and in particular for nanoforms indirect genotoxicity), or — the route of exposure used in the initial repeated dose study was inappropriate in relation to the expected route of human exposure and route-to-route extrapolation cannot be made, or — particular concern regarding exposure (e.g. use in consumer products leading to exposure levels which are close to the dose levels at which toxicity to humans may be expected), or — effects shown in substances with a clear relationship in molecular structure with the substance being studied, were not detected in the 28 or the 90 days study.
▼C1 8.7. Reproductive toxicity	

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M70	
8.7.1. Screening for reproductive/developmental toxicity (OECD TG 421 or TG 422); the preferred species is the rat. The route of administration shall be oral if the substance is a solid or liquid, and inhalation if the substance is a gas; deviations may be made if scientifically justified, for example through evidence of equivalent or higher systemic exposure via another relevant route of human exposure or route-specific toxicity.	8.7.1. This study does not need to be conducted in any of the following cases: — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity category 1A, 1B or 2 and in the hazard class carcinogenicity category 1A or 1B, and appropriate risk management measures are implemented, — the substance is known to be a germ cell mutagen, meeting the criteria for classification in the hazard class germ cell mutagenicity category 1A or 1B and appropriate risk management measures are implemented, — relevant human exposure can be excluded in accordance with Annex XI, Section 3, — a pre-natal developmental toxicity study (OECD TG 414) referred to in Annex IX, point 8.7.2 or an Extended One-Generation Reproductive Toxicity Study (OECD TG 443) referred to in Annex IX, point 8.7.3 is available or proposed by the registrant; or a Two-Generation Reproductive Toxicity Study (OECD TG 416) is available, — a substance is known to have an adverse effect on sexual function or fertility, meeting the criteria for classification in the hazard class reproductive toxicity category 1A or 1B: May damage fertility (H360F), and the available data are adequate to support a robust risk assessment, — a substance is known to cause developmental toxicity, meeting the criteria for classification in the hazard class reproductive toxicity category 1A or 1B: May damage the unborn child (H360D), and the available data are adequate to support a robust risk assessment. In case of serious concerns about potential adverse effects on sexual function, fertility or development, the registrant shall propose, or the Agency may require either an Extended One-Generation Reproductive Toxicity Study (OECD TG 443), referred to in Annex IX, point 8.7.3, or a pre-natal developmental toxicity study (OECD TG 414), referred to in Annex IX, point 8.7.2, instead of the screening study (OECD TG 421 or 422) to address those concerns. Those serious concerns include among others:

▼M70

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	— adverse effects related to sexual function, fertility or development based on available information, not meeting the criteria for classification as reproductive toxicity category 1A or 1B, — possible developmental or reproductive toxicity of the substance predicted from information on structurally related substances, (Q)SAR estimates or *in vitro* methods.

▼M51

8.8.	Toxicokinetics	
8.8.1.	Assessment of the toxicokinetic behaviour of the substance to the extent that can be derived from the relevant available information.	►M70 For nanoforms without high dissolution rate in biological media a toxicokinetics study shall be proposed by the registrant or may be required by the Agency in case such an assessment cannot be performed on the basis of relevant available information, including from the study conducted in accordance with 8.6.1 ◄ The choice of the study will depend on the remaining information gaps and the results of the chemical safety assessment.

▼C1

9. ECOTOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED		COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1	
▼M70			
9.1.	Aquatic toxicity	9.1.	Long-term aquatic toxicity testing referred to in Annex IX, subsection 9.1, in addition to short-term toxicity testing shall be proposed by the registrant or may be required by the Agency if the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the effects on aquatic organisms, for example when further information is needed for the refinement of the PNEC or if additional toxicity information as set out in Annex XIII, point 3.2.3, would be necessary to assess PBT or vPvB properties of the substance. The choice of the appropriate test(s) shall be made on the basis of the results of the chemical safety assessment.

▼C1

	COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M70		
9.1.3.	Short-term toxicity testing on fish	9.1.3. The study does not need to be conducted in any of the following cases: — there are factors indicating that short-term aquatic toxicity is unlikely to occur, for instance if the substance is highly insoluble in water or the substance is unlikely to cross biological membranes, — a long-term aquatic toxicity study on fish is available. For nanoforms, the study may not be waived on the basis of high insolubility in water alone. The registrant may propose long-term toxicity testing instead of short-term toxicity testing. Long-term toxicity testing on fish referred to in Annex IX, point 9.1.6, shall be proposed by the registrant or may be required by the Agency when it is unlikely that short-term toxicity testing can provide a true measure of the intrinsic aquatic toxicity of the substance, for instance: — if the substance is poorly water soluble (below 1 mg/L), or — for nanoforms with low dissolution rate in the relevant test media.
▼M51		
9.1.4.	Activated sludge respiration inhibition testing	9.1.4. The study does not need to be conducted if: — there is no emission to a sewage treatment plant, or — there are mitigating factors indicating that microbial toxicity is unlikely to occur, for instance the substance is highly insoluble in water, or — the substance is found to be readily biodegradable and the applied test concentrations are in the range of concentrations that can be expected in the influent of a sewage treatment plant. For nanoforms, the study may not be waived on the basis of high insolubility in water alone. The study may be replaced by a nitrification inhibition test if available data show that the substance is likely to be an inhibitor of microbial growth or function, in particular nitrifying bacteria.

▼**M51**

COLUMN 1 STANDARD INFORMATION REQUIRED		COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1	
9.2.	Degradation	►**M70** 9.2.	Further information on degradation shall be generated or further degradation testing as described in Annex IX shall be proposed if the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the degradation of the substance. That could for example be the case if additional information on degradation as set out in Annex XIII, point 3.2.1, is required to assess PBT or vPvB properties of the substance in accordance with subsection 2.1 of that Annex. For nanoforms that are not soluble, nor have high dissolution rate, such test(s) shall consider morphological transformation (e.g. irreversible changes in particle size, shape and surface properties, loss of coating), chemical transformation (e.g. oxidation, reduction) and other abiotic degradation (e.g. photolysis). The choice of the appropriate test(s) shall be made on the basis of the results of the chemical safety assessment. In case the generation of additional information requires further testing in accordance with Annex IX, the registrant shall propose or the Agency may require such testing. ◄
9.2.2.	Abiotic	►**M70** 9.2.2.1.	The study does not need to be conducted in any of the following cases: — the substance is readily biodegradable, — the substance is highly insoluble in water, — based on the structure, the substance does not have chemical groups that can hydrolyse. For nanoforms, the study may not be waived on the basis of high insolubility in water alone. ◄
9.2.2.1.	Hydrolysis as a function of pH.		

▼**C1**

9.3.	Fate and behaviour in the environment	►**M70** 9.3.	Further information on bioaccumulation shall be generated if additional information on bioaccumulation as set out in Annex XIII, point 3.2.2, is required to assess PBT or vPvB properties of the substance in accordance with subsection 2.1 of that Annex. In case the generation of additional information requires further testing in accordance with Annex IX or Annex X, the registrant shall propose or the Agency may require such testing. ◄

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M51	
9.3.1. Adsorption/ desorption screening	9.3.1. The study does not need to be conducted if: — based on the physicochemical properties the substance can be expected to have a low potential for adsorption (e.g. the substance has a low octanol-water partition coefficient), or — the substance and its relevant degradation products decompose rapidly. ►M64 The study may not be waived on the basis of low octanol-water partition coefficient alone, unless the adsorptive properties of the substance are solely driven by lipophilicity. For instance, the study may not be waived on the basis of low octanol-water partition coefficient alone if the substance is surface active or ionisable at environmental pH (pH 4 – 9). ◄ For nanoforms, use of any physicochemical property (e.g. octanol-water partition coefficient) as a reason for waiving the study shall include adequate justification of its relevance to low potential for adsorption.

▼C1

ANNEX IX

STANDARD INFORMATION REQUIREMENTS FOR SUBSTANCES MANUFACTURED OR IMPORTED IN QUANTITIES OF 100 TONNES OR MORE ([1])

At the level of this Annex, the registrant must submit a proposal and a time schedule for fulfilling the information requirements of this Annex in accordance with Article 12(1)(d).

Column 1 of this Annex establishes the standard information required for all substances manufactured or imported in quantities of 100 tonnes or more in accordance with Article 12(1)(d). Accordingly, the information required in column 1 of this Annex is additional to that required in column 1 of Annexes VII and VIII. Any other relevant physicochemical, toxicological and ecotoxicological information that is available shall be provided. Column 2 of this Annex lists specific rules according to which the registrant may propose to omit the required standard information, replace it by other information, provide it at a later stage or adapt it in another way. If the conditions are met under which column 2 of this Annex allows an adaptation to be proposed, the registrant shall clearly state this fact and the reasons for proposing each adaptation under the appropriate headings in the registration dossier.

▼M51

Without prejudice to the information submitted for other forms, any relevant physicochemical, toxicological and ecotoxicological information shall include characterisation of the nanoform tested and test conditions. A justification shall be provided where QSARs are used or evidence is obtained by means other than testing, as well as a description of the range of the characteristics/properties of the nanoforms to which the evidence can be applied.

▼C1

In addition to these specific rules, a registrant may propose to adapt the required standard information set out in column 1 of this Annex according to the general rules contained in Annex XI. In this case as well, he shall clearly state the reasons for any decision to propose adaptations to the standard information under the appropriate headings in the registration dossier referring to the appropriate specific rule(s) in column 2 or in Annex XI ([2]).

Before new tests are carried out to determine the properties listed in this Annex, all available *in vitro* data, *in vivo* data, historical human data, data from valid (Q)SARs and data from structurally related substances (read-across approach) shall be assessed first. *In vivo* testing with corrosive substances at concentration/dose levels causing corrosivity shall be avoided. Prior to testing, further guidance on testing strategies should be consulted in addition to this Annex.

▼M64

Where a test method offers flexibility in the study design, for example in relation to the choice of dose levels, the chosen study design shall ensure that the data generated are adequate for hazard identification and risk assessment. To this end, testing shall be performed at appropriately high dose levels. If dose (concentration) selection is limited by the physicochemical properties or biological effects of the test substance, justification shall be provided.

([1]) This Annex shall apply to producers of articles that are required to register in accordance with Article 7 and to other downstream users that are required to carry out tests under this Regulation adapted as necessary.

([2]) Note: conditions for not requiring a specific test that are set out in the appropriate test methods in the Commission Regulation on test methods as specified in Article 13(3) that are not repeated in column 2, also apply.

▼C1

When, for certain endpoints, it is proposed not to provide information for other reasons than those mentioned in column 2 of this Annex or in Annex XI, this fact and the reasons shall also be clearly stated.

7. INFORMATION ON THE PHYSICOCHEMICAL PROPERTIES OF THE SUBSTANCE

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
7.15. Stability in organic solvents and identity of relevant degradation products Only required if stability of the substance is considered to be critical.	7.15. The study does not need to be conducted if the substance is inorganic.
7.16. Dissociation constant	7.16. The study does not need to be conducted if: — the substance is hydrolytically unstable (half-life less than 12 hours) or is readily oxidisable in water, or ►M70 ——————— ◄ ►M64 — or based on the structure, the substance does not have any chemical group that can dissociate. ◄
7.17. Viscosity	►M64 For hydrocarbon substances the kinematic viscosity shall be determined at 40 °C. ◄

8. TOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M70	
8.4. Mutagenicity	8.4. The studies referred to in points 8.4.4 and 8.4.5 do not need to be conducted in any of the following cases: — the substance is known to cause germ cell mutagenicity, meeting the criteria for classification in the hazard class germ cell mutagenicity category 1A or 1B, and appropriate risk management measures are implemented, — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity category 1A, 1B or 2 and in the hazard class carcinogenicity category 1A or 1B, and appropriate risk management measures are implemented.

▼M70

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
8.4.4. An appropriate *in vivo* mammalian somatic cell genotoxicity study, if there is a positive result in any of the *in vitro* genotoxicity studies referred to in Annex VII or Annex VIII, which gives rise to concern. The *in vivo* mammalian somatic cell genotoxicity study shall address the chromosomal aberration concern or the gene mutation concern or both, as appropriate.	8.4.4. The *in vivo* mammalian somatic cell genotoxicity study does not need to be conducted if there are adequate results available from an appropriate *in vivo* mammalian somatic cell genotoxicity study.
8.4.5. An appropriate *in vivo* mammalian germ cell genotoxicity study, if there is a positive result in an available *in vivo* mammalian somatic cell genotoxicity study, which gives rise to concern. The *in vivo* mammalian germ cell genotoxicity study shall address the chromosomal aberration concern or the gene mutation concern or both, as appropriate.	8.4.5. The study does not need to be conducted if there is clear evidence that neither the substance nor its metabolites reach the germ cells.

▼C1

8.6. Repeated dose toxicity

▼M64

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▼M51

8.6.2. Sub-chronic toxicity study (90-day), one species, rodent, male and female, most appropriate route of administration, having regard to the likely route of human exposure.	►M64 8.6.2. The sub-chronic toxicity study (90 days) does not need to be conducted if: — a reliable short-term toxicity study (28 days) is available showing severe toxicity effects meeting the criteria for classifying the substance as STOT RE (category 1 or 2), for which the observed NOAEL-28 days, with the application of an appropriate uncertainty factor, allows the extrapolation towards the NOAEL-90 days for the same route of exposure, or — a reliable chronic toxicity study is available or proposed by the registrant, provided that an appropriate species and route of administration are used, or; ◄ — a substance undergoes immediate disintegration and there are sufficient data on the cleavage products (both for systemic effects and effects at the site of uptake), or

▼M51

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	— the substance is unreactive, insoluble and not inhalable and there is no evidence of absorption and no evidence of toxicity in a 28-day 'limit test', particularly if such a pattern is coupled with limited human exposure. The appropriate route shall be chosen on the following basis: Testing by the dermal route is appropriate if: (1) skin contact in production and/or use is likely; and (2) the physicochemical properties suggest a significant rate of absorption through the skin; and (3) one of the following conditions is met: — toxicity is observed in the acute dermal toxicity test at lower doses than in the oral toxicity test, or — systemic effects or other evidence of absorption is observed in skin and/or eye irritation studies, or — *in vitro* tests indicate significant dermal absorption, or — significant dermal toxicity or dermal penetration is recognised for structurally-related substances. Testing by the inhalation route is appropriate if: — exposure of humans via inhalation is likely taking into account the vapour pressure of the substance and/or the possibility of exposure to aerosols, particles or droplets of an inhalable size. ►M64 For nanoforms without high dissolution rate in biological media, the study shall include toxicokinetic investigations on, among others, the recovery period and, where relevant, lung clearance. Toxicokinetic investigations do not need to be performed if equivalent toxicokinetic information on the nanoform is already available. ◄

▼M51

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	Further studies shall be proposed by the registrant or may be required by the Agency in accordance with Articles 40 or 41 in case of: — failure to identify a NOAEL in the 90 days study unless the reason for the failure to identify a NOAEL is absence of adverse toxic effects, or — toxicity of particular concern (e.g. serious/severe effects), or — indications of an effect for which the available evidence is inadequate for toxicological and/or risk characterisation. In such cases it may also be more appropriate to perform specific toxicological studies that are designed to investigate these effects (e.g. immunotoxicity, neurotoxicity, and in particular for nanoforms indirect genotoxicity), or — particular concern regarding exposure (e.g. use in consumer products leading to exposure levels which are close to the dose levels at which toxicity to humans may be expected).
▼C1 8.7. Reproductive toxicity	►M64 8.7. The studies do not need to be conducted if: — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity (category 1A or 1B or 2) and carcinogenicity (category 1A or 1B), and appropriate risk management measures are implemented, or — the substance is known to be a germ cell mutagen, meeting the criteria for classification in the hazard class germ cell mutagenicity (category 1A or 1B) and appropriate risk management measures are implemented, or — the substance is of low toxicological activity (a comprehensive and informative dataset showing no toxicity in any of the tests available), it can be proven from toxicokinetic data that no systemic absorption occurs via relevant routes of exposure (e.g. plasma/blood concentrations below detection limit using a sensitive method and absence of the substance and of metabolites of the substance in urine, bile or exhaled air) and there is no or no significant human exposure.

▼C1

COLUMN 1STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	If a substance is known to have an adverse effect on sexual function and fertility, meeting the criteria for classification in the hazard class reproductive toxicity (category 1A or 1B: May damage fertility (H360F)), and the available data are adequate to support a robust risk assessment, then no further testing for sexual function and fertility shall be necessary. If a substance is known to cause developmental toxicity, meeting the criteria for classification in the hazard class reproductive toxicity (category 1A or 1B: May damage the unborn child (H360D)), and the available data are adequate to support a robust risk assessment, then no further testing for developmental toxicity shall be necessary. ◄
▼M70 8.7.2. Pre-natal developmental toxicity study (OECD TG 414) on one species; the preferred species is the rat or the rabbit. The route of administration shall be oral if the substance is a solid or liquid, and inhalation if the substance is a gas; deviations may be made if scientifically justified, for example through evidence of equivalent or higher systemic exposure via another relevant route of human exposure or route-specific toxicity.	8.7.2. An additional pre-natal developmental toxicity study in a second species, that is the other preferred species to the one used in the first study, shall be proposed by the registrant or may be required by the Agency if there is a concern for developmental toxicity based on the outcome of the first study and all other relevant data. That could be the case for example if the study on the first species shows developmental toxicity not meeting the criteria for classification in the hazard class reproductive toxicity category 1A or 1B; May damage the unborn child (H360D). Deviations from the default route of administration and deviations in the choice of species shall be scientifically justified.
▼M29 ►M70 8.7.3. Extended One-Generation Reproductive Toxicity Study (OECD TG 443), basic test design (cohorts 1A and 1B without extension to include an F2 generation), one species, if the available repeated dose toxicity studies (e.g. 28-day or 90-day studies, or OECD TG 421 or 422 screening studies) indicate adverse effects on reproductive organs or tissues or reveal other concerns in relation with reproductive toxicity. The route of administration shall be oral if the substance is a solid or liquid, and inhalation if the substance is a gas; deviations may be made if scientifically justified, for example through evidence of equivalent or higher systemic exposure via another relevant route of human exposure or route-specific toxicity. ◄	►M70 8.7.3. An Extended One-Generation Reproductive Toxicity Study with the extension of cohort 1B to include the F2 generation shall be proposed by the registrant or may be required by the Agency if: ◄ (a) the substance has uses leading to significant exposure of consumers or professionals, taking into account, inter alia, consumer exposure from articles, and (b) any of the following conditions are met: — the substance displays genotoxic effects in somatic cell mutagenicity tests *in vivo* which could lead to classifying it as Mutagen Category 2, or

▼**M29**

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	— there are indications that the internal dose for the substance and/or any of its metabolites will reach a steady state in the test animals only after an extended exposure, or — there are indications of one or more relevant modes of action related to endocrine disruption from available *in vivo* studies or non-animal approaches. ►**M70** An Extended One-Generation Reproductive Toxicity Study including cohorts 2A/2B (developmental neurotoxicity) and/or cohort 3 (developmental immunotoxicity) shall be proposed by the registrant or may be required by the Agency in case of particular concerns on (developmental) neurotoxicity or (developmental) immunotoxicity justified by any of the following: ◄ — existing information on the substance itself derived from relevant available *in vivo* or non-animal approaches (e.g. abnormalities of the CNS, evidence of adverse effects on the nervous or immune system in studies on adult animals or animals exposed prenatally), or — specific mechanisms/modes of action of the substance with an association to (developmental) neurotoxicity and/or (developmental) immunotoxicity (e.g. cholinesterase inhibition or relevant changes in thyroidal hormone levels associated to adverse effects), or — existing information on effects caused by substances structurally analogous to the substance being studied, suggesting such effects or mechanisms/modes of action. Other studies on developmental neurotoxicity and/or developmental immunotoxicity instead of cohorts 2A/2B (developmental neurotoxicity) and/or cohort 3 (developmental immunotoxicity) of the Extended One-Generation Reproductive Toxicity Study may be proposed by the registrant in order to clarify the concern on developmental toxicity.

▼M29

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	Two-generation reproductive toxicity studies (B.35, OECD TG 416) that were initiated before 13 March 2015 shall be considered appropriate to address this standard information requirement. The study shall be performed on one species. The need to perform a study at this tonnage level or the next on a second strain or a second species may be considered and a decision should be based on the outcome of the first test and all other relevant available data.

▼C1

9. ECOTOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
9.1. Aquatic toxicity	►M70 9.1. Long-term toxicity testing other than the tests referred to in points 9.1.5 and 9.1.6 shall be proposed by the registrant or may be required by the Agency if the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the effects of the substance on aquatic organisms. The choice of the test(s) shall be made on the basis of the results of the chemical safety assessment. ◄
9.1.5. Long-term toxicity testing on invertebrates (preferred species *Daphnia*), (unless already provided as part of Annex VII requirements)	
▼M70	
9.1.6. Long-term toxicity testing on fish, (unless already provided as part of Annex VIII requirements). The information shall be provided for subpoint 9.1.6.1 or subpoint 9.1.6.3.	9.1.6. Fish short-term toxicity tests on embryo and sac-fry stages (OECD TG 212) that were initiated before 14 April 2022 shall be considered appropriate to address this standard information requirement provided that the substance is not highly lipophilic (log Kow > 4) or there is no indication of endocrine disrupting properties or any other specific mode of action.

▼M70

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
9.1.6.1. Fish early-life stage (FELS) toxicity test (OECD TG 210)	
_____	
9.1.6.3. Fish juvenile growth test (OECD TG 215)	

▼C1

9.2. Degradation	►M70 9.2. Further degradation testing shall be proposed by the registrant or may be required by the Agency if the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the degradation of the substance and its transformation or degradation products. The choice of the appropriate test(s) and test media shall be made on the basis of the results of the chemical safety assessment. ◄
9.2.1. Biotic	

▼M51

9.2.1.2. Simulation testing on ultimate degradation in surface water	9.2.1.2. The study need not be conducted if: the substances is highly insoluble in water, or the substance is readily biodegradable. For nanoforms, the study may not be waived on the basis of high insolubility in water alone.

▼C1

9.2.1.3. Soil simulation testing (for substances with a high potential for adsorption to soil)	9.2.1.3. The study need not be conducted: — if the substance is readily biodegradable, or — if direct and indirect exposure of soil is unlikely.
9.2.1.4. Sediment simulation testing (for substances with a high potential for adsorption to sediment)	9.2.1.4. The study need not be conducted: — if the substance is readily biodegradable, or — if direct and indirect exposure of sediment is unlikely.
►M70 9.2.3. Identification of transformation and abiotic and biotic degradation products ◄	9.2.3. Unless the substance is readily biodegradable

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED		COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M51		
9.3.	Fate and behaviour in the environment	
9.3.2.	Bioaccumulation in aquatic species, preferably fish	9.3.2. The study need not be conducted if: the substance has a low potential for bioaccumulation (for instance a log Kow ≤ 3) and/or a low potential to cross biological membranes, or direct and indirect exposure of the aquatic compartment is unlikely. ►M64 The study may not be waived on the basis of low octanol-water partition coefficient alone, unless the potential for bioaccumulation of the substance is solely driven by lipophilicity. For instance, the study may not be waived on the basis of low octanol-water partition coefficient alone if the substance is surface active or ionisable at environmental pH (pH 4 – 9). ◄ For nanoforms, use of any physicochemical property (e.g. octanol water partition coefficient, dissolution rate, dispersion stability) as a reason for waiving the study shall include adequate justification of its relevance to low potential for bioaccumulation or unlikely direct and indirect exposure of the aquatic compartment.
9.3.3.	Further information on adsorption/desorption depending on the results of the study required in Annex VIII	9.3.3. The study need not be conducted if: based on the physicochemical properties, the substance can be expected to have a low potential for adsorption (e.g. the substance has a low octanol water partition coefficient), or the substance and its degradation products decompose rapidly. ►M64 The study may not be waived on the basis of low octanol-water partition coefficient alone, unless the adsorptive properties of the substance are solely driven by lipophilicity. For instance, the study may not be waived on the basis of low octanol-water partition coefficient alone if the substance is surface active or ionisable at environmental pH (pH 4 – 9). ◄ For nanoforms, use of any physicochemical property (e.g. octanol water partition coefficient, dissolution rate, dispersion stability) as a reason for waiving the study shall include adequate justification of its relevance to low potential for adsorption.

▼M51

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
9.4. Effects on terrestrial organisms	►M70 9.4. These studies do not need to be conducted if direct and indirect exposure of the soil compartment is unlikely. In the absence of toxicity data for soil organisms, the equilibrium partitioning method may be applied to assess the hazard to soil organisms. Where the equilibrium partitioning method is applied to nanoforms, this shall be scientifically justified. The choice of the appropriate test(s) shall be made on the basis of the results of the chemical safety assessment. In particular for substances that have a high potential to adsorb to soil or that are very persistent, the registrant shall propose or the Agency may require long-term toxicity testing as referred to in Annex X instead of short-term toxicity testing. ◄
▼C1 9.4.1. Short-term toxicity to invertebrates	
9.4.2. Effects on soil micro-organisms	
9.4.3. Short-term toxicity to plants	

10. METHODS OF DETECTION AND ANALYSIS

Description of the analytical methods shall be provided on request, for the relevant compartments for which studies were performed using the analytical method concerned. If the analytical methods are not available this shall be justified.

▼C1

ANNEX X

STANDARD INFORMATION REQUIREMENTS FOR SUBSTANCES MANUFACTURED OR IMPORTED IN QUANTITIES OF 1 000 TONNES OR MORE [1]

At the level of this Annex, the registrant must submit a proposal and a time schedule for fulfilling the information requirements of this Annex in accordance with Article 12(1)(e).

Column 1 of this Annex establishes the standard information required for all substances manufactured or imported in quantities of 1 000 tonnes or more in accordance with Article 12(1)(e). Accordingly, the information required in column 1 of this Annex is additional to that required in column 1 of Annexes VII, VIII and IX. Any other relevant physicochemical, toxicological and ecotoxicological information that is available shall be provided. Column 2 of this Annex lists specific rules according to which the registrant may propose to omit the required standard information, replace it by other information, provide it at a later stage or adapt it in another way. If the conditions are met under which column 2 of this Annex allows an adaptation to be proposed, the registrant shall clearly state this fact and the reasons for proposing each adaptation under the appropriate headings in the registration dossier.

▼M51

Without prejudice to the information submitted for other forms, any relevant physicochemical, toxicological and ecotoxicological information shall include characterisation of the nanoform tested and test conditions. A justification shall be provided where QSARs are used or evidence is obtained by means other than testing, as well as a description of the range of the characteristics/properties of the nanoforms to which the evidence can be applied.

▼C1

In addition to these specific rules, a registrant may propose to adapt the required standard information set out in column 1 of this Annex according to the general rules contained in Annex XI. In this case as well, he shall clearly state the reasons for any decision to propose adaptations to the standard information under the appropriate headings in the registration dossier referring to the appropriate specific rule(s) in column 2 or in Annex XI [2].

Before new tests are carried out to determine the properties listed in this Annex, all available *in vitro* data, *in vivo* data, historical human data, data from valid (Q)SARs and data from structurally related substances (read-across approach) shall be assessed first. *In vivo* testing with corrosive substances at concentration/dose levels causing corrosivity shall be avoided. Prior to testing, further guidance on testing strategies should be consulted in addition to this Annex.

▼M64

Where a test method offers flexibility in the study design, for example in relation to the choice of dose levels, the chosen study design shall ensure that the data generated are adequate for hazard identification and risk assessment. To this end,

[1] This Annex shall apply to producers of articles that are required to register in accordance with Article 7 and to other downstream users that are required to carry out tests under this Regulation adapted as necessary.

[2] Note: conditions for not requiring a specific test that are set out in the appropriate test methods in the Commission Regulation on test methods as specified in Article 13(3) that are not repeated in column 2, also apply.

▼M64

testing shall be performed at appropriately high dose levels. If dose (concentration) selection is limited by the physicochemical properties or biological effects of the test substance, justification shall be provided.

▼C1

When, for certain endpoints, it is proposed not to provide information for other reasons than those mentioned in column 2 of this Annex or in Annex XI, this fact and the reasons shall also be clearly stated.

8. TOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M70	
8.4. Mutagenicity	8.4. The studies referred to in points 8.4.6 and 8.4.7 do not need to be conducted in any of the following cases: — the substance is known to cause germ cell mutagenicity, meeting the criteria for classification in the hazard class germ cell mutagenicity category 1A or 1B, and appropriate risk management measures are implemented, — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity category 1A or 1B or 2 and in the hazard class carcinogenicity category 1A or 1B, and appropriate risk management measures are implemented.
8.4.6. A second *in vivo* mammalian somatic cell genotoxicity study, if there is a positive result in any of the *in vitro* genotoxicity studies referred to in Annex VII or Annex VIII, which gives rise to both chromosomal aberration concern and gene mutation concern. The second study shall address chromosomal aberration or gene mutation, as appropriate, which has not been addressed by the first *in vivo* mammalian somatic cell genotoxicity study.	
8.4.7. A second *in vivo mammalian* germ cell genotoxicity study, if there is a positive result in *in vivo* mammalian somatic cell genotoxicity studies, which gives rise to both chromosomal aberration concern and gene mutation concern. The second study shall address the chromosomal aberration or gene mutation, as appropriate, which has not been addressed by the first *in vivo* mammalian germ cell genotoxicity study.	8.4.7. The study does not need to be conducted if there is clear evidence that neither the substance nor its metabolites reach the germ cells.

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M51	
	8.6.3. A long-term repeated toxicity study (≥ 12 months) may be proposed by the registrant or required by the Agency in accordance with Articles 40 or 41 if the frequency and duration of human exposure indicates that a longer term study is appropriate and one of the following conditions is met: — serious or severe toxicity effects of particular concern were observed in the 28-day or 90-day study for which the available evidence is inadequate for toxicological evaluation or risk characterisation, or — effects shown in substances with a clear relationship in molecular structure with the substance being studied were not detected in the 28-day or 90-day study, or — the substance may have a dangerous property that cannot be detected in a 90-day study. If nanoforms are covered by the registration, physico-chemical characteristics, in particular particle size, shape and other morphological parameters, surface functionalisation and surface area, as well as molecular structure shall be taken into consideration when determining if one of the conditions above are met.
▼C1	
	8.6.4. Further studies shall be proposed by the registrant or may be required by the Agency in accordance with Articles 40 or 41 in case of: — toxicity of particular concern (e.g. serious/severe effects), or — indications of an effect for which the available evidence is inadequate for toxicological evaluation and/or risk characterisation. In such cases it may also be more appropriate to perform specific toxicological studies that are designed to investigate these effects (e. g. immunotoxicity, neurotoxicity), or — particular concern regarding exposure (e.g. use in consumer products leading to exposure levels which are close to the dose levels at which toxicity is observed).
8.7. Reproductive toxicity	►M64 8.7. The studies do not need to be conducted if: — the substance is known to be a genotoxic carcinogen, meeting the criteria for classification both in the hazard class germ cell mutagenicity (category 1A or 1B or 2) and carcinogenicity (category 1A or 1B), and appropriate risk management measures are implemented, or

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	— the substance is known to be a germ cell mutagen, meeting the criteria for classification in the hazard class germ cell mutagenicity (category 1A or 1B) and appropriate risk management measures are implemented, or — the substance is of low toxicological activity (a comprehensive and informative dataset showing no toxicity seen in any of the tests available), it can be proven from toxicokinetic data that no systemic absorption occurs via relevant routes of exposure (e.g. plasma/blood concentrations below detection limit using a sensitive method and absence of the substance and of metabolites of the substance in urine, bile or exhaled air) and there is no or no significant human exposure. If a substance is known to have an adverse effect on sexual function and fertility, meeting the criteria for classification in the hazard class reproductive toxicity (category 1A or 1B: May damage fertility (H360F)), and the available data are adequate to support a robust risk assessment, then no further testing for sexual function and fertility shall be necessary. If a substance is known to cause developmental toxicity, meeting the criteria for classification in the hazard class reproductive toxicity (category 1A or 1B: May damage the unborn child (H360D)), and the available data are adequate to support a robust risk assessment, then no further testing for developmental toxicity shall be necessary. ◄

▼M70

8.7.2.	Pre-natal developmental toxicity study (OECD TG 414) in a second species, the preferred species is the rat or the rabbit, whichever was not used in the first study under Annex IX. The route of administration shall be oral if the substance is a solid or liquid, and inhalation if the substance is a gas; deviations may be made if scientifically justified, for example through evidence of equivalent or higher systemic exposure via another relevant route of human exposure or route-specific toxicity.	Deviations from the default route of administration and deviations in the choice of species shall be scientifically justified.

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
▼M29	
►M70 8.7.3. Extended One-Generation Reproductive Toxicity Study (OECD TG 443), basic test design (cohorts 1A and 1B without extension to include an F2 generation), one species, unless already provided as part of Annex IX requirements. The route of administration shall be oral if the substance is a solid or liquid, and inhalation if the substance is a gas; deviations may be made if scientifically justified, for example through evidence of equivalent or higher systemic exposure via another relevant route of human exposure or route-specific toxicity. ◄	8.7.3. ►M70 An Extended One-Generation Reproductive Toxicity Study with the extension of cohort 1B to include the F2 generation shall be proposed by the registrant or may be required by the Agency if: ◄ (a) the substance has uses leading to significant exposure of consumers or professionals, taking into account, inter alia, consumer exposure from articles, and (b) any of the following conditions are met: — the substance displays genotoxic effects in somatic cell mutagenicity tests *in vivo* which could lead to classifying it as Mutagen Category 2, or — there are indications that the internal dose for the substance and/or any of its metabolites will reach a steady state in the test animals only after an extended exposure, or — there are indications of one or more relevant modes of action related to endocrine disruption from available *in vivo* studies or non-animal approaches. ►M70 An Extended One-Generation Reproductive Toxicity Study including cohorts 2A/2B (developmental neurotoxicity) and/or cohort 3 (developmental immunotoxicity) shall be proposed by the registrant or may be required by the Agency in case of particular concerns on (developmental) neurotoxicity or (developmental) immunotoxicity justified by any of the following: ◄ — existing information on the substance itself derived from relevant available *in vivo* or non-animal approaches (e.g. abnormalities of the CNS, evidence of adverse effects on the nervous or immune system in studies on adult animals or animals exposed prenatally), or — specific mechanisms/modes of action of the substance with an association to (developmental) neurotoxicity and/or (developmental) immunotoxicity (e.g. cholinesterase inhibition or relevant changes in thyroidal hormone levels associated to adverse effects), or — existing information on effects caused by substances structurally analogous to the substance being studied, suggesting such effects or mechanisms/modes of action.

▼M29

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
	Other studies on developmental neurotoxicity and/or developmental immunotoxicity instead of cohorts 2A/2B (developmental neurotoxicity) and/or cohort 3 (developmental immunotoxicity) of the Extended One-Generation Reproductive Toxicity Study may be proposed by the registrant in order to clarify the concern on developmental toxicity. Two-generation reproductive toxicity studies (B.35, OECD TG 416) that were initiated before 13 March 2015 shall be considered appropriate to address this standard information requirement.
▼C1 8.9.1. Carcinogenicity study	8.9.1. A carcinogenicity study may be proposed by the registrant or may be required by the Agency in accordance with Articles 40 or 41 if: — the substance has a widespread dispersive use or there is evidence of frequent or long-term human exposure, and ►M3 — the substance is classified as germ cell mutagen category 2 or there is evidence from the repeated dose study(ies) that the substance is able to induce hyperplasia and/or pre-neoplastic lesions. ◄ ►M3 If the substance is classified as germ cell mutagen category 1A or 1B, the default presumption would be that a genotoxic mechanism for carcinogenicity is likely. In these cases, a carcinogenicity test will normally not be required. ◄

9. ECOTOXICOLOGICAL INFORMATION

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
9.2. Degradation ▼M70 _____	►M70 9.2. Further degradation testing shall be proposed by the registrant or may be required by the Agency, if the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the degradation of the substance and its transformation and degradation products. The choice of the appropriate test (s) and test media shall be made on the basis of the results of the chemical safety assessment. ◄

▼C1

COLUMN 1 STANDARD INFORMATION REQUIRED	COLUMN 2 SPECIFIC RULES FOR ADAPTATION FROM COLUMN 1
9.3. Fate and behaviour in the environment	
9.3.4. Further information on the environmental fate and behaviour of the substance and/or degradation products	9.3.4. Further testing shall be proposed by the registrant or may be required by the Agency in accordance with Articles 40 or 41 if the chemical safety assessment according to Annex I indicates the need to investigate further the fate and behaviour of the substance. The choice of the appropriate test(s) depends on the results of the chemical safety assessment.
9.4. Effects on terrestrial organisms	►M70 9.4. Long-term toxicity testing shall be proposed by the registrant or may be required by the Agency if the results of the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the effects of the substance or of transformation and degradation products on terrestrial organisms. The choice of the appropriate test(s) shall be made on the basis of the outcome of the chemical safety assessment. These studies do not need to be conducted if direct and indirect exposure of the soil compartment is unlikely. ◄
9.4.4. Long-term toxicity testing on invertebrates, unless already provided as part of Annex IX requirements.	
9.4.6. Long-term toxicity testing on plants, unless already provided as part of Annex IX requirements.	
9.5.1. Long-term toxicity to sediment organisms	►M70 9.5.1. Long-term toxicity testing shall be proposed by the registrant or may be required by the Agency if the results of the chemical safety assessment performed in accordance with Annex I indicates that it is needed to further investigate the effects of the substance or of relevant transformation and degradation products on sediment organisms. The choice of the appropriate test(s) shall be made on the basis of the results of the chemical safety assessment. ◄
9.6.1. Long-term or reproductive toxicity to birds	9.6.1. Any need for testing should be carefully considered taking into account the large mammalian dataset that is usually available at this tonnage level.

▼C1

10. METHODS OF DETECTION AND ANALYSIS

Description of the analytical methods shall be provided on request, for the relevant compartments for which studies were performed using the analytical method concerned. If the analytical methods are not available this shall be justified.

▼C1

ANNEX XI

GENERAL RULES FOR ADAPTATION OF THE STANDARD TESTING REGIME SET OUT IN ANNEXES VII TO X

Annexes VII to X set out the information requirements for all substances manufactured or imported in quantities of:

— one tonne or more in accordance with Article 12(1)(a),

— 10 tonnes or more in accordance with Article 12(1)(c),

— 100 tonnes or more in accordance with Article 12(1)(d), and

— 1 000 tonnes or more in accordance with Article 12(1)(e).

In addition to the specific rules set out in column 2 of Annexes VII to X, a registrant may adapt the standard testing regime in accordance with the general rules set out in Section 1 of this Annex. Under dossier evaluation the Agency may assess these adaptations to the standard testing regime.

▼M51

The requirements specific to nanoforms in this Annex are without prejudice to requirements applicable to other forms of a substance.

▼C1

1. TESTING DOES NOT APPEAR SCIENTIFICALLY NECESSARY

1.1. **Use of existing data**

▼M64

Any data generated as from 1 June 2008 shall not be considered as existing data and shall not be subject to the general rules for adaptation laid down in this point (1.1).

1.1.1. *Data on physical-chemical properties from experiments not carried out according to the test methods referred to in Article 13(3)*

▼C1

Data shall be considered to be equivalent to data generated by the corresponding test methods referred to in Article 13(3) if the following conditions are met:

(1) adequacy for the purpose of classification and labelling and/or risk assessment;

(2) sufficient documentation is provided to assess the adequacy of the study; and

(3) the data are valid for the endpoint being investigated and the study is performed using an acceptable level of quality assurance.

1.1.2. *Data on human health and environmental properties from experiments not carried out according to GLP or the test methods referred to in Article 13(3)*

Data shall be considered to be equivalent to data generated by the corresponding test methods referred to in Article 13(3) if the following conditions are met:

(1) adequacy for the purpose of classification and labelling and/or risk assessment;

(2) adequate and reliable coverage of the key parameters foreseen to be investigated in the corresponding test methods referred to in Article 13(3);

(3) exposure duration comparable to or longer than the corresponding test methods referred to in Article 13(3) if exposure duration is a relevant parameter; and

(4) adequate and reliable documentation of the study is provided.

▼M51

1.1.3. *Historical human data*

Historical human data, such as epidemiological studies on exposed populations, accidental or occupational exposure data and clinical studies, shall be considered.

The strength of the data for a specific human health effect depends, among other things, on the type of analysis and on the parameters covered and on the magnitude and specificity of the response and consequently the predictability of the effect. Criteria for assessing the adequacy of the data include:

(1) the proper selection and characterisation of the exposed and control groups;

(2) adequate characterisation of exposure;

(3) sufficient length of follow-up for disease occurrence;

(4) valid method for observing an effect;

(5) proper consideration of bias and confounding factors; and

(6) a reasonable statistical reliability to justify the conclusion.

In all cases adequate and reliable documentation shall be provided.

When nanoforms are covered by the registration the above approach shall address the nanoforms separately.

1.2. **Weight of evidence**

▼M64

There is sufficient weight of evidence when information from several independent sources together enable, through a reasoned justification, a conclusion on the information requirement, while the information from each single source alone is insufficient to fulfil the information requirement. The justification must have regard to the information that would otherwise be obtained from the study that shall normally be performed for this information requirement.

There may also be sufficient weight of evidence from the use of newly developed test methods, not yet included in the test methods referred to in Article 13(3), leading to a reasoned justification that they provide the information that would enable a conclusion on the information requirement.

Weight of evidence may lead to the conclusion that a substance has or has not a particular property.

If there is sufficient weight of evidence, the information requirement is fulfilled. Consequently, further testing on vertebrate animals shall be omitted and further testing not involving vertebrate animals may be omitted.

In all cases, the information provided shall be adequate for the purpose of classification, labelling and/or risk assessment, and adequate and reliable documentation shall be provided, including:

— robust study summaries of the studies used as sources of information;

— a justification explaining why the sources of information together provide a conclusion on the information requirement.

When nanoforms are covered by the registration, the above approach shall address the nanoforms separately.

▼M51

1.3. **Qualitative or Quantitative structure-activity relationship ((Q)SAR)**

Results obtained from valid qualitative or quantitative structure-activity relationship models ((Q)SARs) may indicate the presence or absence of a certain dangerous property. Results of (Q)SARs may be used instead of testing when the following conditions are met:

▼M51

— results are derived from a (Q)SAR model whose scientific validity has been established,

— the substance falls within the applicability domain of the (Q)SAR model,

— results are adequate for the purpose of classification and labelling and/or risk assessment, and

— adequate and reliable documentation of the applied method is provided.

The Agency in collaboration with the Commission, Member States and interested parties shall develop and provide guidance in assessing which (Q)SARs will meet these conditions and provide examples.

When nanoforms are covered by the registration the above approach shall address the nanoforms separately.

▼C1

1.4. ***In vitro* methods**

Results obtained from suitable *in vitro* methods may indicate the presence of a certain dangerous property or may be important in relation to a mechanistic understanding, which may be important for the assessment. In this context, 'suitable' means sufficiently well developed according to internationally agreed test development criteria (e.g. the European Centre for the Validation of Alternative Methods (ECVAM)) criteria for the entry of a test into the prevalidation process). Depending on the potential risk, immediate confirmation requiring testing beyond the information foreseen in Annexes VII or VIII or proposed confirmation requiring testing beyond the information foreseen in Annexes IX or X for the respective tonnage level may be necessary.

If the results obtained from the use of such *in vitro* methods do not indicate a certain dangerous property, the relevant test shall nevertheless be carried out at the appropriate tonnage level to confirm the negative result, unless testing is not required in accordance with Annexes VII to X or the other rules in this Annex.

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Such confirmation may be waived if the following conditions are met:

(1) results are derived from an *in vitro* method whose scientific validity has been established by a validation study, according to internationally agreed validation principles;

(2) results are adequate for the purpose of classification and labelling and/or risk assessment; and

(3) adequate and reliable documentation of the applied method is provided.

When nanoforms are covered by the registration the above approach in points (1) to (3) shall address the nanoforms separately.

▼C1

1.5. **Grouping of substances and read-across approach**

▼M64

Substances whose physicochemical, toxicological and ecotoxicological properties are likely to be similar or follow a regular pattern as a result of structural similarity, may be considered as a group, or category, of substances. Application of the group concept requires that physicochemical properties, human health effects and environmental effects or environmental fate may be predicted from data for reference substance(s) within the group by interpolation to other substances in the group (read-across approach). This avoids the need to test every substance for every endpoint.

▼M64

When nanoforms are covered by the registration, the above approach shall address the nanoforms separately. For grouping different nanoforms of the same substance, the molecular structural similarities alone may not serve as a justification.

If nanoforms covered by a registration are grouped or placed in a 'category' with other forms, including other nanoforms, of the substance in the same registration the obligations above shall apply in the same manner.

The similarities may be based on any of the following:

(1) a common functional group;

(2) the common precursors and/or the likelihood of common breakdown products via physical and biological processes, which result in structurally similar chemicals;

(3) a constant pattern in the changing of the potency of the properties across the category.

Structural similarity for UVCB substances shall be established on the basis of similarities in the structures of the constituents, together with the concentration of these constituents and variability in the concentration of these constituents. If it can be demonstrated that the identification of all individual constituents is not technically possible or impractical, the structural similarity may be demonstrated by other means, to enable a quantitative and qualitative comparison of the actual composition between substances.

If the group concept is applied, substances shall be classified and labelled on this basis.

In all cases, results shall fulfil all of the following conditions:

— be adequate for the purpose of classification and labelling and/or risk assessment,

— have adequate and reliable coverage of the key parameters addressed in the corresponding study that shall normally be performed for a particular information requirement,

— cover an exposure duration comparable to or longer than the corresponding study that shall normally be performed for a particular information requirement if exposure duration is a relevant parameter.

In all cases, adequate and reliable documentation of the applied method shall be provided. Such documentation shall include:

— a robust study summary for each source study used in the adaptation;

— an explanation why the properties of the registered substance may be predicted from other substances in the group;

— supporting information to scientifically justify such explanation for prediction of properties.

▼C1

2. TESTING IS TECHNICALLY NOT POSSIBLE

Testing for a specific endpoint may be omitted, if it is technically not possible to conduct the study as a consequence of the properties of the substance: e.g. very volatile, highly reactive or unstable substances cannot be used, mixing of the substance with water may cause danger of fire or explosion or the radio-labelling of the substance required in certain studies may not be possible. The guidance given in the test methods referred to in Article 13(3), more specifically on the technical limitations of a specific method, shall always be respected.

▼M4

3. SUBSTANCE-TAILORED EXPOSURE-DRIVEN TESTING

▼M64

3.1. Testing in accordance with Section 8.7 of Annex VIII and in accordance with Annex IX and Annex X may be omitted, based on the exposure scenario(s) developed in the Chemical Safety Report. Testing in accordance with Section 8.6.1 of Annex VIII may be omitted only for registrants producing less than 100 tonnes per year per manufacturer or importer, based on the exposure scenario(s) developed in the Chemical Safety Report.

▼M4

3.2. In all cases, adequate justification and documentation shall be provided. The justification shall be based on a thorough and rigorous exposure assessment in accordance with section 5 of Annex I and shall meet any one of the following criteria:

(a) the manufacturer or importer demonstrates and documents that all of the following conditions are fulfilled:

(i) the results of the exposure assessment covering all relevant exposures throughout the life cycle of the substance demonstrate the absence of or no significant exposure in all scenarios of the manufacture and all identified uses as referred to in Annex VI section 3.5;

▼M64

(ii) a DNEL or a PNEC can be derived from results of available test data for the substance concerned taking full account of the increased uncertainty resulting from the omission of the information requirement, and that DNEL or PNEC is relevant and appropriate both to the information requirement to be omitted and for risk assessment purposes. For this purpose and without prejudice to column 2 of Sections 8.6 and 8.7 of Annexes IX and X, a DNEL derived from a 28-day repeated dose toxicity study shall not be considered appropriate to omit a 90-day repeated dose toxicity study, and a DNEL derived from a screening test for reproductive/developmental toxicity shall not be considered appropriate to omit a prenatal developmental toxicity study or an extended one-generation reproductive toxicity study.

▼M4

(iii) the comparison of the derived DNEL or PNEC with the results of the exposure assessment shows that exposures are always well below the derived DNEL or PNEC;

(b) where the substance is not incorporated in an article the manufacturer or importer demonstrates and documents for all relevant scenarios that throughout the life cycle strictly controlled conditions as set out in Article 18(4)(a) to (f) apply;

(c) where the substance is incorporated in an article in which it is permanently embedded in a matrix or otherwise rigorously contained by technical means, it is demonstrated and documented that all of the following conditions are fulfilled:

(i) the substance is not released during its life cycle;

(ii) the likelihood that workers or the general public or the environment are exposed to the substance under normal or reasonably foreseeable conditions of use is negligible; and

(iii) the substance is handled according to the conditions set out in Article 18(4)(a) to (f) during all manufacturing and production stages including the waste management of the substance during these stages.

3.3. The specific conditions of use must be communicated through the supply chain in accordance with Article 31 or 32, as the case may be.

▼C1

ANNEX XII

GENERAL PROVISIONS FOR DOWNSTREAM USERS TO ASSESS SUBSTANCES AND PREPARE CHEMICAL SAFETY REPORTS

▼M51

INTRODUCTION

The purpose of this Annex is to set out how downstream users are to assess and document that the risks arising from the substance(s) they use are adequately controlled during their use for a use not covered by the Safety Data Sheet supplied to them and that other users further down the supply chain can adequately control the risks. The assessment shall cover the life-cycle of the substance, from its receipt by the downstream user, for his own uses and for his identified uses further down the supply chain. The assessment shall consider the use of the substance on its own, in a mixture or in an article.

The assessment shall address all nanoforms that are covered by the registration. Justifications and conclusions drawn from the assessment shall be relevant to the nanoforms, from their receipt by the downstream user, for his own uses and for his identified uses further down the supply chain.

In carrying out the chemical safety assessment and producing the Chemical Safety Report, the downstream user shall take account of information received from the supplier of the chemical in accordance with Article 31 and 32 of this Regulation.

When nanoforms of the substance are covered by his own use or his identified uses down the supply chain, an appropriate metric for the assessment and presentation of the results in steps 1- 6 of the chemical safety assessment under 0.6.1 and 0.6.2 shall be considered, with the justification included in the chemical safety report and summarised in the safety data sheet. A multiple metric presentation is preferable, ensuring availability of mass metric information.

Where available and appropriate, an assessment carried out under Community legislation, (e.g. risk assessments completed under Regulation (EEC) No 793/93) shall be taken into account in the chemical safety assessment and be reflected in the Chemical Safety Report. Deviations from such assessments shall be justified. Assessments carried out under other international and national programmes may also be taken into account.

The process which the downstream user goes through in carrying out the chemical safety assessment and in producing his Chemical Safety Report, involves three steps:

▼C1

STEP 1: DEVELOPMENT OF EXPOSURE SCENARIO(S)

The downstream user shall develop exposure scenarios for uses not covered in a Safety Data Sheet supplied to him in accordance with Section 5 of Annex I.

STEP 2: IF NECESSARY, A REFINEMENT OF THE HAZARD ASSESSMENT BY THE SUPPLIER

If the downstream user considers the hazard and PBT assessments reported in the Safety Data Sheet supplied to him to be appropriate, then no further hazard assessment or PBT and vPvB assessment is necessary. In this case he shall use the relevant information reported by the supplier for the risk characterisation. This shall be stated in the Chemical Safety Report.

▼M51

When nanoforms of the substance are covered by his own use or his identified uses down the supply chain, the assessment shall cover the hazard, PBT and vPvB assessment of nanoforms(s) as used.

▼C1

If the downstream user considers the assessments reported in the Safety Data Sheet supplied to him to be inappropriate, then he shall carry out the relevant assessments in accordance with Sections 1 to 4 of Annex I as appropriate to him.

▼M51

In those cases where the downstream user considers that information, in addition to that provided by the supplier, is necessary for producing his Chemical Safety Report, the downstream user shall gather this information. Where this information can only be obtained by testing on vertebrate animals, he shall submit a proposal for a testing strategy to the Agency in accordance with Article 38. He shall explain why he considers that additional information is necessary. While waiting for results of further testing, he shall record in his chemical safety report the risk management measures intended to manage the risks being explored that he has put in place. The above record taking shall address all nanoforms that are covered by his own uses or his identified uses down the supply chain. Such information shall be relevant to the nanoforms.

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On completion of any additional testing, the downstream user shall revise the Chemical Safety Report, and his Safety Data Sheet if he is required to prepare one, as appropriate.

STEP 3: RISK CHARACTERISATION

A risk characterisation shall be carried out for each new exposure scenario as prescribed in Section 6 of Annex I. The risk characterisation shall be presented under the relevant heading of the Chemical Safety Report and summarised in the Safety Data Sheet under the relevant heading(s).

When generating an exposure scenario it will be necessary to make initial assumptions about the operating conditions and risk managements measures. If the initial assumptions lead to a risk characterisation indicating inadequate protection of human health and the environment, then it shall be necessary to carry out an iterative process with amendment of one or a number of factors until adequate control can be demonstrated. This may require the generation of additional hazard or exposure information or appropriate alteration of the process, operating conditions or risk management measures. Therefore, iterations may be made between on the one hand developing and revising an (initial) exposure scenario, which includes developing and implementing risk management measures, and on the other hand generating further information to produce the definitive exposure scenario. The purpose of generating further information is to establish a more precise risk characterisation, based on a refined hazard assessment and/or exposure assessment.

The downstream user shall produce a Chemical Safety Report detailing his chemical safety assessment using Part B, Sections 9 and 10, of the format set out in Section 7 of Annex I and the other sections of this format, if appropriate.

Part A of the Chemical Safety Report shall include a declaration that the risk management measures outlined in the relevant exposure scenarios are implemented by the downstream user for his own uses and that the risk management measures outlined in the exposure scenarios for the identified uses are communicated down the supply chain.

▼M11

ANNEX XIII

CRITERIA FOR THE IDENTIFICATION OF PERSISTENT, BIOACCUMULATIVE AND TOXIC SUBSTANCES, AND VERY PERSISTENT AND VERY BIOACCUMULATIVE SUBSTANCES

This Annex lays down the criteria for the identification of persistent, bioaccumulative and toxic substances (PBT substances), and very persistent and very bioaccumulative substances (vPvB substances) as well as the information that must be considered for the purpose of assessing the P, B, and T properties of a substance.

For the identification of PBT substances and vPvB substances a weight-of-evidence determination using expert judgement shall be applied, by comparing all relevant and available information listed in Section 3.2 with the criteria set out in Section 1. This shall be applied in particular where the criteria set out in Section 1 cannot be applied directly to the available information.

A weight-of-evidence determination means that all available information bearing on the identification of a PBT or a vPvB substance is considered together, such as the results of monitoring and modelling, suitable in vitro tests, relevant animal data, information from the application of the category approach (grouping, read-across), (Q)SAR results, human experience such as occupational data and data from accident databases, epidemiological and clinical studies and well documented case reports and observations. The quality and consistency of the data shall be given appropriate weight. The available results regardless of their individual conclusions shall be assembled together in a single weight-of-evidence determination.

The information used for the purposes of assessment of the PBT/vPvB properties shall be based on data obtained under relevant conditions.

The identification shall also take account of the PBT/vPvB-properties of relevant constituents of a substance and relevant transformation and/or degradation products.

This Annex shall apply to all organic substances, including organo-metals.

1. CRITERIA FOR THE IDENTIFICATION OF PBT AND vPvB SUBSTANCES

1.1. PBT Substances

A substance that fulfils the persistence, bioaccumulation and toxicity criteria of Sections 1.1.1, 1.1.2 and 1.1.3 shall be considered to be a PBT substance.

1.1.1. Persistence

A substance fulfils the persistence criterion (P) in any of the following situations:

(a) the degradation half-life in marine water is higher than 60 days;

(b) the degradation half-life in fresh or estuarine water is higher than 40 days;

(c) the degradation half-life in marine sediment is higher than 180 days;

(d) the degradation half-life in fresh or estuarine water sediment is higher than 120 days;

(e) the degradation half-life in soil is higher than 120 days.

▼M11

1.1.2. Bioaccumulation

A substance fulfils the bioaccumulation criterion (B) when the bioconcentration factor in aquatic species is higher than 2 000.

1.1.3. Toxicity

A substance fulfils the toxicity criterion (T) in any of the following situations:

(a) the long-term no-observed effect concentration (NOEC) or EC10 for marine or freshwater organisms is less than 0,01 mg/l;

(b) the substance meets the criteria for classification as carcinogenic (category 1A or 1B), germ cell mutagenic (category 1A or 1B), or toxic for reproduction (category 1A, 1B, or 2) according to Regulation EC No 1272/2008;

(c) there is other evidence of chronic toxicity, as identified by the substance meeting the criteria for classification: specific target organ toxicity after repeated exposure (STOT RE category 1 or 2) according to Regulation EC No 1272/2008.

1.2. vPvB Substances

A substance that fulfils the persistence and bioacumulation criteria of Sections 1.2.1 and 1.2.2 shall be considered to be a vPvB substance.

1.2.1. Persistence

A substance fulfils the ‘very persistent’ criterion (vP) in any of the following situations:

(a) the degradation half-life in marine, fresh or estuarine water is higher than 60 days;

(b) the degradation half-life in marine, fresh or estuarine water sediment is higher than 180 days;

(c) the degradation half-life in soil is higher than 180 days.

1.2.2. Bioaccumulation

A substance fulfils the ‘very bioaccumulative’ criterion (vB) when the bioconcentration factor in aquatic species is higher than 5 000.

2. SCREENING AND ASSESSMENT OF P, vP, B, vB and T PROPERTIES

2.1. Registration

For the identification of PBT and vPvB substances in the registration dossier, the registrant shall consider the information as described in Annex I and in Section 3 of this Annex.

If the technical dossier contains for one or more endpoints only information as required in Annexes VII and VIII, the registrant shall consider information relevant for screening for P, B, or T properties in accordance with Section 3.1 of this Annex. If the result from the screening tests or other information indicate that the substance may have PBT or vPvB properties, the registrant shall generate relevant additional information as set out in Section 3.2 of this Annex. In case the generation of relevant additional information would require information listed in Annexes IX or X, the registrant shall submit a testing proposal. Where the process and use conditions of the substance meet the conditions as specified in Section 3.2(b) or (c) of Annex XI the additional information may be omitted, and subsequently the substance is considered as if it is a PBT or vPvB in the registration dossier. No additional information needs to be generated for the assessment of PBT/vPvB properties if there is no indication of P or B properties following the result from the screening test or other information.

▼**M11**

2.2. Authorisation

For dossiers for the purposes of identifying substances referred to in Article 57(d) and Article 57(e), relevant information from the registration dossiers and other available information as described in Section 3 shall be considered.

3. INFORMATION RELEVANT FOR THE SCREENING AND ASSESSMENT OF P, vP, B, vB and T PROPERTIES

3.1. Screening Information

The following information shall be considered for screening for P, vP, B, vB and T properties in the cases referred to in the second paragraph of Section 2.1 and may be considered for screening for P, vP, B, vB and T properties in the context of Section 2.2.

3.1.1. Indication of P and vP properties

(a) Results from tests on ready biodegradation in accordance with Section 9.2.1.1 of Annex VII;

(b) Results from other screening tests (e.g. enhanced ready test, tests on inherent biodegradability);

(c) Results obtained from biodegradation (Q)SAR models in accordance with Section 1.3 of Annex XI;

(d) Other information provided that its suitability and reliability can be reasonably demonstrated.

3.1.2. Indication of B and vB properties

(a) Octanol-water partitioning coefficient experimentally determined in accordance with Section 7.8 of Annex VII or estimated by (Q)SAR models in accordance with Section 1.3 of Annex XI;

(b) Other information provided that its suitability and reliability can be reasonably demonstrated.

3.1.3. Indication of T properties

(a) Short-term aquatic toxicity in accordance with Section 9.1 of Annex VII and Section 9.1.3 of Annex VIII;

(b) Other information provided that its suitability and reliability can be reasonably demonstrated.

3.2. Assessment Information

The following information shall be considered for the assessment of P, vP, B, vB and T properties, using a weight-of-evidence approach.

3.2.1. Assessment of P or vP properties

(a) Results from simulation testing on degradation in surface water;

(b) Results from simulation testing on degradation in soil;

(c) Results from simulation testing on degradation in sediment;

(d) Other information, such as information from field studies or monitoring studies, provided that its suitability and reliability can be reasonably demonstrated.

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3.2.2. Assessment of B or vB properties

(a) Results from a bioconcentration or bioaccumulation study in aquatic species;

(b) Other information on the bioaccumulation potential provided that its suitability and reliability can be reasonably demonstrated, such as:

— Results from a bioaccumulation study in terrestrial species;

— Data from scientific analysis of human body fluids or tissues, such as blood, milk, or fat;

— Detection of elevated levels in biota, in particular in endangered species or in vulnerable populations, compared to levels in their surrounding environment;

— Results from a chronic toxicity study on animals;

— Assessment of the toxicokinetic behaviour of the substance;

(c) Information on the ability of the substance to biomagnify in the food chain, where possible expressed by biomagnification factors or trophic magnification factors.

3.2.3. Assessment of T properties

(a) Results from long-term toxicity testing on invertebrates as set out in Section 9.1.5 of Annex IX;

(b) Results from long-term toxicity testing on fish as set out in Section 9.1.6 of Annex IX;

(c) Results from growth inhibition study on aquatic plants as set out in in Section 9.1.2 of Annex VII;

(d) The substance meeting the criteria for classification as carcinogenic in Category 1A or 1B (assigned hazard phrases: H350 or H350i), germ cell mutagenic in Category 1A or 1B (assigned hazard phrase: H340), toxic for reproduction in Category 1A, 1B and/or 2 (assigned hazard phrases: H360, H360F, H360D, H360FD, H360Fd, H360fD, H361, H361f, H361d or H361fd), specific target organ toxic after repeated dose in Category 1 or 2 (assigned hazard phrase: H372 or H373), according to Regulation EC No 1272/2008;

(e) Results from long-term or reproductive toxicity testing with birds as set out in Section 9.6.1 of Annex X;

(f) Other information provided that its suitability and reliability can be reasonably demonstrated.

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ANNEX XIV

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION

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▼C4

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
1.	5-tert-butyl-2,4,6-trinitro-m-xylene (**Musk xylene**) EC No: 201-329-4 CAS No: 81-15-2	vPvB	21 February 2013	21 August 2014	—	—
2.	4,4'-Diaminodiphenylmethane **(MDA)** EC No: 202-974-4 CAS No: 101-77-9	Carcinogenic (category 1B)	21 February 2013	21 August 2014	—	—
3.	Hexabromocyclododecane (**HBCDD**) EC No: 221-695-9, 247-148-4, CAS No: 3194-55-6 25637-99-4 alpha-hexabromocyclododecane CAS No: 134237-50-6, beta-hexabromocyclododecane CAS No: 134237-51-7 gamma-hexabromocyclododecane CAS No: 134237-52-8	PBT	21 February 2014	21 August 2015	—	—

▼C1

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date ([1])	Sunset date ([2])		
▼M68						
4.	Bis(2-ethylhexyl) phthalate (**DEHP**) EC No: 204-211-0 CAS No: 117-81-7	Toxic for reproduction (category 1B) Endocrine disrupting properties (Article 57(f) – human health) Endocrine disrupting properties (Article 57(f) – environment)	(a) 21 August 2013 (*) (b) By way of derogation from point (a): 14 June 2023 for uses in: — food contact materials within the scope of Regulation (EC) No 1935/2004; — immediate packaging of medicinal products covered under Regulation (EC) No 726/2004, Directive 2001/82/EC, and/or Directive 2001/83/EC; — mixtures containing DEHP at or above 0,1 % and below 0,3 % weight by weight; ►M76 (c) by way of derogation from point (a): 1 January 2029 for uses in medical devices within the scope of Regulations (EU) 2017/745 and (EU) 2017/746. ◄	(a) 21 February 2015 (**) (b) By way of derogation from point (a): 14 December 2024 for uses in: — food contact materials within the scope of Regulation (EC) No 1935/2004; — immediate packaging of medicinal products covered under Regulation (EC) No 726/2004, Directive 2001/82/EC, and/or Directive 2001/83/EC; — mixtures containing DEHP at or above 0,1 % and below 0,3 % weight by weight; ►M76 (c) by way of derogation from point (a): 1 July 2030 for uses in medical devices within the scope of Regulations (EU) 2017/745 and (EU) 2017/746. ◄	—	—
5.	Benzyl butyl phthalate (**BBP**) EC No: 201-622-7 CAS No: 85-68-7	Toxic for reproduction (category 1B) Endocrine disrupting properties (Article 57(f) – human health)	(a) 21 August 2013 (*) (b) By way of derogation from point (a): 14 June 2023 for uses in:	(a) 21 February 2015 (**) (b) By way of derogation from point (a): 14 December 2024 for uses in:	—	—

▼M68

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
			— immediate packaging of medicinal products covered under Regulation (EC) No 726/2004, Directive 2001/82/EC, and/or Directive 2001/83/EC; — mixtures containing BBP at or above 0,1 % and below 0,3 % weight by weight.	— immediate packaging of medicinal products covered under Regulation (EC) No 726/2004, Directive 2001/82/EC, and/or Directive 2001/83/EC; — mixtures containing BBP at or above 0,1 % and below 0,3 % weight by weight.		
6.	Dibutyl phthalate (**DBP**) EC No: 201-557-4 CAS No: 84-74-2	Toxic for reproduction (category 1B) Endocrine disrupting properties (Article 57(f) – human health)	(a) 21 August 2013 (*) (b) By way of derogation from point (a): 14 June 2023 for uses in: — immediate packaging of medicinal products covered under Regulation (EC) No 726/2004, Directive 2001/82/EC, and/or Directive 2001/83/EC; — mixtures containing DBP at or above 0,1 % and below 0,3 % weight by weight.	(a) 21 February 2015 (**) (b) By way of derogation from point (a): 14 December 2024 for uses in: — immediate packaging of medicinal products covered under Regulation (EC) No 726/2004, Directive 2001/82/EC, and/or Directive 2001/83/EC; — mixtures containing DBP at or above 0,1 % and below 0,3 % weight by weight.	—	—
7.	Diisobutyl phthalate **(DIBP)** EC No: 201-553-2 CAS No: 84-69-5	Toxic for reproduction (category 1B) Endocrine disrupting properties (Article 57(f) – human health)	(a) 21 August 2013 (*) (b) By way of derogation from point (a): 14 June 2023 for uses in mixtures containing DIBP at or above 0,1 % and below 0,3 % weight by weight.	(a) 21 February 2015 (**) (b) By way of derogation from point (a): 14 December 2024 for uses in mixtures containing DIBP at or above 0,1 % and below 0,3 % weight by weight.	—	—

▼C4

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date ([1])	Sunset date ([2])		
▼M15						
8.	Diarsenic trioxide EC No: 215-481-4 CAS No: 1327-53-3	Carcinogenic (category 1A)	21 November 2013	21 May 2015	—	—
9.	Diarsenic pentaoxide EC No: 215-116-9 CAS No: 1303-28-2	Carcinogenic (category 1A)	21 November 2013	21 May 2015	—	—
10.	Lead chromate EC No: 231-846-0 CAS No: 7758-97-6	Carcinogenic (category 1B) Toxic for reproduction (category 1A)	21 November 2013 ►M43 (*) ◄	21 May 2015 ►M43 (**) ◄	—	—
11.	Lead sulfochromate yellow (C.I. Pigment Yellow 34) EC No: 215-693-7 CAS No: 1344-37-2	Carcinogenic (category 1B) Toxic for reproduction (category 1A)	21 November 2013 ►M43 (*) ◄	21 May 2015 ►M43 (**) ◄	—	—
12.	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) EC No: 235-759-9 CAS No: 12656-85-8	Carcinogenic (category 1B) Toxic for reproduction (category 1A)	21 November 2013 ►M43 (*) ◄	21 May 2015 ►M43 (**) ◄		
13.	Tris (2-chloroethyl) phosphate (TCEP) EC No: 204-118-5 CAS No: 115-96-8	Toxic for reproduction (category 1B)	21 February 2014	21 August 2015		

▼M15

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date ([1])	Sunset date ([2])		
14.	2,4-Dinitrotoluene (2,4-DNT) EC No: 204-450-0 CAS No: 121-14-2	Carcinogenic (category 1B)	21 February 2014 ►M43 (*) ◄	21 August 2015 ►M43 (**) ◄		
▼M22 15.	Trichloroethylene EC No: 201-167-4 CAS No: 79-01-6	Carcinogenic (category 1B)	21 October 2014 ►M43 (*) ◄	21 April 2016 ►M43 (**) ◄	—	—
16.	Chromium trioxide EC No: 215-607-8 CAS No: 1333-82-0	Carcinogenic (category 1A) Mutagenic (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄	—	—
17.	Acids generated from chromium trioxide and their oligomers Group containing: Chromic acid EC No: 231-801-5 CAS No: 7738-94-5 Dichromic acid EC No: 236-881-5 CAS No: 13530-68-2 Oligomers of chromic acid and dichromic acid EC No: not yet assigned CAS No: not yet assigned	Carcinogenic (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄	—	—

▼M22

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date ([1])	Sunset date ([2])		
18.	Sodium dichromate EC No: 234-190-3 CAS No: 7789-12-0 10588-01-9	Carcinogenic (category 1B) Mutagenic (category 1B) Toxic for reproduction (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄	—	—
19.	Potassium dichromate EC No: 231-906-6 CAS No: 7778-50-9	Carcinogenic (category 1B) Mutagenic (category 1B) Toxic for reproduction (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄	—	—
20.	Ammonium dichromate EC No: 232-143-1 CAS No: 7789-09-5	Carcinogenic (category 1B) Mutagenic (category 1B) Toxic for reproduction (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄		
21.	Potassium chromate EC No: 232-140-5 CAS No: 7789-00-6	Carcinogenic (category 1B) Mutagenic (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄		

▼M22

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
22.	Sodium chromate EC No: 231-889-5 CAS No: 7775-11-3	Carcinogenic (category 1B) Mutagenic (category 1B) Toxic for reproduction (category 1B)	21 March 2016 ►M43 (*) ◄	21 September 2017 ►M43 (**) ◄		
▼M28 23.	Formaldehyde, oligomeric reaction products with aniline (technical MDA) EC No: 500-036-1 CAS No: 25214-70-4	Carcinogenic (category 1B)	22 February 2016 ►M43 (*) ◄	22 August 2017 ►M43 (**) ◄	—	—
24.	Arsenic acid EC No: 231-901-9 CAS No: 7778-39-4	Carcinogenic (category 1A)	22 February 2016	22 August 2017	—	—
25.	Bis(2-methoxyethyl) ether (diglyme) EC No: 203-924-4 CAS No: 111-96-6	Toxic for reproduction (category 1B)	22 February 2016 ►M43 (*) ◄	22 August 2017 ►M43 (**) ◄	—	—
26.	1,2-dichloroethane (EDC) EC No: 203-458-1 CAS No: 107-06-2	Carcinogenic (category 1B)	22 May 2016	22 November 2017	—	—
27.	2,2′-dichloro-4,4′-methylene-dianiline (MOCA) EC No: 202-918-9 CAS No: 101-14-4	Carcinogenic (category 1B)	22 May 2016 ►M43 (*) ◄	22 November 2017 ►M43 (**) ◄	—	—

▼M28

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
28.	Dichromium tris(chromate) EC No: 246-356-2 CAS No: 24613-89-6	Carcinogenic (category 1B)	22 July 2017 ►M43 (*) ◄	22 January 2019 ►M43 (**) ◄	—	—
29.	Strontium chromate EC No: 232-142-6 CAS No: 7789-06-2	Carcinogenic (category 1B)	22 July 2017 ►M43 (*) ◄	22 January 2019 ►M43 (**) ◄	—	—
30.	Potassium hydroxyoctaoxodizincatedichromate EC No: 234-329-8 CAS No: 11103-86-9	Carcinogenic (category 1A)	22 July 2017 ►M43 (*) ◄	22 January 2019 ►M43 (**) ◄	—	—
31.	Pentazinc chromate octahydroxide EC No: 256-418-0 CAS No: 49663-84-5	Carcinogenic (category 1A)	22 July 2017 ►M43 (*) ◄	22 January 2019 ►M43 (**) ◄	—	—

▼M43

32.	1-Bromopropane (n-propyl bromide) EC No: 203-445-0 CAS No: 106-94-5	Toxic for reproduction (category 1B)	4 January 2019 ►M56 (*) ◄	4 July 2020 ►M56 (**) ◄	—	—

▼M43

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date ([1])	Sunset date ([2])		
33.	Diisopentylphthalate EC No: 210-088-4 CAS No: 605-50-5	Toxic for reproduction (category 1B)	4 January 2019 ►M56 (*) ◄	4 July 2020 ►M56 (**) ◄	—	—
34.	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7 rich EC No: 276-158-1 CAS No: 71888-89-6	Toxic for reproduction (category 1B)	4 January 2019 ►M56 (*) ◄	4 July 2020 ►M56 (**) ◄	—	—
35.	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters EC No: 271-084-6 CAS No: 68515-42-4	Toxic for reproduction (category 1B)	4 January 2019 ►M56 (*) ◄	4 July 2020 ►M56 (**) ◄	—	—
36.	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear EC No: 284-032-2 CAS No: 84777-06-0	Toxic for reproduction (category 1B)	4 January 2019 ►M56 (*) ◄	4 July 2020 ►M56 (**) ◄	—	—
37.	Bis(2-methoxyethyl) phthalate EC No: 204-212-6 CAS No: 117-82-8	Toxic for reproduction (category 1B)	4 January 2019 ►M56 (*) ◄	4 July 2020 ►M56 (**) ◄	—	—

▼M43

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date ([1])	Sunset date ([2])		
38.	Dipentylphthalate EC No: 205-017-9 CAS No: 131-18-0	Toxic for reproduction (category 1B)	4 January 2019 ►**M56** (*) ◄	4 July 2020 ►**M56** (**) ◄	—	—
39.	N-pentyl-isopentylphthalate EC No: — CAS No: 776297-69-9	Toxic for reproduction (category 1B)	4 January 2019 ►**M56** (*) ◄	4 July 2020 ►**M56** (**) ◄	—	—
40.	Anthracene oil EC No: 292-602-7 CAS No: 90640-80-5	Carcinogenic (category 1B) (***), PBT, vPvB	4 April 2019 ►**M56** (*) ◄	4 October 2020 ►**M56** (**) ◄	—	—
41.	Pitch, coal tar, high temp. EC No: 266-028-2 CAS No: 65996-93-2	Carcinogenic (category 1B), PBT, vPvB	4 April 2019 ►**M56** (*) ◄	4 October 2020 ►**M56** (**) ◄	—	—

▼M43

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
42.	4-(1,1,3,3-Tetramethylbutyl) phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues) EC No: — CAS No: —	Endocrine disrupting properties (Article 57(f) — environment)	►M62 (a) 4 July 2019 (*); (b) by way of derogation from point (a), 22 June 2022 for uses as follows: — for the research, development and production of medicinal products falling within the scope of Directive 2001/83/EC or medical devices or accessories to medical devices falling within the scope of Directive 93/42/EEC, Regulation (EU) 2017/745, Directive 98/79/EC or Regulation (EU) 2017/746 of the European Parliament and of the Council (****), in view of their use for the diagnosis, treatment or prevention of the coronavirus disease (COVID-19), — in medical devices or accessories to medical devices falling within the scope of Directive 93/42/EEC, Regulation (EU) 2017/745, Directive 98/79/EC or Regulation (EU) 2017/746, for the diagnosis, treatment or prevention of COVID-19. ◄	►M62 (a) 4 January 2021 (**); (b) by way of derogation from point (a), 22 December 2023 for uses as follows: — for the research, development and production of medicinal products falling within the scope of Directive 2001/83/EC or medical devices or accessories to medical devices falling within the scope of Directive 93/42/EEC, Regulation (EU) 2017/745, Directive 98/79/EC or Regulation (EU) 2017/746, in view of their use for the diagnosis, treatment or prevention of COVID-19, — in medical devices or accessories to medical devices falling within the scope of Directive 93/42/EEC, Regulation (EU) 2017/745, Directive 98/79/EC or Regulation (EU) 2017/746, for the diagnosis, treatment or prevention of COVID-19. ◄	—	—

▼M43

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
43.	4-Nonylphenol, branched and linear, ethoxylated (substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof) EC No: — CAS No: —	Endocrine disrupting properties (Article 57(f) — environment)	4 July 2019 ►M56 (*) ◄	4 January 2021 ►M56 (**) ◄	—	—
▼M56 ▼C8 44.	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear EC No: 271-093-5 CAS No: 68515-50-4	Toxic for reproduction (category 1B)	27 August 2021 (*)	27 February 2023 (**)	—	—
45.	Dihexyl phthalate EC No: 201-559-5 CAS No: 84-75-3	Toxic for reproduction (category 1B)	27 August 2021 (*)	27 February 2023 (**)	—	—

▼C8

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
46.	,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0,3 % of dihexyl phthalate (EC No 201-559-5) EC No: 271-094-0; 272-013-1 CAS No: 68515-51-5; 68648-93-1	Toxic for reproduction (category 1B)	27 August 2021 (*)	27 February 2023 (**)	—	—
47.	Trixylyl phosphate EC No: 246-677-8 CAS No: 25155-23-1	Toxic for reproduction (category 1B)	27 November 2021	27 May 2023	—	—
48.	Sodium perborate; perboric acid, sodium salt EC No: 239-172-9; 234-390-0 CAS No: -	Toxic for reproduction (category 1B)	27 November 2021	27 May 2023	—	—
49.	Sodium peroxometaborate EC No: 231-556-4 CAS No: 7632-04-4	Toxic for reproduction (category 1B)	27 November 2021	27 May 2023	—	—

▼C8

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
50.	5-sec-butyl-2-(2,4-dimethyl-cyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof] EC No: - CAS No: -	vPvB	27 February 2022	27 August 2023	—	—
51.	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) EC No: 247-384-8 CAS No: 25973-55-1	PBT, vPvB	27 May 2022	27 November 2023	—	—
52.	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) EC No: 223-383-8 CAS No: 3864-99-1	vPvB	27 May 2022	27 November 2023	—	—
53.	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) EC No: 253-037-1 CAS No: 36437-37-3	vPvB	27 May 2022	27 November 2023	—	—

▼C8

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
54.	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) EC No: 223-346-6 CAS No: 3846-71-7	PBT, vPvB	27 May 2022	27 November 2023	—	—
▼M71 55.	Tetraethyllead EC No: 201-075-4 CAS No: 78-00-2	Toxic for reproduction (category 1A)	1 November 2023	1 May 2025	—	—
56.	4,4'-bis(dimethylamino)-4"-(methylamino)trityl alcohol (with ≥ 0,1 % of Michler's ketone (EC No 202-027-5) or Michler's base (EC No 202-959-2)) EC No: 209-218-2 CAS No: 561-41-1	Carcinogenic (category 1B)	1 November 2023	1 May 2025	—	—
57.	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) (with ≥ 0,1 % w/w 4-heptylphenol, branched and linear) EC No: - CAS No: -	Endocrine disrupting properties (Article 57, point (f) – environment)	1 November 2023	1 May 2025	—	—

▼M71

Entry Nr	Substance	Intrinsic property(ies) referred to in Article 57	Transitional arrangements		Exempted (categories of) uses	Review periods
			Latest application date (1)	Sunset date (2)		
58.	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) EC No: 239-622-4 CAS No: 15571-58-1	Toxic for reproduction (category 1B)	1 November 2023	1 May 2025	—	—
59.	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl] thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE) EC No: - CAS No: -	Toxic for reproduction (category 1B)	1 November 2023	1 May 2025	—	—

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(1) Date referred to in Article 58(1)(c)(ii) of Regulation (EC) No 1907/2006.
(2) Date referred to in Article 58(1)(c)(i) of Regulation (EC) No 1907/2006.
(*) ►M56 1 September 2021 for the use of the substance in the production of spare parts as articles or as complex products for the repair of articles or complex products, the production of which ceased or will have ceased before the sunset date indicated in the entry for that substance, where that substance was used in the production of those articles or complex products and these cannot function as intended without that spare part and the spare part cannot be produced without that substance, and for the use of the substance (on its own or in a mixture) for the repair of such articles or complex products where that substance on its own or in a mixture was used in the production of those articles or complex products and they cannot be repaired otherwise than by using that substance.
(**) 1 March 2023 for the use of the substance in the production of spare parts as articles or as complex products for the repair of articles or complex products the production of which ceased or will have ceased before the sunset date indicated in the entry for that substance, where that substance was used in the production of those articles or complex products and these cannot function as intended without those spare parts and the spare part cannot be produced without that substance, and for the use of the substance (on its own or in a mixture) for the repair of such articles or complex products, where that substance on its own or in a mixture was used in the production of those articles or complex products and they cannot be repaired otherwise than by using that substance.
(***) Does not meet the criteria for identification as a carcinogen if it contains < 0,005 % (w/w) benzo[a]pyrene (Einecs No 200-028-5). ◄
(****) Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on *in vitro* diagnostic medical devices and repealing Directive 98/79/EC and Commission Decision 2010/227/EU (OJ L 117, 5.5.2017, p. 176).

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ANNEX XV

DOSSIERS

I. INTRODUCTION AND GENERAL PROVISIONS

This Annex lays down general principles for preparing dossiers to propose and justify:

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— the identification of CMRs, PBTs, vPvBs, or a substance of equivalent concern in accordance with Article 59,

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— restrictions of the manufacture, placing on the market or use of a substance within the Community.

The relevant parts of Annex I shall be used for the methodology and format of any dossier according to this Annex.

For all dossiers any relevant information from registration dossiers shall be considered and other available information may be used. For hazard information which has not been previously submitted to the Agency, a robust study summary shall be included in the dossier.

II. CONTENT OF DOSSIERS

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2. **Dossier for the identification of a substance as a CMR, PBT, vPvB or a substance of equivalent concern according to Article 59**

Proposal

The proposal shall include the identity of substance(s) concerned and whether it is proposed to be identified as a CMR according to Article 57(a), (b) or (c), a PBT according to Article 57(d), a vPvB according to Article 57(e), or a substance of equivalent concern according to Article 57(f).

Justification

A comparison of the available information with the criteria in Annex XIII for PBT according to Article 57(d), and vPvBs according to Article 57(e), or an assessment of the hazards and a comparison with Article 57(f), according to the relevant parts of Sections 1 to 4 of Annex I shall be completed. This shall be documented in the format set out in Part B of the Chemical Safety Report in Annex I.

Information on exposures, alternative substances and risks

The available use and exposure information and information on alternative substances and techniques shall be provided.

3. **Dossiers for restrictions proposal**

Proposal

The proposal shall include the identity of the substance and the restriction(s) proposed for the manufacture, placing on the market or use(s) and a summary of the justification.

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Information on hazard and risk

The risks to be addressed with the restriction shall be described based on an assessment of the hazard and risks according to the relevant parts of Annex I and shall be documented in the format set out in Part B of that Annex for the Chemical Safety Report.

Evidence shall be provided that implemented risk management measures (including those identified in registrations under Articles 10 to 14) are not sufficient.

Information on alternatives

Available information on alternative substances and techniques shall be provided, including:

— information on the risks to human health and the environment related to the manufacture or use of the alternatives,

— availability, including the time scale,

— technical and economical feasibility.

Justification for Restrictions at Community Level

Justification shall be provided that:

— action is required on a Community-wide basis,

— a restriction is the most appropriate Community wide measure which shall be assessed using the following criteria:

(i) effectiveness: the restriction must be targeted to the effects or exposures that cause the risks identified, capable of reducing these risks to an acceptable level within a reasonable period of time and proportional to the risk;

(ii) practicality: the restriction must be implementable, enforceable and manageable;

(iii) monitorability: it must be possible to monitor the result of the implementation of the proposed restriction.

Socio-economic assessment

The socio-economic impacts of the proposed restriction may be analysed with reference to Annex XVI. To this end, the net benefits to human health and the environment of the proposed restriction may be compared to its net costs to manufacturers, importers, downstream users, distributors, consumers and society as a whole.

Information on stakeholder consultation

Information on any consultation of stakeholders and how their views have been taken into account shall be included in the dossier.

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ANNEX XVI

SOCIO-ECONOMIC ANALYSIS

This Annex outlines the information that may be addressed by those submitting a socio-economic analysis (SEA) with an application for authorisation, as specified in Article 62(5)(a), or in connection with a proposed restriction, as specified in Article 69(6)(b).

The Agency shall prepare guidance for the preparation of SEAs. SEAs, or contributions to them, shall be submitted in the format specified by the Agency in accordance with Article 111.

However, the level of detail and scope of the SEA, or contributions to them, shall be the responsibility of the applicant for authorisation, or, in the case of a proposed restriction, the interested party. The information provided can address the socio-economic impacts at any level.

An SEA may include the following elements:

— impact of a granted or refused authorisation on the applicant(s), or, in the case of a proposed restriction, the impact on industry (e.g. manufacturers and importers). The impact on all other actors in the supply chain, downstream users and associated businesses in terms of commercial consequences such as impact on investment, research and development, innovation, one-off and operating costs (e.g. compliance, transitional arrangements, changes to existing processes, reporting and monitoring systems, installation of new technology, etc.) taking into account general trends in the market and technology,

— impacts of a granted or refused authorisation, or a proposed restriction, on consumers. For example, product prices, changes in composition or quality or performance of products, availability of products, consumer choice, as well as effects on human health and the environment to the extent that these affect consumers,

— social implications of a granted or refused authorisation, or a proposed restriction. For example job security and employment,

— availability, suitability, and technical feasibility of alternative substances and/or technologies, and economic consequences thereof, and information on the rates of, and potential for, technological change in the sector(s) concerned. In the case of an application for authorisation, the social and/or economic impacts of using any available alternatives,

— wider implications on trade, competition and economic development (in particular for SMEs and in relation to third countries) of a granted or refused authorisation, or a proposed restriction. This may include consideration of local, regional, national or international aspects,

— in the case of a proposed restriction, proposals for other regulatory or non-regulatory measures that could meet the aim of the proposed restriction (this shall take account of existing legislation). This should include an assessment of the effectiveness and the costs linked to alternative risk management measures,

— in the case of a proposed restriction or refused authorisation, the benefits for human health and the environment as well as the social and economic benefits of the proposed restriction. For example, worker health, environmental performance and the distribution of these benefits, for example, geographically, population groups,

— an SEA may also address any other issue that is considered to be relevant by the applicant(s) or interested party.

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ANNEX XVII

▼M5

RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

For substances which have been incorporated in this Annex as a consequence of restrictions adopted in the framework of Directive 76/769/EEC (Entries 1 to 58), the restrictions shall not apply to storage, keeping, treatment, filling into containers, or transfer from one container to another of these substances for export, unless the manufacture of the substances is prohibited.

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
1. Polychlorinated terphenyls (PCTs)	Shall not be placed on the market, or used: — as substances, — in mixtures, including waste oils, or in equipment, in concentrations greater than 50 mg/kg (0,005 % by weight).
2. Chloroethene (vinyl chloride) CAS No 75-01-4 EC No 200-831-0	Shall not be used as propellant in aerosols for any use. Aerosols dispensers containing the substance as propellant shall not be placed on the market.

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►M3 3. Liquid substances or mixtures ►M3 ——————— ◄ fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: (a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F; (b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10; (c) hazard class 4.1; (d) hazard class 5.1. ◄	1. Shall not be used in: — ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, — tricks and jokes, — games for one or more participants, or any article intended to be used as such, even with ornamental aspects, 2. Articles not complying with paragraph 1 shall not be placed on the market. ►M61 3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they: — can be used as fuel in decorative oil lamps for supply to the general public, and — present an aspiration hazard and are labelled with H304. ◄ 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	►M61 5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met: (a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010, 'Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage'; (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: 'Just a sip of grill lighter fluid may lead to life threatening lung damage'; (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010. ◄ ►M61 ———————— ◄ ►M61 ———————— ◄

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4. Tris (2,3 dibromopropyl) phosphate CAS No 126-72-7	1. Shall not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. 2. Articles not complying with paragraph 1 shall not be placed on the market.
5. Benzene CAS No 71-43-2 EC No 200-753-7	1. Shall not be used in toys or parts of toys where the concentration of benzene in the free state is greater than 5 mg/kg (0,0005 %) of the weight of the toy or part of toy. 2. Toys and parts of toys not complying with paragraph 1 shall not be placed on the market. 3. Shall not be placed on the market, or used,

▼M5

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	— as a substance, — as a constituent of other substances, or in mixtures, in concentrations equal to, or greater than 0,1 % by weight. 4. However, paragraph 3 shall not apply to: (a) motor fuels which are covered by Directive 98/70/EC; (b) substances and mixtures for use in industrial processes not allowing for the emission of benzene in quantities in excess of those laid down in existing legislation; ►M33 (c) natural gas placed on the market for use by consumers, provided that the concentration of benzene remains below 0,1 % volume/volume. ◄
6. Asbestos fibres (a) Crocidolite CAS No 12001-28-4 (b) Amosite CAS No 12172-73-5 (c) Anthophyllite CAS No 77536-67-5 (d) Actinolite CAS No 77536-66-4 (e) Tremolite CAS No 77536-68-6 (f) Chrysotile CAS No 12001-29-5 CAS No 132207-32-0	►M37 1. The manufacture, placing on the market and use of these fibres and of articles and mixtures containing these fibres added intentionally is prohibited. However, if the use of diaphragms containing chrysotile for electrolysis installations in use on 13 July 2016 had been exempted by a Member State in accordance with the version of this paragraph in force until that date, the first subparagraph shall not apply until 1 July 2025 to the use in those installations of such diaphragms or of chrysotile used exclusively in the maintenance of such diaphragms, provided that such use is carried out in compliance with the conditions of a permit set in accordance with Directive 2010/75/EU of the European Parliament and of the Council (*). Any downstream user benefiting from such an exemption shall send, by 31 January of each calendar year to the Member State in which the relevant electrolysis installation is located, a report indicating the amount of chrysotile used in diaphragms pursuant to the exemption. The Member State shall transmit a copy to the European Commission. Where, in order to protect the health and safety of workers, a Member State requires monitoring of chrysotile in air by downstream users, the results shall be included in that report. ◄ ►M37 (*) Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (OJ L 334, 17.12.2010, p. 17). ◄

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	2. The use of articles containing asbestos fibres referred to in paragraph 1 which were already installed and/or in service before 1 January 2005 shall continue to be permitted until they are disposed of or reach the end of their service life. However, Member States may, for reasons of protection of human health, restrict, prohibit or make subject to specific conditions, the use of such articles before they are disposed of or reach the end of their service life. Member States may allow placing on the market of articles in their entirety containing asbestos fibres referred to in paragraph 1 which were already installed and/or in service before 1 January 2005, under specific conditions ensuring a high level of protection of human health. Member States shall communicate these national measures to the Commission by 1 June 2011. The Commission shall make this information publicly available. 3. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, the placing on the market and use of articles containing these fibres, as permitted according to the preceding derogations, shall be permitted only if suppliers ensure before the placing on the market that articles bear a label in accordance with Appendix 7 to this Annex.
7. Tris(aziridinyl)phosphinoxide CAS No 545-55-1 EC No 208-892-5	1. Shall not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. 2. Articles not complying with paragraph 1 shall not be placed on the market.
8. Polybromobiphenyls; Polybrominatedbiphenyls (PBB) CAS No 59536-65-1	1. Shall not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. 2. Articles not complying with paragraph 1 shall not be placed on the market.

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9. (a) Soap bark powder *(Quillaja saponaria)* and its derivatives containing saponines CAS No 68990-67-0 EC 273-620-4 (b) Powder of the roots of *Helleborus viridis* and *Helleborus niger* (c) Powder of the roots of *Veratrum album* and *Veratrum nigrum* (d) Benzidine and/or its derivatives CAS No 92-87-5 EC No 202-199-1 (e) o-Nitrobenzaldehyde CAS No 552-89-6 EC No 209-025-3 (f) Wood powder	1. Shall not be used, in jokes and hoaxes or in mixtures or articles intended to be used as such, for instance as a constituent of sneezing powder and stink bombs. 2. Jokes and hoaxes, or mixtures or articles intended to be used as such, not complying with paragraph 1 shall not be placed on the market. 3. However, paragraphs 1 and 2 shall not apply to stink bombs containing not more than 1,5 ml of liquid.
10. (a) Ammonium sulphide CAS No 12135-76-1 EC No 235-223-4 (b) Ammonium hydrogen sulphide CAS No 12124-99-1 EC No 235-184-3 (c) Ammonium polysulphide CAS No 9080-17-5 EC No 232-989-1	1. Shall not be used, in jokes and hoaxes or in mixtures or articles intended to be used as such, for instance as a constituent of sneezing powder and stink bombs. 2. Jokes and hoaxes, or mixtures or articles intended to be used as such, not complying with paragraph 1 shall not be placed on the market. 3. However, paragraphs 1 and 2 shall not apply to stink bombs containing not more than 1,5 ml of liquid.
11. Volatile esters of bromoacetic acids: (a) Methyl bromoacetate CAS No 96-32-2 EC No 202-499-2 (b) Ethyl bromoacetate CAS No 105-36-2 EC No 203-290-9 (c) Propyl bromoacetate CAS No 35223-80-4 (d) Butyl bromoacetate CAS No 18991-98-5 EC No 242-729-9	1. Shall not be used, in jokes and hoaxes or in mixtures or articles intended to be used as such, for instance as a constituent of sneezing powder and stink bombs. 2. Jokes and hoaxes, or mixtures or articles intended to be used as such, not complying with paragraph 1 shall not be placed on the market. 3. However, paragraphs 1 and 2 shall not apply to stink bombs containing not more than 1,5 ml of liquid.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
12. 2-Naphthylamine CAS No 91-59-8 EC No 202-080-4 and its salts 13. Benzidine CAS No 92-87-5 EC No 202-199-1 and its salts 14. 4-Nitrobiphenyl CAS No 92-93-3 Einecs EC No 202-204-7 15. 4-Aminobiphenyl xenylamine CAS No 92-67-1 Einecs EC No 202-177-1 and its salts	The following shall apply to entries 12 to 15: Shall not be placed on the market, or used, as substances or in mixtures in concentrations greater than 0,1 % by weight.
16. Lead carbonates: (a) Neutral anhydrous carbonate ($PbCO_3$) CAS No 598-63-0 EC No 209-943-4 (b) Trilead-bis(carbonate)-dihydroxide $2Pb\ CO_3$-$Pb(OH)_2$ CAS No 1319-46-6 EC No 215-290-6	Shall not be placed on the market, or used, as substances or in mixtures, where the substance or mixture is intended for use as paint. ►**M21** However, Member States may, in accordance with the provisions of International Labour Organization (ILO) Convention 13, permit the use on their territory of the substance or mixture for the restoration and maintenance of works of art and historic buildings and their interiors, as well as the placing on the market for such use. Where a Member State makes use of this derogation, it shall inform the Commission thereof. ◄
17. Lead sulphates: (a) $PbSO_4$ CAS No 7446-14-2 EC No 231-198-9 (b) $Pb_x\ SO_4$ CAS No 15739-80-7 EC No 239-831-0	Shall not be placed on the market, or used, as substances or in mixtures, where the substance or mixture is intended for use as paint. ►**M21** However, Member States may, in accordance with the provisions of International Labour Organization (ILO) Convention 13, permit the use on their territory of the substance or mixture for the restoration and maintenance of works of art and historic buildings and their interiors, as well as the placing on the market for such use. Where a Member State makes use of this derogation, it shall inform the Commission thereof. ◄

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18. Mercury compounds	Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is intended for use: (a) to prevent the fouling by micro-organisms, plants or animals of: — the hulls of boats, — cages, floats, nets and any other appliances or equipment used for fish or shellfish farming, — any totally or partly submerged appliances or equipment; (b) in the preservation of wood; (c) in the impregnation of heavy-duty industrial textiles and yarn intended for their manufacture; (d) in the treatment of industrial waters, irrespective of their use.
18a. Mercury CAS No 7439-97-6 EC No 231-106-7	1. Shall not be placed on the market: (a) in fever thermometers; (b) in other measuring devices intended for sale to the general public (such as manometers, barometers, sphygmomanometers, thermometers other than fever thermometers). 2. The restriction in paragraph 1 shall not apply to measuring devices that were in use in the Community before 3 April 2009. However Member States may restrict or prohibit the placing on the market of such measuring devices. 3. The restriction in paragraph 1(b) shall not apply to: (a) measuring devices more than 50 years old on 3 October 2007; (b) barometers (except barometers within point (a)) until 3 October 2009. ►**M19** ——————— ◄ ►**M19** 5. The following mercury-containing measuring devices intended for industrial and professional uses shall not be placed on the market after 10 April 2014: (a) barometers; (b) hygrometers; (c) manometers;

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	(d) sphygmomanometers; (e) strain gauges to be used with plethysmographs; (f) tensiometers; (g) thermometers and other non-electrical thermometric applications. The restriction shall also apply to measuring devices under points (a) to (g) which are placed on the market empty if intended to be filled with mercury. 6. The restriction in paragraph 5 shall not apply to: (a) sphygmomanometers to be used: (i) in epidemiological studies which are ongoing on 10 October 2012; (ii) as reference standards in clinical validation studies of mercury-free sphygmomanometers; (b) thermometers exclusively intended to perform tests according to standards that require the use of mercury thermometers until 10 October 2017; (c) mercury triple point cells which are used for the calibration of platinum resistance thermometers. 7. The following mercury-using measuring devices intended for professional and industrial uses shall not be placed on the market after 10 April 2014: (a) mercury pycnometers; (b) mercury metering devices for determination of the softening point. 8. The restrictions in paragraphs 5 and 7 shall not apply to: (a) measuring devices more than 50 years old on 3 October 2007; (b) measuring devices which are to be displayed in public exhibitions for cultural and historical purposes. ◄
19. Arsenic compounds	1. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is intended for use to prevent the fouling by micro-organisms, plants or animals of: — the hulls of boats,

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	— cages, floats, nets and any other appliances or equipment used for fish or shellfish farming, — any totally or partly submerged appliances or equipment. 2. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is intended for use in the treatment of industrial waters, irrespective of their use. 3. Shall not be used in the preservation of wood. Furthermore, wood so treated shall not be placed on the market. 4. By way of derogation from paragraph 3: (a) Relating to the substances and mixtures for the preservation of wood: these may only be used in industrial installations using vacuum or pressure to impregnate wood if they are solutions of inorganic compounds of the copper, chromium, arsenic (CCA) type C and if they are authorised in accordance with Article 5(1) of Directive 98/8/EC. Wood so treated shall not be placed on the market before fixation of the preservative is completed. (b) Wood treated with CCA solution in accordance with point (a) may be placed on the market for professional and industrial use provided that the structural integrity of the wood is required for human or livestock safety and skin contact by the general public during its service life is unlikely: — as structural timber in public and agricultural buildings, office buildings, and industrial premises, — in bridges and bridgework, — as constructional timber in freshwater areas and brackish waters, for example jetties and bridges, — as noise barriers, — in avalanche control, — in highway safety fencing and barriers, — as debarked round conifer livestock fence posts, — in earth retaining structures,

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	— as electric power transmission and telecommunications poles, — as underground railway sleepers. (c) Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that all treated wood placed on the market is individually labelled ‘For professional and industrial installation and use only, contains arsenic’. In addition, all wood placed on the market in packs shall also bear a label stating ‘Wear gloves when handling this wood. Wear a dust mask and eye protection when cutting or otherwise crafting this wood. Waste from this wood shall be treated as hazardous by an authorised undertaking’. (d) Treated wood referred to under point (a) shall not be used: — in residential or domestic constructions, whatever the purpose, — in any application where there is a risk of repeated skin contact, — in marine waters, — for agricultural purposes other than for livestock fence posts and structural uses in accordance with point (b), — in any application where the treated wood may come into contact with intermediate or finished products intended for human and/or animal consumption. 5. Wood treated with arsenic compounds that was in use in the Community before 30 September 2007, or that was placed on the market in accordance with paragraph 4 may remain in place and continue to be used until it reaches the end of its service life. 6. Wood treated with CCA type C that was in use in the Community before 30 September 2007, or that was placed on the market in accordance with paragraph 4: — may be used or reused subject to the conditions pertaining to its use listed under points 4(b), (c) and (d), — may be placed on the market subject to the conditions pertaining to its use listed under points 4(b), (c) and (d).

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	7. Member States may allow wood treated with other types of CCA solutions that was in use in the Community before 30 September 2007: — to be used or reused subject to the conditions pertaining to its use listed under points 4 (b), (c) and (d), — to be placed on the market subject to the conditions pertaining to its use listed under points 4(b), (c) and (d).
20. Organostannic compounds	1. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is acting as biocide in free association paint. 2. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture acts as biocide to prevent the fouling by micro-organisms, plants or animals of: (a) all craft irrespective of their length intended for use in marine, coastal, estuarine and inland waterways and lakes; (b) cages, floats, nets and any other appliances or equipment used for fish or shellfish farming; (c) any totally or partly submerged appliance or equipment. 3. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is intended for use in the treatment of industrial waters. ►**M6** 4. Tri-substituted organostannic compounds: (a) Tri-substituted organostannic compounds such as tributyltin (TBT) compounds and triphenyltin (TPT) compounds shall not be used after 1 July 2010 in articles where the concentration in the article, or part thereof, is greater than the equivalent of 0,1 % by weight of tin. (b) Articles not complying with point (a) shall not be placed on the market after 1 July 2010, except for articles that were already in use in the Community before that date. 5. Dibutyltin (DBT) compounds: (a) Dibutyltin (DBT) compounds shall not be used after 1 January 2012 in mixtures and articles for supply to the general public where the concentration in the mixture or the article, or part thereof, is greater than the equivalent of 0,1 % by weight of tin.

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	(b) Articles and mixtures not complying with point (a) shall not be placed on the market after 1 January 2012, except for articles that were already in use in the Community before that date. (c) By way of derogation, points (a) and (b) shall not apply until 1 January 2015 to the following articles and mixtures for supply to the general public: — one-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives, — paints and coatings containing DBT compounds as catalysts when applied on articles, — soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC, — fabrics coated with PVC containing DBT compounds as stabilisers when intended for outdoor applications, — outdoor rainwater pipes, gutters and fittings, as well as covering material for roofing and façades, (d) By way of derogation, points (a) and (b) shall not apply to materials and articles regulated under Regulation (EC) No 1935/2004. 6. Dioctyltin (DOT) compound: (a) Dioctyltin (DOT) compounds shall not be used after 1 January 2012 in the following articles for supply to, or use by, the general public, where the concentration in the article, or part thereof, is greater than the equivalent of 0,1 % by weight of tin: — textile articles intended to come into contact with the skin, — gloves, — footwear or part of footwear intended to come into contact with the skin, — wall and floor coverings, — childcare articles, — female hygiene products, — nappies, — two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits).

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	(b) Articles not complying with point (a) shall not be placed on the market after 1 January 2012, except for articles that were already in use in the Community before that date. ◄
21. Di-μ-oxo-di-n-butylstanniohydroxyborane/Dibutyltin hydrogen borate $C_8H_{19}BO_3Sn$ (DBB) CAS No 75113-37-0 EC No 401-040-5	Shall not be placed on the market, or used, as a substance, or in mixtures in a concentration equal to, or greater than 0,1 % by weight. However, the first paragraph shall not apply to this substance (DBB) or mixtures containing it if these are intended solely for conversion into articles, among which this substance will no longer feature in a concentration equal to or greater than 0,1 %.
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▼M5 23. Cadmium CAS No 7440-43-9 EC No 231-152-8 and its compounds	For the purpose of this entry, the codes and chapters indicated in square brackets are the codes and chapters of the tariff and statistical nomenclature of Common Customs Tariff as established by Council Regulation (EEC) No 2658/87 (*). ►M13 ►M17 1. Shall not be used in mixtures and articles produced from the following synthetic organic polymers (hereafter referred to as plastic material): — polymers or copolymers of vinyl chloride (PVC) [3904 10] [3904 21] — polyurethane (PUR) [3909 50] — low-density polyethylene (LDPE), with the exception of low-density polyethylene used for the production of coloured masterbatch [3901 10] — cellulose acetate (CA) [3912 11] — cellulose acetate butyrate (CAB) [3912 11] — epoxy resins [3907 30] — melamine-formaldehyde (MF) resins [3909 20] — urea-formaldehyde (UF) resins [3909 10] — unsaturated polyesters (UP) [3907 91]

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	— polyethylene terephthalate (PET) [3907 60] — polybutylene terephthalate (PBT) — transparent/general-purpose polystyrene [3903 11] — acrylonitrile methylmethacrylate (AMMA) — cross-linked polyethylene (VPE) — high-impact polystyrene — polypropylene (PP) [3902 10] Mixtures and articles produced from plastic material as listed above shall not be placed on the market if the concentration of cadmium (expressed as Cd metal) is equal to or greater than 0,01 % by weight of the plastic material. ◄ ►C5 By way of derogation, the second subparagraph shall not apply to articles placed on the market before 10 December 2011. ◄ The first and second subparagraphs apply without prejudice to Council Directive 94/62/EC (**) and acts adopted on its basis. ►M17 By 19 November 2012, in accordance with Article 69, the Commission shall ask the European Chemicals Agency to prepare a dossier conforming to the requirements of Annex XV in order to assess whether the use of cadmium and its compounds in plastic material, other than that listed in subparagraph 1, should be restricted. ◄ ►M35 2. Shall not be used or placed on the market in paints with codes [3208] [3209] in a concentration (expressed as Cd metal) equal to or greater than 0,01 % by weight. For paints with codes [3208] [3209] with a zinc content exceeding 10 % by weight of the paint, the concentration of cadmium (expressed as Cd metal) shall not be equal to or greater than 0,1 % by weight. Painted articles shall not be placed on the market if the concentration of cadmium (expressed as Cd metal) is equal to or greater than 0,1 % by weight of the paint on the painted article. ◄ 3. By way of derogation, paragraphs 1 and 2 shall not apply to articles coloured with mixtures containing cadmium for safety reasons. 4. By way of derogation, paragraph 1, second subparagraph shall not apply to: — mixtures produced from PVC waste, hereinafter referred to as ‘recovered PVC’, — mixtures and articles containing recovered PVC if their concentration of cadmium (expressed as Cd metal) does not exceed 0,1 % by weight of the plastic material in the following rigid PVC applications:

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	(a) profiles and rigid sheets for building applications; (b) doors, windows, shutters, walls, blinds, fences, and roof gutters; (c) decks and terraces; (d) cable ducts; (e) pipes for non-drinking water if the recovered PVC is used in the middle layer of a multilayer pipe and is entirely covered with a layer of newly produced PVC in compliance with paragraph 1 above. Suppliers shall ensure, before the placing on the market of mixtures and articles containing recovered PVC for the first time, that these are visibly, legibly and indelibly marked as follows: '*Contains recovered PVC*' or with the following pictogram:  In accordance with Article 69 of this Regulation, the derogation granted in paragraph 4 will be reviewed, in particular with a view to reducing the limit value for cadmium and to reassess the derogation for the applications listed in points (a) to (e), by 31 December 2017. ◄ 5. For the purpose of this entry, 'cadmium plating' means any deposit or coating of metallic cadmium on a metallic surface. Shall not be used for cadmium plating metallic articles or components of the articles used in the following sectors/applications: (a) equipment and machinery for: — food production [8210] [8417 20] [8419 81] [8421 11] [8421 22] [8422] [8435] [8437] [8438] [8476 11] — agriculture [8419 31] [8424 81] [8432] [8433] [8434] [8436] — cooling and freezing [8418] — printing and book-binding [8440] [8442] [8443] (b) equipment and machinery for the production of:

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	— household goods [7321] [8421 12] [8450] [8509] [8516] — furniture [8465] [8466] [9401] [9402] [9403] [9404] — sanitary ware [7324] — central heating and air conditioning plant [7322] [8403] [8404] [8415] In any case, whatever their use or intended final purpose, the placing on the market of cadmium-plated articles or components of such articles used in the sectors/applications listed in points (a) and (b) above and of articles manufactured in the sectors listed in point (b) above is prohibited. 6. The provisions referred to in paragraph 5 shall also be applicable to cadmium-plated articles or components of such articles when used in the sectors/applications listed in points (a) and (b) below and to articles manufactured in the sectors listed in (b) below: (a) equipment and machinery for the production of: — paper and board [8419 32] [8439] [8441] textiles and clothing [8444] [8445] [8447] [8448] [8449] [8451] [8452] (b) equipment and machinery for the production of: — industrial handling equipment and machinery [8425] [8426] [8427] [8428] [8429] [8430] [8431] — road and agricultural vehicles [chapter 87] — rolling stock [chapter 86] — vessels [chapter 89] 7. However, the restrictions in paragraphs 5 and 6 shall not apply to: — articles and components of the articles used in the aeronautical, aerospace, mining, offshore and nuclear sectors whose applications require high safety standards and in safety devices in road and agricultural vehicles, rolling stock and vessels, — electrical contacts in any sector of use, where that is necessary to ensure the reliability required of the apparatus on which they are installed.

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	►M13 8. Shall not be used in brazing fillers in concentration equal to or greater than 0,01 % by weight. Brazing fillers shall not be placed on the market if the concentration of cadmium (expressed as Cd metal) is equal to or greater than 0,01 % by weight. For the purpose of this paragraph brazing shall mean a joining technique using alloys and undertaken at temperatures above 450 °C. 9. By way of derogation, paragraph 8 shall not apply to brazing fillers used in defence and aerospace applications and to brazing fillers used for safety reasons. 10. Shall not be used or placed on the market if the concentration is equal to or greater than 0,01 % by weight of the metal in: (i) metal beads and other metal components for jewellery making; (ii) metal parts of jewellery and imitation jewellery articles and hair accessories, including: — bracelets, necklaces and rings, — piercing jewellery, — wrist-watches and wrist-wear, — brooches and cufflinks. ►C5 11. By way of derogation, paragraph 10 shall not apply to articles placed on the market before 10 December 2011 and jewellery more than 50 years old on 10 December 2011. ◄ ◄ (*) OJ L 256, 7.9.1987, p. 42. (**) OJ L 365, 31.12.1994, p. 10.
24. Monomethyl — tetrachlorodiphenyl methane Trade name: Ugilec 141 CAS No 76253-60-6	1. Shall not be placed on the market, or used, as a substance or in mixtures. Articles containing the substance shall not be placed on the market. 2. By way of derogation, paragraph 1 shall not apply: (a) in the case of plant and machinery already in service on 18 June 1994, until such plant and machinery is disposed of; (b) in the case of the maintenance of plant and machinery already in service within a Member State on 18 June 1994.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	For the purposes of point (a) Member States may, on grounds of human health protection and environmental protection, prohibit within their territory the use of such plant or machinery before it is disposed of.
25. Monomethyl-dichloro-diphenyl methane Trade name: Ugilec 121 Ugilec 21	Shall not be placed on the market, or used, as a substance or in mixtures. Articles containing the substance shall not be placed on the market.
26. Monomethyl-dibromo-diphenyl methane bromo-benzylbromotoluene, mixture of isomers Trade name: DBBT CAS No 99688-47-8	Shall not be placed on the market, or used, as a substance or in mixtures. Articles containing the substance shall not be placed on the market.
27. Nickel CAS No 7440-02-0 EC No 231-111-4 and its compounds	1. Shall not be used: (a) in any post assemblies which are inserted into pierced ears and other pierced parts of the human body unless the rate of nickel release from such post assemblies is less than 0,2 μg/cm^2/week (migration limit); (b) in articles intended to come into direct and prolonged contact with the skin such as: — earrings, — necklaces, bracelets and chains, anklets, finger rings, — wrist-watch cases, watch straps and tighteners, — rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments, if the rate of nickel release from the parts of these articles coming into direct and prolonged contact with the skin is greater than 0,5 μg/cm^2/week. (c) in articles referred to in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 μg/cm^2/week for a period of at least two years of normal use of the article. 2. Articles which are the subject of paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2.
►**M49** 28. Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively. 29. Substances which are classified as germ cell mutagen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 3 or Appendix 4, respectively. 30. Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively. ◄	Without prejudice to the other parts of this Annex the following shall apply to entries 28 to 30: 1. Shall not be placed on the market, or used, — as substances, — as constituents of other substances, or, — in mixtures, for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than: — either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or, ►**M3** — the relevant generic concentration limit specified in Part 3 of Annex I of Regulation (EC) No 1272/2008. ◄ Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows: 'Restricted to professional users'. 2. By way of derogation, paragraph 1 shall not apply to: (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC; (b) cosmetic products as defined by Directive 76/768/EEC; (c) the following fuels and oil products: — motor fuels which are covered by Directive 98/70/EC, — mineral oil products intended for use as fuel in mobile or fixed combustion plants, — fuels sold in closed systems (e.g. liquid gas bottles); ►**M3** (d) artists' paints covered by Regulation (EC) No 1272/2008; ◄ ►**M14** (e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date; ◄

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	►**M61** (f) devices covered by Regulation (EU) 2017/745. ◄
31. (a) Creosote; wash oil CAS No 8001-58-9 EC No 232-287-5 (b) Creosote oil; wash oil CAS No 61789-28-4 EC No 263-047-8 (c) Distillates (coal tar), naphthalene oils; naphthalene oil CAS No 84650-04-4 EC No 283-484-8 (d) Creosote oil, acenaphthene fraction; wash oil CAS No 90640-84-9 EC No 283-484-8EC No 292-605-3 (e) Distillates (coal tar), upper; heavy anthracene oil CAS No 65996-91-0 EC No 266-026-1 (f) Anthracene oil CAS No 90640-80-5 EC No 292-602-7 (g) Tar acids, coal, crude; crude phenols CAS No 65996-85-2 EC No 266-019-3 (h) Creosote, wood CAS No 8021-39-4 EC No 232-419-1 (i) Low temperature tar oil, alkaline; extract residues (coal), low temperature coal tar alkaline CAS No 122384-78-5 EC No 310-191-5	1. Shall not be placed on the market, or used, as substances or in mixtures where the substance or mixture is intended for the treatment of wood. Furthermore, wood so treated shall not be placed on the market. 2. By way of derogation from paragraph 1: (a) The substances and mixtures may be used for wood treatment in industrial installations or by professionals covered by Community legislation on the protection of workers for in situ retreatment only if they contain: (i) benzo[a]pyrene at a concentration of less than 50 mg/kg (0,005 % by weight), and (ii) water extractable phenols at a concentration of less than 3 % by weight. Such substances and mixtures for use in wood treatment in industrial installations or by professionals: — may be placed on the market only in packaging of a capacity equal to or greater than 20 litres, — shall not be sold to consumers. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is visibly, legibly and indelibly marked as follows: ‘For use in industrial installations or professional treatment only’. (b) Wood treated in industrial installations or by professionals according to subparagraph (a) which is placed on the market for the first time or retreated in situ may be used for professional and industrial use only, for example on railways, in electric power transmission and telecommunications, for fencing, for agricultural purposes (for example stakes for tree support) and in harbours and waterways. (c) The prohibition in paragraph 1 on the placing on the market shall not apply to wood which has been treated with substances listed in entry 31 (a) to (i) before 31 December 2002 and is placed on the second-hand market for re-use.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	3. Treated wood referred to under paragraph 2(b) and (c) shall not be used: — inside buildings, whatever their purpose, — in toys, — in playgrounds, — in parks, gardens, and outdoor recreational and leisure facilities where there is a risk of frequent skin contact, — in the manufacture of garden furniture such as picnic tables, — for the manufacture and use and any re-treatment of: — containers intended for growing purposes, — packaging that may come into contact with raw materials, intermediate or finished products destined for human and/or animal consumption, — other materials which may contaminate the articles mentioned above.
32. Chloroform CAS No 67-66-3 EC No 200-663-8 34. 1,1,2-Trichloroethane CAS No 79-00-5 EC No 201-166-9 35. 1,1,2,2-Tetrachloroethane CAS No 79-34-5 EC No 201-197-8 36. 1,1,1,2-Tetrachloroethane CAS No 630-20-6 37. Pentachloroethane CAS No 76-01-7 EC No 200-925-1 38. 1,1-Dichloroethene CAS No 75-35-4 EC No 200-864-0	Without prejudice to the other parts of this Annex, the following shall apply to entries 32 to 38. 1. Shall not be placed on the market, or used, — as substances, — as constituents of other substances, or in mixtures in concentrations equal to or greater than 0,1 % by weight, where the substance or mixture is intended for supply to the general public and/or is intended for diffusive applications such as in surface cleaning and cleaning of fabrics. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures containing them in concentrations equal to or greater than 0,1 % by weight is visibly, legibly and indelibly marked as follows: ‘For use in industrial installations only’.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	By way of derogation this provision shall not apply to: (a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC; (b) cosmetic products as defined by Directive 76/768/EEC.
►**M3** 40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI ►**M21** to Regulation (EC) No 1272/2008 ◄ or not. ◄	1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — 'whoopee' cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: 'For professional users only'. 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (***). 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated. (***) OJ L 147, 9.6.1975, p. 40.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
41. Hexachloroethane CAS No 67-72-1 EC No 200-666-4	Shall not be placed on the market, or used, as substance or in mixtures, where the substance or mixture is intended for the manufacturing or processing of non-ferrous metals.
▼M21 _____	
▼M5 43. Azocolourants and Azodyes	1. Azodyes which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines listed in Appendix 8, in detectable concentrations, i.e. above 30 mg/kg (0,003 % by weight) in the articles or in the dyed parts thereof, according to the testing methods listed in Appendix 10, shall not be used, in textile and leather articles which may come into direct and prolonged contact with the human skin or oral cavity, such as: — clothing, bedding, towels, hairpieces, wigs, hats, nappies and other sanitary items, sleeping bags, — footwear, gloves, wristwatch straps, handbags, purses/wallets, briefcases, chair covers, purses worn round the neck, — textile or leather toys and toys which include textile or leather garments, — yarn and fabrics intended for use by the final consumer. 2. Furthermore, the textile and leather articles referred to in paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph. 3. Azodyes, which are contained in Appendix 9, ‘List of azodyes’ shall not be placed on the market, or used, as substances, or in mixtures in concentrations greater than 0,1 % by weight, where the substance or the mixture is intended for colouring textile and leather articles.
▼M9 _____	

▼**M5**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
45. Diphenylether, octabromo derivative $C_{12}H_2Br_8O$	1. Shall not be placed on the market, or used: — as a substance, — as a constituent of other substances, or in mixtures, in concentrations greater than 0,1 % by weight. 2. Articles shall not be placed on the market if they, or flame-retardant parts thereof, contain this substance in concentrations greater than 0,1 % by weight. 3. By way of derogation, paragraph 2 shall not apply: — to articles that were in use in the Community before 15 August 2004, — to electrical and electronic equipment within the scope of Directive 2002/95/EC.
46. (a) Nonylphenol $C_6H4(OH)C_9H_{19}$ ►**M61** ——————— ◄ (b) Nonylphenol ethoxylates $(C_2H_4O)_nC_{15}H_{24}O$	Shall not be placed on the market, or used, as substances or in mixtures in concentrations equal to or greater than 0,1 % by weight for the following purposes: (1) industrial and institutional cleaning except: — controlled closed dry cleaning systems where the washing liquid is recycled or incinerated, — cleaning systems with special treatment where the washing liquid is recycled or incinerated. (2) domestic cleaning; (3) textiles and leather processing except: — processing with no release into waste water, — systems with special treatment where the process water is pre-treated to remove the organic fraction completely prior to biological waste water treatment (degreasing of sheepskin); (4) emulsifier in agricultural teat dips; (5) metal working except: uses in controlled closed systems where the washing liquid is recycled or incinerated; (6) manufacturing of pulp and paper; (7) cosmetic products; (8) other personal care products except: spermicides;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(9) co-formulants in pesticides and biocides. However national authorisations for pesticides or biocidal products containing nonylphenol ethoxylates as co-formulant, granted before 17 July 2003, shall not be affected by this restriction until their date of expiry.
▼M34 46a. Nonylphenol ethoxylates (NPE) $(C_2H_4O)_nC_{15}H_{24}O$	1. Shall not be placed on the market after 3 February 2021 in textile articles which can reasonably be expected to be washed in water during their normal lifecycle, in concentrations equal to or greater than 0,01 % by weight of that textile article or of each part of the textile article. 2. Paragraph 1 shall not apply to the placing on the market of second-hand textile articles or of new textile articles produced, without the use of NPE, exclusively from recycled textiles. 3. For the purposes of paragraphs 1 and 2, ‘textile article’ means any unfinished, semi-finished or finished product which is composed of at least 80 % textile fibres by weight, or any other product that contains a part which is composed of at least 80 % textile fibres by weight, including products such as clothing, accessories, interior textiles, fibres, yarn, fabrics and knitted panels.
▼M5 47. Chromium VI compounds	1. Cement and cement-containing mixtures shall not be placed on the market, or used, if they contain, when hydrated, more than 2 mg/kg (0,0002 %) soluble chromium VI of the total dry weight of the cement. 2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of cement or cement-containing mixtures is visibly, legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1. 3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally automated processes in which cement and cement-containing mixtures are handled solely by machines and in which there is no possibility of contact with the skin.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	►M21 4. The standard adopted by the European Committee for Standardization (CEN) for testing the water-soluble chromium (VI) content of cement and cement-containing mixtures shall be used as the test method for demonstrating conformity with paragraph 1. ◄ ►M25 5. Leather articles coming into contact with the skin shall not be placed on the market where they contain chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of the leather. 6. Articles containing leather parts coming into contact with the skin shall not be placed on the market where any of those leather parts contains chromium VI in concentrations equal to or greater than 3 mg/kg (0,0003 % by weight) of the total dry weight of that leather part. 7. Paragraphs 5 and 6 shall not apply to the placing on the market of second-hand articles which were in end-use in the Union before 1 May 2015. ◄
48. Toluene CAS No 108-88-3 EC No 203-625-9	Shall not be placed on the market, or used, as a substance or in mixtures in a concentration equal to or greater than 0,1 % by weight where the substance or mixture is used in adhesives or spray paints intended for supply to the general public.
49. Trichlorobenzene CAS No 120-82-1 EC No 204-428-0	Shall not be placed on the market, or used, as a substance or in mixtures in a concentration equal to or greater than 0,1 % by weight for any use except: — as an intermediate of synthesis, or, — as a process solvent in closed chemical applications for chlorination reactions, or, — in the manufacture of 1,3,5-triamino — 2,4,6-trinitrobenzene (TATB).
50. Polycyclic-aromatic hydrocarbons (PAH) (a) Benzo[a]pyrene (BaP) CAS No 50-32-8 (b) Benzo[e]pyrene (BeP) CAS No 192-97-2 (c) Benzo[a]anthracene (BaA) CAS No 56-55-3 (d) Chrysen (CHR) CAS No 218-01-9 (e) Benzo[b]fluoranthene (BbFA) CAS No 205-99-2 (f) Benzo[j]fluoranthene (BjFA) CAS No 205-82-3	1. From 1 January 2010, extender oils shall not be placed on the market, or used for the production of tyres or parts of tyres if they contain: — more than 1 mg/kg (0,0001 % by weight) BaP, or, — more than 10 mg/kg (0,001 % by weight) of the sum of all listed PAHs. ►M30 The standard EN 16143:2013 (Petroleum products — Determination of content of Benzo(a) pyrene (BaP) and selected polycyclic aromatic hydrocarbons (PAH) in extender oils — Procedure using double LC cleaning and GC/MS analysis) shall be used as the test method for demonstrating conformity with the limits referred to in the first subparagraph.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
(g) Benzo[k]fluoranthene (BkFA) CAS No 207-08-9 (h) Dibenzo[a,h]anthracene (DBAhA) CAS No 53-70-3	Until 23 September 2016, the limits referred to in the first subparagraph may be regarded as kept, if the polycyclic aromatics (PCA) extract is less than 3 % by weight as measured by the Institute of Petroleum standard IP 346:1998 (Determination of PCA in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulphoxide extraction refractive index method), provided that compliance with the limits of BaP and of the listed PAHs, as well as the correlation of the measured values with the PCA extract, is measured by the manufacturer or importer every six months or after each major operational change, whichever is earlier. ◄ 2. Furthermore, tyres and treads for retreading manufactured after 1 January 2010 shall not be placed on the market if they contain extender oils exceeding the limits indicated in paragraph 1. These limits shall be regarded as kept, if the vulcanised rubber compounds do not exceed the limit of 0,35 % Bay protons as measured and calculated by ISO 21461 (Rubber vulcanised — Determination of aromaticity of oil in vulcanised rubber compounds). 3. By way of derogation, paragraph 2 shall not apply to retreaded tyres if their tread does not contain extender oils exceeding the limits referred to in paragraph 1. 4. For the purpose of this entry ‘tyres’ shall mean tyres for vehicles covered by: — Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers (****), — Directive 2003/37/EC of the European Parliament and of the Council of 26 May 2003 on type-approval of agricultural or forestry tractors, their trailers and interchangeable towed machinery, together with their systems, components and separate technical units (*****), and — Directive 2002/24/EC of the European Parliament and of the Council of 18 March 2002 relating to the type-approval of two or three-wheel motor vehicles and repealing Council Directive 92/61/EEC (******). ►M24 5. Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 1 mg/kg (0,0001 % by weight of this component) of any of the listed PAHs. Such articles include amongst others: — sport equipment such as bicycles, golf clubs, racquets

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	— household utensils, trolleys, walking frames — tools for domestic use — clothing, footwear, gloves and sportswear — watch-straps, wrist-bands, masks, head-bands 6. Toys, including activity toys, and childcare articles, shall not be placed on the market, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 0,5 mg/kg (0,00005 % by weight of this component) of any of the listed PAHs. 7. By way of derogation from paragraphs 5 and 6, these paragraphs shall not apply to articles placed on the market for the first time before 27 December 2015. 8. By 27 December 2017, the Commission shall review the limit values in paragraphs 5 and 6 in the light of new scientific information, including migration of PAHs from the articles referred to therein, and information on alternative raw materials and, if appropriate, modify these paragraphs accordingly. ◄ ►**M65** 9. Granules or mulches shall not be placed on the market for use as infill material in synthetic turf pitches or in loose form on playgrounds or in sport applications if they contain more than 20 mg/kg (0,002 % by weight) of the sum of all listed PAHs. 10. Granules or mulches shall not be used as infill material in synthetic turf pitches or in loose form on playgrounds or in sport applications if they contain more than 20 mg/kg (0,002 % by weight) of the sum of all listed PAHs. 11. Granules or mulches placed on the market for use as infill material in synthetic turf pitches or in loose form on playgrounds or in sport applications shall be marked with a unique identification number of the batch. 12. Paragraphs 9 to 11 shall apply from 10 August 2022. 13. Granules or mulches that are in use in the Union on 9 August 2022 as infill material in synthetic turf pitches or in loose form on playgrounds or in sport applications may remain in place and continue to be used there for the same purpose. 14. For the purposes of paragraphs 9 to 13: (a) ‘granules’ are mixtures that appear as solid particles in the size range from 1 to 4 mm, which are made from rubber or other vulcanised or polymeric material of recycled or virgin origin, or obtained from a natural source; (b) ‘mulches’ are mixtures that appear as flake-shaped solid particles in the size range from 4 to 130 mm length and 10 to 15 mm width, which are made from rubber or other vulcanised or polymeric material of recycled or virgin origin, or obtained from a natural source;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(c) ‘infill material in synthetic turf pitches’ consists of granules used in synthetic turf pitches to improve the sport technical performance characteristics of the turf system; (d) ‘use in loose form on playgrounds or in sport applications’ is any use of granules or mulches in loose form on playgrounds or for sport purposes other than as infill material in synthetic turf pitches. ◄ (****) OJ L 263, 9.10.2007, p. 1. (*****) OJ L 171, 9.7.2003, p. 1. (******) OJ L 124, 9.5.2002, p. 1.

▼M80

50a. Polycyclic aromatic hydrocarbons (PAHs) (a) Acenaphthene, CAS No 83-32-9, EC No 201-469-6 (b) Acenaphthylene, CAS No 208-96-8, EC No 205-917-1 (c) Anthracene, CAS No 120-12-7, EC No 204-371-1 (d) Benzo[*a*]anthracene, CAS No 56-55-3, EC No 200-280-6 (e) Benzo[*a*]pyrene, CAS No 50-32-8, EC No 200-028-5 (Benzo[*def*]chrysene) (f) Benzo[*b*]fluoranthene, CAS No 205-99-2, EC No 205-911-9 (Benzo[*e*]acephenanthrylene) (g) Benzo[*e*]pyrene, CAS No 192-97-2 EC, No 205-892-7 (h) Benzo[*ghi*]perylene, CAS No 191-24-2, EC No 205-883-8 (i) Benzo[*j*]fluoranthene, CAS No 205-82-3, EC No 205-910-3 (j) Benzo[*k*]fluoranthene, CAS No 207-08-9, EC No 205-916-6 (k) Chrysene, CAS No 218-01-9, EC No 205-923-4 (l) Dibenzo[*a,h*]anthracene, CAS No 53-70-3, EC No 200-181-8 (m) Fluoranthene, CAS No 206-44-0, EC No 205-912-4 (n) Fluorene, CAS No 86-73-7, EC No 201-695-5	Shall not be placed on the market or used, on their own or as constituents of other substances, in clay targets for shooting from 22 April 2026 if they contain more than 50 mg/kg (0,005 % by weight of dry mass of the clay target) of the sum of all listed PAHs.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
(o) Indeno[1,2,3*cd*]pyrene, CAS No 193-39-5, EC No 205-893-2 (p) Naphthalene, CAS No 91-20-3, EC No 202-049-5 (q) Phenanthrene, CAS No 85-01-8, EC No 201-581-5 (r) Pyrene, CAS No 129-00-0, EC No 204-927-3	

▼**M52**

51. Bis(2-ethylhexyl) phthalate (DEHP) CAS No.: 117-81-7 EC No.: 204-211-0 Dibutyl phthalate (DBP) CAS No.: 84-74-2 EC No.: 201-557-4 Benzyl butyl phthalate (BBP) CAS No.: 85-68-7 EC No.: 201-622-7 Diisobutyl phthalate (DIBP) CAS No.: 84-69-5 EC No.: 201-553-2	1. Shall not be used as substances or in mixtures, individually or in any combination of the phthalates listed in column 1 of this entry, in a concentration equal to or greater than 0,1 % by weight of the plasticised material, in toys and childcare articles. 2. Shall not be placed on the market in toys or childcare articles, individually or in any combination of the first three phthalates listed in column 1 of this entry, in a concentration equal to or greater than 0,1 % by weight of the plasticised material. In addition, DIBP shall not be placed on the market after 7 July 2020 in toys or childcare articles, individually or in any combination with the first three phthalates listed in column 1 of this entry, in a concentration equal to or greater than 0,1 % by weight of the plasticised material. 3. Shall not be placed on the market after 7 July 2020 in articles, individually or in any combination of the phthalates listed in column 1 of this entry, in a concentration equal to or greater than 0,1 % by weight of the plasticised material in the article. 4. Paragraph 3 shall not apply to: (a) articles exclusively for industrial or agricultural use, or for use exclusively in the open air, provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin; (b) aircraft, placed on the market before 7 January 2024, or articles, whenever placed on the market, for use exclusively in the maintenance or repair of those aircraft, where those articles are essential for the safety and airworthiness of the aircraft; (c) motor vehicles within the scope of Directive 2007/46/EC, placed on the market before 7 January 2024, or articles, whenever placed on the market, for use exclusively in the maintenance or repair of those vehicles, where the vehicles cannot function as intended without those articles;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(d) articles placed on the market before 7 July 2020; (e) measuring devices for laboratory use, or parts thereof; (f) materials and articles intended to come into contact with food within the scope of Regulation (EC) No 1935/2004 or Commission Regulation (EU) No 10/2011 (*); (g) medical devices within the scope of Directives 90/385/EEC, 93/42/EEC or 98/79/EC, or parts thereof; (h) electrical and electronic equipment within the scope of Directive 2011/65/EU; (i) the immediate packaging of medicinal products within the scope of Regulation (EC) No 726/2004, Directive 2001/82/EC or Directive 2001/83/EC; (j) toys and childcare articles covered by paragraphs 1 or 2. 5. For the purposes of paragraphs 1, 2, 3 and 4(a), (a) ‘plasticised material’ means any of the following homogeneous materials: — polyvinyl chloride (PVC), polyvinylidene chloride (PVDC),polyvinyl acetate (PVA), polyurethanes, — any other polymer (including, inter alia, polymer foams and rubber material) except silicone rubber and natural latex coatings, — surface coatings, non-slip coatings, finishes, decals, printed designs, — adhesives, sealants, paints and inks. (b) ‘prolonged contact with human skin’ means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day. (c) ‘childcare article’ shall mean any product intended to facilitate sleep, relaxation, hygiene, the feeding of children or sucking on the part of children. 6. For the purposes of paragraph 4(b), ‘aircraft’ means one of the following: (a) a civil aircraft produced in accordance with a type certificate issued under Regulation (EC) No 216/2008 or with a design approval issued under the national regulations of a contracting

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	State of the International Civil Aviation Organisation (ICAO), or for which a certificate of airworthiness has been issued by an ICAO contracting State under Annex 8 to the Convention on International Civil Aviation, signed on December 7, 1944 , in Chicago; (b) a military aircraft. (*) Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food (OJ L 12, 15.1.2011, p. 1).
▼M5 52. The following phthalates (or other CAS- and EC numbers covering the substance): (a) Di-'isononyl' phthalate (DINP) CAS No 28553-12-0 and 68515-48-0 EC No 249-079-5 and 271-090-9 (b) Di-'isodecyl' phthalate (DIDP) CAS No 26761-40-0 and 68515-49-1 EC No 247-977-1 and 271-091-4 (c) Di-n-octyl phthalate (DNOP) CAS No 117-84-0 EC No 204-214-7	1. Shall not be used as substances or in mixtures, in concentrations greater than 0,1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children. 2. Such toys and childcare articles containing these phthalates in a concentration greater than 0,1 % by weight of the plasticised material shall not be placed on the market. ►M30 ——————— ◄ 4. For the purpose of this entry 'childcare article' shall mean any product intended to facilitate sleep, relaxation, hygiene, the feeding of children or sucking on the part of children.
▼M9 ———————	
▼M5 54. 2-(2-methoxyethoxy)ethanol (DEGME) CAS No 111-77-3 EC No 203-906-6	Shall not be placed on the market after 27 June 2010, for supply to the general public, as a constituent of paints, paint strippers, cleaning agents, self-shining emulsions or floor sealants in concentrations equal to or greater than 0,1 % by weight.

▼**M5**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
55. 2-(2-butoxyethoxy)ethanol (DEGBE) CAS No 112-34-5 EC No 203-961-6	1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight. 2. Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010. 3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows: ‘Do not use in paint spraying equipment’.
►**M21** 56. Methylenediphenyl diisocyanate (MDI) CAS No 26447-40-5 EC No 247-714-0 including the following specific isomers: (a) 4,4’-Methylenediphenyl diisocyanate: CAS No 101-68-8 EC No 202-966-0; (b) 2,4’-Methylenediphenyl diisocyanate: CAS No 5873-54-1 EC No 227-534-9; (c) 2,2’-Methylenediphenyl diisocyanate: CAS No 2536-05-2 EC No 219-799-4 ◄	1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0,1 % by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging: (a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC (*******); (b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures: ‘— Persons already sensitised to diisocyanates may develop allergic reactions when using this product. — Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. — This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.’ 2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives. (*******) OJ L 399, 30.12.1989, p. 18.

▼M5

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
57. Cyclohexane CAS No 110-82-7 EC No 203-806-2	1. Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of neoprene-based contact adhesives in concentrations equal to or greater than 0,1 % by weight in package sizes greater than 350 g. 2. Neoprene-based contact adhesives containing cyclohexane and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010. 3. Without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that neoprene-based contact adhesives containing cyclohexane in concentrations equal to or greater than 0,1 % by weight that are placed on the market for supply to the general public after 27 December 2010 are visibly, legibly and indelibly marked as follows: ‘— This product is not to be used under conditions of poor ventilation. — This product is not to be used for carpet laying.’.
58. Ammonium nitrate (AN) CAS No 6484-52-2 EC No 229-347-8	1. Shall not be placed on the market for the first time after 27 June 2010 as a substance, or in mixtures that contain more than 28 % by weight of nitrogen in relation to ammonium nitrate, for use as a solid fertiliser, straight or compound, unless the fertiliser complies with the technical provisions for ammonium nitrate fertilisers of high nitrogen content set out in Annex III to Regulation (EC) No 2003/2003 of the European Parliament and of the Council (********). ►M54 ———— ◄ (********) OJ L 304, 21.11.2003, p. 1.

▼M6

59. Dichloromethane CAS No 75-09-2 EC No: 200-838-9	1. Paint strippers containing dichloromethane in a concentration equal to or greater than 0,1 % by weight shall not be: (a) placed on the market for the first time for supply to the general public or to professionals after 6 December 2010; (b) placed on the market for supply to the general public or to professionals after 6 December 2011;

▼M6

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(c) used by professionals after 6 June 2012. For the purposes of this entry: (i) ‘professional’ means any natural or legal person, including workers and self-employed workers undertaking paint stripping in the course of their professional activity outside an industrial installation; (ii) ‘industrial installation’ means a facility used for paint stripping activities. 2. By way of derogation from paragraph 1, Member States may allow on their territories and for certain activities the use, by specifically trained professionals, of paint strippers containing dichloromethane and may allow the placing on the market of such paint strippers for supply to those professionals. Member States making use of this derogation shall define appropriate provisions for the protection of the health and safety of those professionals using paint strippers containing dichloromethane and shall inform the Commission thereof. Those provisions shall include a requirement that a professional shall hold a certificate that is accepted by the Member State in which that professional operates, or provide other documentary evidence to that effect, or be otherwise approved by that Member State, so as to demonstrate proper training and competence to safely use paint strippers containing dichloromethane. The Commission shall prepare a list of the Member States which have made use of the derogation in this paragraph and make it publicly available over the Internet. 3. A professional benefiting from the derogation referred to in paragraph 2 shall operate only in Member States which have made use of that derogation. The training referred to in paragraph 2 shall cover as a minimum: (a) awareness, evaluation and management of risks to health, including information on existing substitutes or processes, which under their conditions of use are less hazardous to the health and safety of workers; (b) use of adequate ventilation; (c) use of appropriate personal protective equipment that complies with Directive 89/686/EEC. Employers and self-employed workers shall preferably replace dichloromethane with a chemical agent or process which, under its conditions of use, presents no risk, or a lower risk, to the health and safety of workers.

▼M6

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	Professional shall apply all relevant safety measures in practice, including the use of personal protective equipment. 4. Without prejudice to other Community legislation on workers protection, paint strippers containing dichloromethane in concentrations equal to or greater than 0,1 % by weight may be used in industrial installations only if the following minimum conditions are met: (a) effective ventilation in all processing areas, in particular for the wet processing and the drying of stripped articles: local exhaust ventilation at strip tanks supplemented by forced ventilation in those areas, so as to minimise exposure and to ensure compliance, where technically feasible, with relevant occupational exposure limits; (b) measures to minimise evaporation from strip tanks comprising: lids for covering strip tanks except during loading and unloading; suitable loading and unloading arrangements for strip tanks; and wash tanks with water or brine to remove excess solvent after unloading; (c) measures for the safe handling of dichloromethane in strip tanks comprising: pumps and pipework for transferring paint stripper to and from strip tanks; and suitable arrangements for safe cleaning of tanks and removal of sludge; (d) personal protective equipment that complies with Directive 89/686/EEC comprising: suitable protective gloves, safety goggles and protective clothing; and appropriate respiratory protective equipment where compliance with relevant occupational exposure limits cannot be otherwise achieved; (e) adequate information, instruction and training for operators in the use of such equipment. 5. Without prejudice to other Community provisions concerning the classification, labelling and packaging of substances and mixtures, by 6 December 2011 paint strippers containing dichloromethane in a concentration equal to or greater than 0,1 % by weight shall be visibly, legibly and indelibly marked as follows: ‘Restricted to industrial use and to professionals approved in certain EU Member States — verify where use is allowed.’

▼M5

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
▼M12	
60. Acrylamide CAS No 79-06-1	Shall not be placed on the market or used as a substance or constituent of mixtures in a concentration, equal to or greater than 0,1 % by weight for grouting applications after 5 November 2012.
▼M16	
61. Dimethylfumarate (DMF) CAS No 624-49-7 EC 210-849-0	Shall not be used in articles or any parts thereof in concentrations greater than 0,1 mg/kg. Articles or any parts thereof containing DMF in concentrations greater than 0,1 mg/kg shall not be placed on the market.
▼M20	
62. (a) Phenylmercury acetate EC No: 200-532-5 CAS No: 62-38-4 (b) Phenylmercury propionate EC No: 203-094-3 CAS No: 103-27-5 (c) Phenylmercury 2-ethylhexanoate EC No: 236-326-7 CAS No: 13302-00-6 (d) Phenylmercury octanoate EC No: - CAS No: 13864-38-5 (e) Phenylmercury neodecanoate EC No: 247-783-7 CAS No: 26545-49-3	1. Shall not be manufactured, placed on the market or used as substances or in mixtures after 10 October 2017 if the concentration of mercury in the mixtures is equal to or greater than 0,01 % by weight. 2. Articles or any parts thereof containing one or more of these substances shall not be placed on the market after 10 October 2017 if the concentration of mercury in the articles or any part thereof is equal to or greater than 0,01 % by weight.
▼M18	
63. Lead CAS No 7439-92-1 EC No 231-100-4 and its compounds	1. Shall not be placed on the market or used in any individual part of jewellery articles if the concentration of lead (expressed as metal) in such a part is equal to or greater than 0,05 % by weight. 2. For the purposes of paragraph 1: (i) ‘jewellery articles’ shall include jewellery and imitation jewellery articles and hair accessories, including: (a) bracelets, necklaces and rings; (b) piercing jewellery; (c) wrist watches and wrist-wear; (d) brooches and cufflinks; (ii) ‘any individual part’ shall include the materials from which the jewellery is made, as well as the individual components of the jewellery articles. 3. Paragraph 1 shall also apply to individual parts when placed on the market or used for jewellery-making. 4. By way of derogation, paragraph 1 shall not apply to: (a) crystal glass as defined in Annex I (categories 1, 2, 3 and 4) to Council Directive 69/493/EEC (*);

▼**M18**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(b) internal components of watch timepieces inaccessible to consumers; (c) non-synthetic or reconstructed precious and semiprecious stones (CN code 7103, as established by Regulation (EEC) No 2658/87), unless they have been treated with lead or its compounds or mixtures containing these substances; (d) enamels, defined as vitrifiable mixtures resulting from the fusion, vitrification or sintering of minerals melted at a temperature of at least 500 °C. 5. By way of derogation, paragraph 1 shall not apply to jewellery articles placed on the market for the first time before 9 October 2013 and jewellery articles produced before 10 December 1961. ►**M31** 6. By 9 October 2017, the Commission shall re-evaluate paragraphs 1 to 5 of this entry in the light of new scientific information, including the availability of alternatives and the migration of lead from the articles referred to in paragraph 1 and, if appropriate, modify this entry accordingly. ◄ ►**M31** 7. Shall not be placed on the market or used in articles supplied to the general public, if the concentration of lead (expressed as metal) in those articles or accessible parts thereof is equal to or greater than 0,05 % by weight, and those articles or accessible parts thereof may, during normal or reasonably foreseeable conditions of use, be placed in the mouth by children. That limit shall not apply where it can be demonstrated that the rate of lead release from such an article or any such accessible part of an article, whether coated or uncoated, does not exceed 0,05 μg/cm^2 per hour (equivalent to 0,05 μg/g/h), and, for coated articles, that the coating is sufficient to ensure that this release rate is not exceeded for a period of at least two years of normal or reasonably foreseeable conditions of use of the article. For the purposes of this paragraph, it is considered that an article or accessible part of an article may be placed in the mouth by children if it is smaller than 5 cm in one dimension or has a detachable or protruding part of that size. 8. By way of derogation, paragraph 7 shall not apply to: (a) jewellery articles covered by paragraph 1;

▼**M18**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(b) crystal glass as defined in Annex I (categories 1, 2, 3 and 4) to Directive 69/493/EEC; (c) non-synthetic or reconstructed precious and semi-precious stones (CN code 7103 as established by Regulation (EEC) No 2658/87) unless they have been treated with lead or its compounds or mixtures containing these substances; (d) enamels, defined as vitrifiable mixtures resulting from the fusion, vitrification or sintering of mineral melted at a temperature of at least 500 °C; (e) keys and locks, including padlocks; (f) musical instruments; (g) articles and parts of articles comprising brass alloys, if the concentration of lead (expressed as metal) in the brass alloy does not exceed 0,5 % by weight; (h) the tips of writing instruments; (i) religious articles; (j) portable zinc-carbon batteries and button cell batteries; (k) articles within the scope of: (i) Directive 94/62/EC; (ii) Regulation (EC) No 1935/2004; (iii) Directive 2009/48/EC of the European Parliament and of the Council (**); (iv) Directive 2011/65/EU of the European Parliament and of the Council (***) 9. By 1 July 2019, the Commission shall re-evaluate paragraphs 7 and 8(e), (f), (i) and (j) of this entry in the light of new scientific information, including the availability of alternatives and the migration of lead from the articles referred to in paragraph 7, including the requirement on coating integrity, and, if appropriate, modify this entry accordingly. 10. By way of derogation paragraph 7 shall not apply to articles placed on the market for the first time before 1 June 2016. ◄ (*) OJ L 326, 29.12.1969, p. 36. ►**M31** (**) Directive 2009/48/EC of the European Parliament and of the Council of 18 June 2009 on the safety of toys (OJ L 170, 30.6.2009, p. 1). (***) Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (OJ L 174, 1.7.2011, p. 88). ◄

▼**M18**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	►**M63** 11. Doing either of the following acts after 15 February 2023 in or within 100 metres of wetlands is prohibited: (a) discharging gunshot containing a concentration of lead (expressed as metal) equal to or greater than 1 % by weight; (b) carrying any such gunshot where this occurs while out wetland shooting or as part of going wetland shooting. For the purposes of the first subparagraph: (a) 'within 100 metres of wetlands' means within 100 metres outward from any outer boundary point of a wetland; (b) 'wetland shooting' means shooting in or within 100 metres of wetlands; (c) if a person is found carrying gunshot in or within 100 metres of wetlands while out shooting or as part of going shooting, the shooting concerned shall be presumed to be wetland shooting unless that person can demonstrate that it was some other type of shooting. The restriction laid down in the first subparagraph shall not apply in a Member State if that Member State notifies the Commission in accordance with paragraph 12 that it intends to make use of the option granted by that paragraph. 12. If at least 20 % in total of the territory, excluding the territorial waters, of a Member State are wetlands, that Member State may, in place of the restriction laid down in the first subparagraph of paragraph 11, prohibit the following acts throughout the whole of its territory from 15 February 2024: (a) the placing on the market of gunshot containing a concentration of lead (expressed as metal) equal to or greater than 1 % by weight; (b) the discharging of any such gunshot; (c) carrying any such gunshot while out shooting or as part of going shooting.

▼**M18**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	Any Member State intending to make use of the option granted by the first subparagraph shall notify the Commission of this intention by 15 August 2021. The Member State shall communicate the text of the national measures adopted by it to the Commission without delay and in any event by 15 August 2023. The Commission shall make publicly available without delay any such notices of intention and texts of national measures received by it. 13. For the purposes of paragraphs 11 and 12: (a) 'wetlands' means areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed 6 metres; (b) 'gunshot' means pellets used or intended for use in a single charge or cartridge in a shotgun; (c) 'shotgun' means a smooth-bore gun, excluding airguns; (d) 'shooting' means any shooting with a shotgun; (e) 'carrying' means any carrying on the person or carrying or transporting by any other means; (f) in determining whether a person found with gunshot is carrying gunshot 'as part of going shooting': (i) regard shall be had to all the circumstances of the case; (ii) the person found with the gunshot need not necessarily be the same person as the person shooting. 14. Member States may maintain national provisions for protection of the environment or human health in force on 15 February 2021 and restricting lead in gunshot more severely than provided for in paragraph 11. The Member State shall communicate the text of those national provisions to the Commission without delay. The Commission shall make publicly available without delay any such texts of national provisions received by it. ◄

▼**M18**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	►**M72** 15. Shall not be placed on the market or used in articles produced from polymers or copolymers of vinyl chloride (‘PVC’), if the concentration of lead is equal to or greater than 0,1 % by weight of the PVC material. 16. Paragraph 15 shall apply with effect from 29 November 2024. 17. By way of derogation, paragraph 15 shall not apply to PVC articles containing recovered flexible PVC until 28 May 2025. 18. By way of derogation, paragraph 15 shall not apply to the following PVC articles containing recovered rigid PVC until 28 May 2033, if the concentration of lead is lower than 1,5 % by weight of the recovered rigid PVC: (a) profiles and sheets for exterior applications in buildings and civil engineering works, excluding decks and terraces; (b) profiles and sheets for decks and terraces, provided that the recovered PVC is used in a middle layer and is entirely covered with a layer of PVC or other material for which the concentration of lead is lower than 0,1 % by weight; (c) profiles and sheets for use in concealed spaces or voids in buildings and civil engineering works (where they are inaccessible during normal use, excluding maintenance, for example, cable ducts); (d) profiles and sheets for interior building applications, provided that the entire surface of the profile or sheet facing the occupied areas of a building after installation is produced using PVC or other material for which the concentration of lead is lower than 0,1 % by weight; (e) multi-layer pipes (excluding pipes for drinking water), provided that the recovered PVC is used in a middle layer and is entirely covered with a layer of PVC or other material for which the concentration of lead is lower than 0,1 % by weight; (f) fittings, excluding fittings for pipes for drinking water. From 28 May 2026, rigid PVC recovered from the categories of articles referred to in points (a) to (d) shall only be used for the production of new articles of any of those categories.

▼M18

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	Suppliers of PVC articles containing recovered rigid PVC with a concentration of lead equal to or greater than 0,1 % by weight of the PVC material shall ensure, before placing those articles on the market, that they are visibly, legibly and indelibly marked with the statement: 'Contains ≥ 0,1 % lead'. Where the marking cannot be provided on the article due to the nature of the article, it shall be on the packaging of the article. Suppliers of PVC articles containing recovered rigid PVC shall submit to national enforcement authorities upon request documentary evidence to substantiate the claims on the recovered origin of the PVC in those articles. Certificates issued by schemes to provide proof of traceability and recycled content, such as those developed according to EN 15343:2007 or equivalent recognised standards, may be used to substantiate such claims for PVC articles produced in the Union. Claims made on the recovered origin of the PVC in imported articles shall be accompanied by a certificate that provides equivalent proof of traceability and recycled content, issued by an independent third party. By 28 May 2028, the Commission shall review this paragraph in light of new scientific information and, if appropriate, modify it accordingly. 19. By way of derogation, paragraph 15 shall not apply to: (a) PVC-silica separators in lead acid batteries, until 28 May 2033; (b) articles covered by paragraph 1, in accordance with paragraphs 2 to 5, and by paragraph 7 in accordance with paragraphs 8 and 10; (c) articles within the scope of: (i) Regulation (EC) No 1935/2004; (ii) Directive 2011/65/EU; (iii) Directive 94/62/EC; (iv) Directive 2009/48/EC. 20. By way of derogation, paragraph 15 shall not apply to PVC articles placed on the market until 28 November 2024. ◄

▼M5

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
▼M27	
64. 1,4-dichlorobenzene CAS No 106-46-7 EC No 203-400-5	Shall not be placed on the market or used, as a substance or as a constituent of mixtures in a concentration equal to or greater than 1 % by weight, where the substance or the mixture is placed on the market for use or used as an air freshener or deodoriser in toilets, homes, offices or other indoor public areas.
▼M38	
65. Inorganic ammonium salts	1. Shall not be placed on the market, or used, in cellulose insulation mixtures or cellulose insulation articles after 14 July 2018 unless the emission of ammonia from those mixtures or articles results in a concentration of less than 3 ppm by volume (2,12 mg/m^3) under the test conditions specified in paragraph 4. A supplier of a cellulose insulation mixture containing inorganic ammonium salts shall inform the recipient or consumer of the maximum permissible loading rate of the cellulose insulation mixture, expressed in thickness and density. A downstream user of a cellulose insulation mixture containing inorganic ammonium salts shall ensure that the maximum permissible loading rate communicated by the supplier is not exceeded. 2. By way of derogation, paragraph 1 shall not apply to placing on the market of cellulose insulation mixtures intended to be used solely for the production of cellulose insulation articles, or to the use of those mixtures in the production of cellulose insulation articles. 3. In the case of a Member State that, on 14 July 2016, has national provisional measures in place that have been authorised by the Commission pursuant to Article 129(2)(a), the provisions of paragraphs 1 and 2 shall apply from that date. 4. Compliance with the emission limit specified in the first subparagraph of paragraph 1 shall be demonstrated in accordance with Technical Specification CEN/TS 16516, adapted as follows: (a) the duration of the test shall be at least 14 days instead of 28 days; (b) the ammonia gas emission shall be measured at least once per day throughout the test; (c) the emission limit shall not be reached or exceeded in any measurement taken during the test; (d) the relative humidity shall be 90 % instead of 50 %; (e) an appropriate method to measure the ammonia gas emission shall be used; (f) the loading rate, expressed in thickness and density, shall be recorded during the sampling of the cellulose insulation mixtures or articles to be tested.

▼M5

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▼M40	
66. Bisphenol A CAS No 80-05-7 EC No 201-245-8	Shall not be placed on the market in thermal paper in a concentration equal to or greater than 0,02 % by weight after 2 January 2020.
▼M61	
_____	
_____	
▼M66	
68. Linear and branched perfluorocarboxylic acids of the formula C_nF_{2n+1}-C(= O)OH where n = 8, 9, 10, 11, 12, or 13 (C9-C14 PFCAs), including their salts, and any combinations thereof; Any C9-C14 PFCA-related substance having a perfluoro group with the formula C_nF_{2n+1}- directly attached to another carbon atom, where n = 8, 9, 10, 11, 12, or 13, including their salts and any combinations thereof; Any C9-C14 PFCA-related substance having a perfluoro group with the formula C_nF_{2n+1}- that it is not directly attached to another carbon atom, where n = 9, 10, 11, 12, 13 or 14 as one of the structural elements, including their salts and any combinations thereof. The following substances are excluded from this designation — C_nF_{2n+1}-X, where X = F, Cl, or Br where n = 9, 10, 11, 12, 13 or 14, including any combinations thereof, — C_nF_{2n+1}-C(= O)OX' where n> 13 and X'=any group, including salts. _____	1. Shall not be manufactured, or placed on the market as substances on their own from 25 February 2023. 2. Shall not, from 25 February 2023, be used in, or placed on the market in: (a) another substance, as a constituent; (b) a mixture; (c) an article, except if the concentration in the substance, the mixture, or the article is below 25 ppb for the sum of C9-C14 PFCAs and their salts or 260 ppb for the sum of C9-C14 PFCA-related substances. 3. By way of derogation to paragraph 2, the concentration limit shall be 10 ppm for the sum of C9-C14 PFCAs, their salts and C9-C14 PFCA related substances, where they are present in a substance to be used as a transported isolated intermediate, provided that the conditions in points (a) to (f) of Article 18(4) of this Regulation are met for the manufacturing of fluorochemicals with a perfluoro carbon chain length equal to or shorter than 6 atoms. The Commission shall review this limit no later than 25 August 2023. 4. Paragraph 2 shall apply from 4 July 2023 to: (i) textiles for oil- and water-repellency for the protection of workers from dangerous liquids that comprise risks to their health and safety; (ii) the manufacture of polytetrafluoroethylene (PTFE) and polyvinylidene fluoride (PVDF) for the production of: — high performance, corrosion resistant gas filter membranes, water filter membranes and membranes for medical textiles; — industrial waste heat exchanger equipment; — industrial sealants capable of preventing leakage of volatile organic compounds and $PM_{2,5}$ particulates

▼M66

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	5. By way of derogation to paragraph 2, the use of C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances shall be allowed until 4 July 2025 for: (i) photolithography or etch processes in semiconductor manufacturing; (ii) photographic coatings applied to films; (iii) invasive and implantable medical devices; (iv) fire-fighting foam for liquid fuel vapour suppression and liquid fuel fire (Class B fires) already installed in systems, including both mobile and fixed systems, subject to the following conditions: — fire-fighting foam that contains or may contain C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances shall not be used for training; — fire-fighting foam that contains or may contain C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances shall not be used for testing unless all releases are contained; — from 1 January 2023, uses of fire-fighting foam that contains or may contain C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances shall only be allowed to sites where all releases can be contained; — fire-fighting foam stockpiles that contain or may contain C9-C14 PFCAs, their salts and C9-C14 PFCA-related substances shall be managed in accordance with Article 5 of Regulation (EU) 2019/1021. 6. Paragraph 2(c) shall not apply to articles placed on the market before 25 February 2023. 7. Paragraph 2 shall not apply to the can coating for pressurised metered-dose inhalers until 25 August 2028. 8. Paragraph 2 (c) shall apply from 31 December 2023 to: (a) semiconductors on their own; (b) semiconductors incorporated in semi-finished and finished electronic equipment. 9. Paragraph 2(c) shall apply from 31 December 2030 to semiconductors used in spare or replacement parts for finished electronic equipment placed on the market before 31 December 2023.

▼M66

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	10. ►C9 Until 25 August 2024, the concentration limit referred to in paragraph 2 shall be 2 000 ppb for the sum of C9-C14 PFCAs in fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups. From 26 August 2024, the concentration limit shall be 100 ppb for the sum of C9-C14 PFCAs in fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups. ◄ All emissions of C9-C14 PFCAs during the manufacture and use of fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups shall be avoided and, if not possible, reduced as far as technically and practically possible. This derogation shall not apply to articles referred to in paragraph 2(c). The Commission shall review this derogation no later than 25 August 2024. 11. The concentration limit referred to in paragraph 2 shall be 1 000 ppb for the sum of C9-C14 PFCAs, where these are present in PTFE micro powders produced by ionising irradiation or by thermal degradation, as well as in mixtures and articles for industrial and professional uses containing PTFE micro powders. All emissions of C9-C14 PFCAs during the manufacture and use of PTFE micro powders shall be avoided and, if not possible, reduced as far as technically and practically possible. The Commission shall review this derogation no later than 25 August 2024. 12. For the purposes of this entry, C9-C14 PFCA-related substances are substances that, based on their molecular structure, are considered to have the potential to degrade or be transformed to C9-C14 PFCAs.

▼M48

▼C6

69. Methanol CAS No 67-56-1 EC No 200-659-6	Shall not be placed on the market to the general public after 9 May 2019 in windscreen washing or defrosting fluids, in a concentration equal to or greater than 0,6 % by weight.

▼M77

70. Octamethylcyclotetrasiloxane (D4) CAS No 556-67-2 EC No 209-136-7 Decamethylcyclopentasiloxane (D5) CAS No 541-02-6 EC No 208-764-9 Dodecamethylcyclohexasiloxane (D6) CAS No 540-97-6 EC No 208-762-8	1. Shall not be placed on the market (a) as a substance on its own; (b) as a constituent of other substances; or (c) in mixtures; in a concentration equal to or greater than 0,1 % by weight of the respective substance after 6 June 2026. 2. Shall not be used as a solvent for the dry cleaning of textiles, leather and fur after 6 June 2026.

▼M77

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	3. By way of derogation: (a) for D4 and D5 in wash-off cosmetic products, paragraph 1, point (c), shall apply after 31 January 2020. For the purposes of this point, 'wash-off cosmetic products' means cosmetic products as defined in Article 2(1), point (a), of Regulation (EC) No 1223/2009 of the European Parliament and of the Council (*) that, under normal conditions of use, are washed off with water after application; (b) for all cosmetic products other than the ones mentioned in paragraph 3(a), paragraph 1 shall apply after 6 June 2027; (c) for devices as defined in Article 1(4) of Regulation (EU) 2017/745 of the European Parliament and of the Council (**) and in Article 1(2) of Regulation (EU) 2017/746 of the European Parliament and the Council (***), paragraph 1 shall apply after 6 June 2031; (d) for medicinal products, as defined in Article 1, point 2, of Directive 2001/83/EC, and for veterinary medicinal products, as defined in Article 4(1) of Regulation (EU) 2019/6 (****), paragraph 1 shall apply after 6 June 2031; (e) for D5 as a solvent in the dry cleaning of textiles, leather and fur, paragraphs 1 and 2 shall apply after 6 June 2034. 4. By way of derogation, paragraph 1 shall not apply to the: (a) placing on the market of D4, D5 and D6 for the following industrial uses: — as a monomer in the production of silicone polymer, — as an intermediate in the production of other silicon substances, — as a monomer in polymerisation, — in the formulation or (re)packing of mixtures, — in the production of articles, — in non-metal surface treatment; (b) placing on the market of D5 and D6 for use as devices, as defined in Article 1(4) of Regulation (EU) 2017/745, for the treatment and care of scars and wounds, the prevention of wounds and the care of stoma;

▼M77

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(c) placing on the market of D5 for professional use in the cleaning or restoration of art and antiques; (d) placing on the market of D4, D5 and D6 for use as laboratory reagent in research and development activities carried out under controlled conditions. 5. By way of derogation, paragraph 1, point (b), shall not apply to the placing on the market of D4, D5 and D6: — as a constituent of a silicone polymer on its own, — as a constituent of a silicone polymer in a mixture derogated under paragraph 6. 6. By way of derogation, paragraph 1, point (c), shall not apply to the placing on the market of mixtures that contain D4, D5 or D6 as residues from silicone polymers, under the following conditions: (a) D4, D5 or D6 in a concentration equal to or less than 1 % by weight of the respective substance in the mixture, for use in adhesion, sealing, gluing and casting; (b) D4 in a concentration equal to or less than 0,5 % by weight, or D5 or D6 in a concentration equal to or less than 0,3 % by weight of either substance in the mixture for use as protective coatings (including marine coatings); (c) D4, D5 or D6 in a concentration equal to or less than 0,2 % by weight of the respective substance in the mixture, for use as devices as defined in Article 1(4) of Regulation (EU) 2017/745 and in Article 1(2) of Regulation (EU) 2017/746, other than the devices referred to in paragraph 6(d); (d) D5 in a concentration equal to or less than 0,3 % by weight in the mixture or D6 in a concentration equal to or less than 1 % by weight in the mixture, for use as devices as defined in Article 1 (4) of Regulation (EU) 2017/745, for dental impression; (e) D4 in a concentration equal to or less than 0,2 % by weight in the mixture, or D5 or D6 in a concentration equal to or less than 1 % by weight of either substance in the mixture for use as silicone insoles for horses, or as horseshoes; (f) D4, D5 or D6 in a concentration equal to or less than 0,5 % by weight of the respective substance in the mixture, for use as adhesion promoters; (g) D4, D5 or D6 in a concentration equal to or less than 1 % by weight of the respective substance in the mixture, for use in 3D-printing;

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	(h) D5 in a concentration equal to or less than 1 % by weight in the mixture or D6 in a concentration equal to or less than 3 % by weight in the mixture, for rapid prototyping and mould making, or high performance uses stabilised by quartz filler; (i) D5 or D6 in a concentration equal to or less than 1 % by weight of either substance in the mixture, for use in pad printing, or manufacturing of printing pads; (j) D6 in a concentration equal to or less than 1 % by weight of the mixture, for professional use in the cleaning or restoration of art and antiques. 7. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for use, or to the use, of D5 as a solvent in strictly controlled closed dry cleaning systems for textile, leather and fur, where the cleaning solvent is recycled or incinerated. (*) Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products (recast) (OJ L 342, 22.12.2009, p. 59). (**) Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (OJ L 117 5.5.2017, p. 1). (***) Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices and repealing Directive 98/79/EC and Commission Decision 2010/227/EU (OJ L 117, 5.5.2017, p. 176). (****) Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC (OJ L 4, 7.1.2019, p. 43).

▼M47

71. 1-methyl-2-pyrrolidone (NMP) CAS No 872-50-4 EC No 212-828-1	1. Shall not be placed on the market as a substance on its own or in mixtures in a concentration equal to or greater than 0,3 % after 9 May 2020 unless manufacturers, importers and downstream users have included in the relevant chemical safety reports and safety data sheets, Derived No-Effect Levels (DNELs) relating to exposure of workers of 14,4 mg/m^3 for exposure by inhalation and 4,8 mg/kg/day for dermal exposure. 2. Shall not be manufactured, or used, as a substance on its own or in mixtures in a concentration equal to or greater than 0,3 % after 9 May 2020 unless manufacturers and downstream users take the appropriate risk management measures and provide the appropriate operational conditions to ensure that exposure of workers is below the DNELs specified in paragraph 1.

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	3. By way of derogation from paragraphs 1 and 2, the obligations laid down therein shall apply from 9 May 2024 in relation to placing on the market for use, or use, as a solvent or reactant in the process of coating wires.

▼M50

72. The substances listed in column 1 of the Table in Appendix 12	1. Shall not be placed on the market after 1 November 2020 in any of the following: (a) clothing or related accessories; (b) textiles other than clothing which, under normal or reasonably foreseeable conditions of use, come into contact with human skin to an extent similar to clothing; (c) footwear; if the clothing, related accessory, textile other than clothing or footwear is for use by consumers and the substance is present in a concentration, measured in homogeneous material, equal to or greater than that specified for that substance in Appendix 12. 2. By way of derogation, in relation to the placing on the market of formaldehyde [CAS No 50-00-0] in jackets, coats or upholstery, the relevant concentration for the purposes of paragraph 1 shall be 300 mg/kg during the period between 1 November 2020 and 1 November 2023. The concentration specified in Appendix 12 shall apply thereafter. 3. Paragraph 1 shall not apply to: (a) clothing, related accessories or footwear, or parts of clothing, related accessories or footwear, made exclusively of natural leather, fur or hide; (b) non-textile fasteners and non-textile decorative attachments; (c) second-hand clothing, related accessories, textiles other than clothing or footwear (d) wall-to-wall carpets and textile floor coverings for indoor use, rugs and runners. 4. Paragraph 1 shall not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 of the European Parliament and of the Council (*) or Regulation (EU) 2017/745 of the European Parliament and of the Council (**). 5. Paragraph 1(b) shall not apply to disposable textiles. ‘Disposable textiles’ means textiles that are designed to be used only once or for a limited time and are not intended for subsequent use for the same or a similar purpose.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	6. Paragraphs 1 and 2 shall apply without prejudice to the application of any stricter restrictions set out in this Annex or in other applicable Union legislation. 7. The Commission shall review the exemption in paragraph 3(d) and, if appropriate, modify that point accordingly. (*) Regulation (EU) 2016/425 of the European Parliament and of the Council of of 9 March 2016 on personal protective equipment and repealing Council Directive 89/686/EEC (OJ L 81, 31.3.2016, p. 51). (**) Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (OJ L 117, 5.5.2017, p. 1).

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73. (3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) silanetriol Any of its mono-, di- or tri-O-(alkyl) derivatives (TDFAs)	1. Shall not be placed on the market for supply to the general public after 2 January 2021 individually or in any combination, in a concentration equal to or greater than 2 ppb by weight of the mixtures containing organic solvents, in spray products. 2. For the purpose of this entry, ‘spray products’ means aerosol dispensers, pump sprays, trigger sprays, marketed for proofing or impregnation spray applications. 3. Without prejudice to the implementation of other Union provisions concerning the classification, packaging and labelling of substances and mixtures, the packaging of spray products containing (3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) silanetriol and/or TDFAs combined with organic solvents as referred to in paragraph 1 and placed on the market for professional use shall be marked clearly and indelibly: ‘for professional users only’ and ‘Fatal if inhaled’ with the pictogram GHS06. 4. Section 2.3 of Safety Data Sheets shall contain the following information: ‘mixtures of (3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl) silanetriol and/or any of its mono-, di- or tri-O-(alkyl) derivatives in a concentration equal to or greater than 2 ppb and organic solvents in spray products, are for professional users only and marked “Fatal if inhaled”’.

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	5. Organic solvents referred to in paragraph 1, 3, and 4 include organic solvents used as aerosol propellants.

▼M59

74. Diisocyanates, O = C=N-R-N = C=O, with R an aliphatic or aromatic hydrocarbon unit of unspecified length	1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless: (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s). 2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless: (a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: ‘As from 24 August 2023 adequate training is required before industrial or professional use’. 3. For the purpose of this entry ‘industrial and professional user(s)’ means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks. 4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum: (a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(b) the training elements in points (a) and (b) of paragraph 5 for the following uses: — handling open mixtures at ambient temperature (including foam tunnels); — spraying in a ventilated booth; — application by roller; — application by brush; — application by dipping and pouring; — mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore; — cleaning and waste; — any other uses with similar exposure through the dermal and/or inhalation route; (c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses: — handling incompletely cured articles (e.g. freshly cured, still warm); — foundry applications; — maintenance and repair that needs access to equipment; — open handling of warm or hot formulations (> 45 °C); — spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers); — and any other uses with similar exposure through the dermal and/or inhalation route. 5. Training elements: (a) general training, including on-line training, on: — chemistry of diisocyanates; — toxicity hazards (including acute toxicity); — exposure to diisocyanates; — occupational exposure limit values; — how sensitisation can develop; — odour as indication of hazard; — importance of volatility for risk; — viscosity, temperature, and molecular weight of diisocyanates;

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	— personal hygiene; — personal protective equipment needed, including practical instructions for its correct use and its limitations; — risk of dermal contact and inhalation exposure; — risk in relation to application process used; — skin and inhalation protection scheme; — ventilation; — cleaning, leakages, maintenance; — discarding empty packaging; — protection of bystanders; — identification of critical handling stages; — specific national code systems (if applicable); — behaviour-based safety; — certification or documented proof that training has been successfully completed (b) intermediate level training, including on-line training, on: — additional behaviour-based aspects; — maintenance; — management of change; — evaluation of existing safety instructions; — risk in relation to application process used; — certification or documented proof that training has been successfully completed (c) advanced training, including on-line training, on: — any additional certification needed for the specific uses covered; — spraying outside a spraying booth; — open handling of hot or warm formulations (> 45 °C); — certification or documented proof that training has been successfully completed

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	6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met. 7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design. 8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years. 9. Member States shall include in their reports pursuant to Article 117(1) the following information: (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law; (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates; (c) national exposure limits for diisocyanates, if there are any; (d) information about enforcement activities related to this restriction. 10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

▼M60

75. Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: — carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation	1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances: (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
— reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation — skin sensitiser category 1, 1A or 1B — skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 — serious eye damage category 1 or eye irritant category 2 (b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the European Parliament and of the Council (*) (c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex. The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry.	(b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight; (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight; (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than: (i) 0,1 % by weight, if the substance is used solely as a pH regulator; (ii) 0,01 % by weight, in all other cases; (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight; (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight: (i) ‘Rinse-off products’; (ii) ‘Not to be used in products applied on mucous membranes’; (iii) ‘Not to be used in eye products’;

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	(g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column; (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix. 2. For the purposes of this entry use of a mixture 'for tattooing purposes' means injection or introduction of the mixture into a person's skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body. 3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance. 4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023: (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8); (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6). 5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.

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	6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
	7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information: (a) the statement ‘Mixture for use in tattoos or permanent make-up’; (b) a reference number to uniquely identify the batch; (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. ‘Ingredient’ means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation; (d) the additional statement ‘pH regulator’ for substances falling under point (d)(i) of paragraph 1;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(e) the statement "Contains nickel. Can cause allergic reactions." if the mixture contains nickel below the concentration limit specified in Appendix 13; (f) the statement "Contains chromium (VI). Can cause allergic reactions." if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13; (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008. The information shall be clearly visible, easily legible and marked in a way that is indelible. The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise. Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use. Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph. 8. Mixtures that do not contain the statement ‘Mixture for use in tattoos or permanent make-up’ shall not be used for tattooing purposes. 9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8). 10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively. (*) Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products (OJ L 342, 22.12.2009, p. 59).

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▼M67	
76. *N,N*-dimethylformamide CAS No 68-12-2 EC. No 200-679-5	1. Shall not be placed on the market as a substance on its own, as a constituent of other substances, or in mixtures in a concentration equal to or greater than 0,3 % after 12 December 2023 unless manufacturers, importers and downstream users have included in the relevant chemical safety reports and safety data sheets, Derived No-Effect Levels (DNELs) relating to exposure of workers of 6 mg/m^3 for exposure by inhalation and 1,1 mg/kg/day for dermal exposure. 2. Shall not be manufactured, or used, as a substance on its own, as a constituent of other substances, or in mixtures in a concentration equal to or greater than 0,3 % after 12 December 2023 unless manufacturers and downstream users take the appropriate risk management measures and provide the appropriate operational conditions to ensure that exposure of workers is below the DNELs specified in paragraph 1. 3. By way of derogation from paragraphs 1 and 2, the obligations laid down therein shall apply from 12 December 2024 in relation to placing on the market for use, or use, as a solvent in direct or transfer polyurethane coating processes of textiles and paper material or the production of polyurethane membranes, and from 12 December 2025 in relation to placing on the market for use, or use, as a solvent in the dry and wet spinning processes of synthetic fibres.
▼M74	
77. Formaldehyde CAS No 50-00-0 EC No 200-001-8 and formaldehyde-releasing substances	1. Shall not be placed on the market in articles, after 6 August 2026, if, under the test conditions specified in Appendix 14, the concentration of formaldehyde released from those articles exceeds: (a) 0,062 mg/m^3 for furniture and wood-based articles; (b) 0,080 mg/m^3 for articles other than furniture and wood-based articles. The first subparagraph shall not apply to: (a) articles in which formaldehyde or formaldehyde releasing substances are exclusively naturally present in the materials from which the articles are produced; (b) articles that are exclusively for outdoor use under foreseeable conditions; (c) articles in constructions, that are exclusively used outside the building shell and vapour barrier and that do not emit formaldehyde into indoor air;

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	(d) articles exclusively for industrial or professional use unless formaldehyde released from them leads to exposure of the general public under foreseeable conditions of use; (e) articles for which the restriction laid down in entry 72 applies; (f) articles that are biocidal products within the scope of Regulation (EU) No 528/2012 of the European Parliament and of the Council (*); (g) devices within the scope of Regulation (EU) 2017/745; (h) personal protective equipment within the scope of Regulation (EU) 2016/425; (i) articles intended to come into contact directly or indirectly with food within the scope of Regulation (EC) No 1935/2004; (j) second-hand articles. 2. Shall not be placed on the market in road vehicles after 6 August 2027 if, under the test conditions specified in Appendix 14, the concentration of formaldehyde in the interior of those vehicles exceeds 0,062 mg/m^3. The first subparagraph shall not apply to: (a) road vehicles exclusively for industrial or professional use unless the concentration of formaldehyde in the interior of those vehicles leads to exposure of the general public under foreseeable conditions of use; (b) second-hand vehicles. (*) Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1).

▼M75

78. Synthetic polymer microparticles: polymers that are solid and which fulfil both of the following conditions: (a) are contained in particles and constitute at least 1 % by weight of those particles; or build a continuous surface coating on particles; (b) at least 1 % by weight of the particles referred to in point (a) fulfil either of the following conditions: (i) all dimensions of the particles are equal to or less than 5 mm; (ii) the length of the particles is equal to or less than 15 mm and their length to diameter ratio is greater than 3.	1. ►C10 Shall not be placed on the market on their own or, where the synthetic polymer microparticles are present to confer a sought-after characteristic, in mixtures in a concentration equal to or greater than 0,01 % by weight. ◄ 2. For the purposes of this entry, the following definitions apply: (a) ‘particle’ means a minute piece of matter, other than single molecules, with defined physical boundaries; (b) ‘solid’ means a substance or mixture other than a liquid or gas; (c) ‘gas’ means a substance or mixture which at 50 °C has a vapour pressure greater than 300 kPa (absolute), or is completely gaseous at 20 ° C at a standard pressure of 101,3 kPa;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
The following polymers are excluded from this designation: (a) polymers that are the result of a polymerisation process that has taken place in nature, independently of the process through which they have been extracted, which are not chemically modified substances; (b) polymers that are degradable as proved in accordance with Appendix 15; (c) polymers that have a solubility greater than 2 g/L as proved in accordance with Appendix 16; (d) polymers that do not contain carbon atoms in their chemical structure.	(d) 'liquid' means a substance or mixture that meets any of the following conditions: (i) the substance or mixture at 50 °C has a vapour pressure of not more than 300 kPa, is not completely gaseous at 20 °C and at a standard pressure of 101,3 kPa, and has a melting point or initial melting point of 20 °C or less at a standard pressure of 101,3 kPa; (ii) the substance or mixture fulfils the criteria in the American Society for Testing and Materials (ASTM) D 4359-90 Standard Test Method for Determining Whether a Material Is a Liquid or a Solid; (iii) the substance or mixture passes the fluidity test (penetrometer test) described in chapter 2.3.4 of Part 2 of Annex A to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) concluded at Geneva on 30 September 1957; (e) 'make-up product' means any substance or mixture intended to be placed in contact with specific external parts of the human body, namely the epidermis, eye brows and eye lashes, with a view to, exclusively or mainly, changing their appearance; 3. Where the concentration of synthetic polymer microparticles covered by this entry cannot be determined by available analytical methods or accompanying documentation, in order to verify the compliance with the concentration limit referred to in paragraph 1, only the particles of at least the following size shall be taken into account: (a) 0,1 μm for any dimension, for particles where all dimensions are equal to or smaller than 5 mm; (b) 0,3 μm in length, for particles that have a length that is equal to or smaller than 15 mm and a length to diameter ratio greater than 3. 4. Paragraph 1 shall not apply to the placing on the market of: (a) ►C10 synthetic polymer microparticles on their own or in mixtures, for use at industrial sites; ◄ (b) medicinal products within the scope of Directive 2001/83/EC and veterinary medicinal products within the scope of Regulation (EU) 2019/6 of the European Parliament and of the Council (*); (c) EU fertilising products within the scope of Regulation (EU) 2019/1009 of the European Parliament and of the Council (**); (d) food additives within the scope of Regulation (EC) No 1333/2008 of the European Parliament and of the Council (***);

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(e) in vitro diagnostic devices, including devices within the scope of Regulation (EU) 2017/746 of the European Parliament and of the Council (****);
	(f) food within the meaning of Article 2 of Regulation (EC) No 178/2002, not covered by point (d) of this paragraph, and feed as defined in Article 3(4) of that Regulation.
	5. ►C10 Paragraph 1 shall not apply to the placing on the market of the following synthetic polymer microparticles on their own or in mixtures: ◄
	(a) synthetic polymer microparticles which are contained by technical means so that releases to the environment are prevented when used in accordance with the instructions for use during the intended end use;
	(b) synthetic polymer microparticles the physical properties of which are permanently modified during intended end use in such a way that the polymer no longer falls within the scope of this entry;
	(c) synthetic polymer microparticles which are permanently incorporated into a solid matrix during intended end use.
	6. Paragraph 1 shall apply as follows regarding the following uses:
	(a) from 17 October 2029 to synthetic polymer microparticles for use in the encapsulation of fragrances;
	(b) from 17 October 2027 for ‘rinse-off products’ as defined in point (1)(a) of the Preamble to Annexes II to VI to Regulation (EC) No 1223/2009 unless such products are covered by point (a) of this paragraph or contain synthetic polymer microparticles for use as an abrasive, i.e. namely to exfoliate, polish or clean (‘microbeads’);
	(c) from 17 October 2035 for lip products as defined in point (1)(e) of the Preamble to Annexes II to VI to Regulation (EC) No 1223/2009, nail products as defined in point (1)(g) of the Preamble to Annexes II to VI to that Regulation, and make-up products within the scope of that Regulation, unless such products are covered by points (a) or (b) of this paragraph or contain microbeads;

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(d) from 17 October 2029 for leave-on products, as defined in point (1)(b) of the Preamble to Annexes II to VI to Regulation (EC) No 1223/2009, unless such products are covered by points (a) or (c) of this paragraph; (e) from 17 October 2028 for detergents, as defined in Article 2(1) of Regulation (EC) No 648/2004, waxes, polishes and air care products, unless those products are covered by point (a) of this paragraph or contain microbeads; (f) from 17 October 2029 for 'devices', within the scope of Regulation (EU) 2017/745 of the European Parliament and of the Council (*****), unless those devices contain microbeads; (g) from 17 October 2028 for 'fertilising products', as defined in Article 2, point (1), of Regulation (EU) 2019/1009, which do not fall within the scope of that Regulation; (h) from 17 October 2031 for plant protection products within the meaning of Article 2(1) of Regulation (EC) No 1107/2009 of the European Parliament and of the Council (******) and seeds treated with those products, and biocidal products as defined in Article 3(1), point (a), of Regulation (EU) No 528/2012 of the European Parliament and of the Council (*******); (i) from 17 October 2028 for products for agricultural and horticultural uses not covered by points (g) or (h); (j) from 17 October 2031 for granular infill for use on synthetic sports surfaces. 7. From 17 October 2025 suppliers of synthetic polymer microparticles referred to in paragraph 4, point (a), shall provide the following information: (a) instructions for use and disposal explaining to industrial downstream users how to prevent releases of synthetic polymer microparticles to the environment; (b) the following statement: ►C10 The synthetic polymer microparticles supplied are subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council; ◄

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(c) the information on quantity or, as applicable, concentration of synthetic polymer microparticles in the substance or mixture; (d) generic information on the identity of the polymers contained in the substance or mixture that enables manufacturers, industrial downstream users and other suppliers to comply with their obligations laid down in paragraphs 11 and 12. 8. From 17 October 2026 suppliers of products containing synthetic polymer microparticles referred to in paragraph 4, point (e), and from 17 October 2025 suppliers of products containing synthetic polymer microparticles referred to in paragraph 4, point (d), and paragraph 5, shall provide instructions for use and disposal explaining to professional users and the general public how to prevent releases of synthetic polymer microparticles to the environment. 9. From 17 October 2031 until 16 October 2035 suppliers of products referred to in paragraph 6, point (c), containing synthetic polymer microparticles shall provide the following statement: ‘This product contains microplastics.’ However, products placed on the market before 17 October 2031 are not required to bear that statement until 17 December 2031. 10. The information referred to in paragraphs 7, 8 and 9 shall be provided in the form of clearly visible, legible and indelible text or, where appropriate regarding the information in paragraphs 7 and 8, in the form of pictograms. The text or pictograms shall be placed on the label, the packaging, or the package leaflet of the products containing synthetic polymer microparticles or, regarding the information in paragraph 7, on the safety data sheet. In addition to the text or pictograms, suppliers may provide a digital tool that gives access to an electronic version of that information. Where instructions for use and disposal are provided in accordance with paragraphs 7, 8 and 9 in the form of a text, they shall be in the official languages of the Member States where the substance or mixture is placed on the market, unless the Member States concerned provide otherwise. 11. Starting from 2026 manufacturers and industrial downstream users of synthetic polymer microparticles in the form of pellets, flakes, and powders used as feedstock in plastic manufacturing at industrial sites, and, starting from 2027, other manufacturers of synthetic polymer microparticles and other industrial downstream users using synthetic polymer microparticles at industrial sites shall submit the following information to the Agency by 31 May of each year:

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	(a) a description of the uses of synthetic polymer microparticles in the previous calendar year; (b) for each use of synthetic polymer microparticles, generic information on the identity of the polymers used; (c) for each use of synthetic polymer microparticles, an estimate of the quantity of synthetic polymer microparticles released to the environment in the previous calendar year, which shall include also the quantity of synthetic polymer microparticles released to the environment during transportation. (d) for each use of synthetic polymer microparticles, a reference to the derogation laid down in paragraph 4, point (a). 12. From 2027, suppliers of products containing synthetic polymer microparticles referred to in paragraphs 4, points (b), (d) and (e), and paragraph 5, placed on the market for the first time to professional users and the general public, shall submit the following information to the Agency by 31 May of each year: (a) a description of the end uses for which the synthetic polymer microparticles were placed on the market in the previous calendar year; (b) for each end use for which the synthetic polymer microparticles were placed on the market, generic information on the identity of the polymers placed on the market in the previous calendar year; (c) for each end use for which the synthetic polymer microparticles were placed on the market, an estimate of the quantity of synthetic polymer microparticles released to the environment in the previous calendar year, which shall include also the quantity of synthetic polymer microparticles released to the environment during transportation. (d) for each use of synthetic polymer microparticles, a reference to the applicable derogation or derogations laid down in paragraph 4, point (b), (d) or (e), or 5 point (a), (b) or (c). 13. The Agency shall make the information submitted under paragraphs 11 and 12 available to the Member States.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	14. Manufacturers, importers and industrial downstream users of products containing synthetic polymer microparticles shall provide specific information on the identity of polymers covered by this entry contained in those products and the function of those polymers in the products to competent authorities upon their request. The specific information on the polymer identity shall be sufficient to unequivocally identify polymers and shall at least include the information laid down in points 2.1 to 2.2.3 and points 2.3.5, 2.3.6 and 2.3.7 of Annex VI, where applicable. If the information is not available to industrial downstream users, they shall request it from their supplier within 7 days from the receipt of the request from the competent authorities and shall inform the authorities of the request made without delay. Having received the request referred to in the second subparagraph, the suppliers shall provide the requested information within 30 days to the industrial downstream user or directly to the competent authority requesting it. Where the supplier provides the information to the industrial downstream user, the industrial downstream user shall forward that information to the competent authorities without delay. Where the supplier provides the information directly to the authority, it shall without delay inform the industrial downstream user concerned to that effect. 15. Manufacturers, importers and industrial downstream users of products containing polymers claimed to be excluded from the designation of synthetic polymer microparticles on grounds of degradability or solubility shall provide, without delay, information proving that those polymers are degradable in accordance with Appendix 15 or soluble in accordance with Appendix 16, as applicable, to competent authorities upon their request. 16. Paragraph 1 shall not apply to placing on the market of synthetic polymers microparticles, on their own or in mixtures, placed on the market before 17 October 2023.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	However, the first subparagraph shall not apply to the placing on the market of synthetic polymers microparticles for uses listed in paragraph 6. (*) Regulation (EU) 2019/6 of the European Parliament and of the Council of 11 December 2018 on veterinary medicinal products and repealing Directive 2001/82/EC (OJ L 4, 7.1.2019, p. 43). (**) Regulation (EU) 2019/1009 of the European Parliament and of the Council of 5 June 2019 laying down rules on the making available on the market of EU fertilising products and amending Regulations (EC) No 1069/2009 and (EC) No 1107/2009 and repealing Regulation (EC) No 2003/2003 (OJ L 170, 25.6.2019, p. 1). (***) Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives (OJ L 354, 31.12.2008, p. 16). (****) Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices and repealing Directive 98/79/EC and Commission Decision 2010/227/EU (OJ L 117, 5.5.2017, p. 176). (*****) Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (OJ L 117 5.5.2017, p. 1). (******) Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC (OJ L 309, 24.11.2009, p. 1). (*******) Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1).

▼M78

79. Undecafluorohexanoic acid (PFHxA), its salts and PFHxA-related substances: (a) having a linear or branched perfluoropentyl group with the formula C_5F_{11}- directly attached to another carbon atom as one of the structural elements; or (b) having a linear or branched perfluorohexyl group with the formula C_6F_{13}-. The following substances are excluded from this designation: (a) C_6F_{14}; (b) C_6F_{13}-C(=O)OH, C_6F_{13}-C(=O)O-X′ or C_6F_{13}-CF_2-X′ (where X′ = any group, including salts);	1. Shall not, from 10 October 2026 be placed on the market, or used, in a concentration equal to or greater than 25 ppb for the sum of PFHxA and its salts, or 1 000 ppb for the sum of PFHxA-related substances, measured in homogeneous material, in the following: (a) textiles, leather, furs and hides in clothing and related accessories for the general public; (b) footwear for the general public; (c) paper and cardboard used as food contact materials within the scope of Regulation (EC) No 1935/2004;

▼M78

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
(c) any substance having a perfluoroalkyl group C_6F_{13}- directly attached to an oxygen atom at one of the non-terminal carbon atoms.	(d) mixtures for the general public; (e) cosmetic products as defined in Article 2(1), point (a), of Regulation (EC) No 1223/2009. 2. Shall not, from 10 October 2027 be placed on the market, or used, in a concentration equal to or greater than 25 ppb for the sum of PFHxA and its salts, or 1 000 ppb for the sum of PFHxA-related substances, measured in homogeneous material, in textiles, leather, furs and hides, other than in clothing and related accessories referred to in paragraph 1, for the general public. 3. Paragraphs 1 and 2 shall not apply to the following: (a) personal protective equipment intended to protect users against risks within the scope of risk category III, points (a), (c) to (f), (h), and (l) of Annex I to Regulation (EU) 2016/425; (b) devices within the scope of Regulation (EU) 2017/745; (c) devices within the scope of Regulation (EU) 2017/746; (d) textiles used as construction textiles. 4. Shall not, from 10 April 2026 be placed on the market, or used, in a concentration equal to or greater than 25 ppb for the sum of PFHxA and its salts, or 1 000 ppb for the sum of PFHxA-related substances, in: (a) firefighting foams and firefighting foam concentrates for training and for testing, except functional testing of the firefighting systems provided that all releases are contained; (b) firefighting foams and firefighting foam concentrates for public fire services, except where those services intervene at industrial fires at establishments covered by Directive 2012/18/EU of the European Parliament and of the Council (*) and they use the foams and the equipment for that purpose only. 5. Shall not, from 10 October 2029 be placed on the market, or used, in firefighting foams and firefighting foam concentrates for civil aviation (including in civilian airports) in a concentration equal to or greater than 25 ppb for the sum of PFHxA and its salts, or 1 000 ppb for the sum of PFHxA-related substances.

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Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
	6. Paragraphs 1, 2, 4 and 5 shall not apply to substances having a perfluoroalkyl group C_6F_{13}- directly attached to a sulphur atom that are prohibited in Annex I to Regulation (EU) 2019/1021 of the European Parliament and of the Council (**). 7. By way of derogation from paragraph 1, that paragraph shall not apply to articles and mixtures which were placed on the market before 10 October 2026. 8. By way of derogation from paragraph 2, that paragraph shall not apply to articles which were placed on the market before 10 October 2027. 9. For the purposes of this entry, PFHxA-related substances are substances that, based on their molecular structure, are considered to have the potential to degrade or be transformed to PFHxA. (*) Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (OJ L 197, 24.7.2012, p. 1, ELI: http://data.europa.eu/eli/dir/2012/18/oj). (**) Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants (OJ L 169, 25.6.2019, p. 45, ELI: http://data.europa.eu/eli/reg/2019/1021/oj).

▼M81

80. *N,N*-dimethylacetamide (DMAC) CAS No 127-19-5 EC No 204-826-4	1. Shall not be placed on the market as a substance on its own, as a constituent of other substances, or in mixtures in a concentration equal to or greater than 0,3 % after 23 December 2026 unless manufacturers, importers and downstream users have included in the relevant chemical safety reports and safety data sheets, derived no-effect levels (DNELs) relating to exposure of workers of 13 mg/m^3 for long-term exposure by inhalation and 1,8 mg/kg bw/day for long-term dermal exposure. 2. Shall not be manufactured, or used, as a substance on its own, as a constituent of other substances, or in mixtures in a concentration equal to or greater than 0,3 % after 23 December 2026 unless manufacturers and downstream users take the appropriate risk management measures and provide the appropriate operational conditions to ensure that exposure of workers is below the DNELs specified in paragraph 1. 3. By way of derogation from paragraphs 1 and 2, the obligations laid down therein shall apply from 23 June 2029 in relation to placing on the market for use, or use, as a solvent in the production of man-made fibres.

▼**M81**

Column 1 Designation of the substance, of the group of substances or of the mixture	Column 2 Conditions of restriction
81. 1-ethylpyrrolidin-2-one (NEP) CAS No 2687-91-4 EC No 220-250-6	1. Shall not be placed on the market as a substance on its own, as a constituent of other substances, or in mixtures in a concentration equal to or greater than 0,3 % after 23 December 2026 unless manufacturers, importers and downstream users have included in the relevant chemical safety reports and safety data sheets, derived no-effect levels (DNELs) relating to exposure of workers of 4,0 mg/m^3 for long-term exposure by inhalation and 2,4 mg/kg bw/day for long-term dermal exposure. 2. Shall not be manufactured, or used, as a substance on its own, as a constituent of other substances, or in mixtures in a concentration equal to or greater than 0,3 % after 23 December 2026 unless manufacturers and downstream users take the appropriate risk management measures and provide the appropriate operational conditions to ensure that exposure of workers is below the DNELs specified in paragraph 1.

▼C1

Appendices 1 to 6

▼M5

FOREWORD

Explanations of column headings

Substances:

The name corresponds to the International Chemical Identification used for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Whenever possible, substances are designated by their IUPAC names. Substances listed in Einecvs (European Inventory of Existing Commercial Chemical Substances), Elincs (European List of Notified Substances) or the list of 'No-longer-polymers' are designated using the names in these lists. Other names, such as usual or common names, are included in some cases. Whenever possible, plant protection products and biocides are designated by their ISO names.

Entries for groups of substances:

A number of group entries are included in Part 3 of Annex VI to Regulation (EC) No 1272/2008. In these cases, the classification requirements will apply to all substances covered by the description.

In some cases, there are classification requirements for specific substances that would be covered by the group entry. In such cases a specific entry is included in Part 3 of Annex VI to Regulation (EC) No 1272/2008 for the substance and the group entry will be annotated with the phrase 'except those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008'.

In some cases, individual substances may be covered by more than one group entry. In these cases, the classification of the substance reflects the classification for each of the two group entries. In cases where different classifications for the same hazard are given, the most severe classification will be applied.

Index number:

The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008. Substances are listed in the Appendix according to this index number.

EC numbers:

The EC number, i.e. Einecs, Elincs or NLP, is the official number of the substance within the European Union. The Einecs number can be obtained from the European Inventory of Existing Commercial Chemical Substance (Einecs). The Elincs number can be obtained from the European List of Notified Substances. The NLP number can be obtained from the list of 'No-longer-polymers'. These lists are published by the Office for Official Publications of the European Communities.

The EC number is a seven-digit system of the type XXX-XXX-X which starts at 200-001-8 (Einecs), at 400-010-9 (Elincs) and at 500-001-0 (NLP). This number is indicated in the column entitled 'EC No'.

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CAS number:

Chemical Abstracts Service (CAS) numbers have been defined for substances to help in their identification.

N o t e s :

The full text of the notes can be found in Part 1 of Annex VI to Regulation (EC) No 1272/2008.

The notes to be taken into account for the purposes of this Regulation are the following:

Note A:

Without prejudice to Article 17(2) of Regulation (EC) No 1272/2008, the name of the substance must appear on the label in the form of one of the designations given in Part 3 of Annex VI to that Regulation.

In that Part, use is sometimes made of a general description such as '… compounds' or '… salts'. In this case, the supplier who places such a substance on the market is required to state on the label the correct name, due account being taken of Section 1.1.1.4 of Annex VI to Regulation (EC) No 1272/2008.

▼M14

Note B:

Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations.

▼M5

Note C:

Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers.

Note D:

Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3 of Annex VI to Regulation (EC) No 1272/2008.

However, such substances are sometimes placed on the market in a non-stabilised form. In this case, supplier who places such a substance on the market must state on the label the name of the substance followed by the words 'non-stabilised'.

Note J:

The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EC No 200-753-7).

Note K:

The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w 1,3-butadiene (EC No 203-450-8).

Note L:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

Note M:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,005 % w/w benzo[a]-pyrene (EC No 200-028-5).

Note N:

The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen.

▼**M5**

Note P:

The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EC No 200-753-7).

Note R:

The classification as a carcinogen need not apply to fibres with a length weighted geometric mean diameter, less two standard errors, greater than 6μm.

▼C1

Appendix 1

▼M61

Entry 28 – Carcinogens: Category 1A

▼C1

Substances	Index No	EC No	CAS No	Notes
Chromium (VI) trioxide	024-001-00-0	215-607-8	1333-82-0	►M5 ——— ◄
Zinc chromates including zinc potassium chromate	024-007-00-3			
▼M14				
Nickel monoxide; [1]	028-003-00-2	215-215-7 [1]	1313-99-1 [1]	
Nickel oxide; [2]		234-323-5 [2]	11099-02-8 [2]	
Bunsenite; [3]		- [3]	34492-97-2 [3]	
Nickel dioxide	028-004-00-8	234-823-3	12035-36-8	
Dinickel trioxide	028-005-00-3	215-217-8	1314-06-3	
Nickel (II) sulfide; [1]	028-006-00-9	240-841-2 [1]	16812-54-7 [1]	
Nickel sulfide; [2]		234-349-7 [2]	11113-75-0 [2]	
Millerite; [3]		- [3]	1314-04-1 [3]	
Trinickel disulfide;	028-007-00-4			
Nickel subsulfide; [1]		234-829-6 [1]	12035-72-2 [1]	
Heazlewoodite; [2]		- [2]	12035-71-1 [2]	
Nickel dihydroxide; [1]	028-008-00-X	235-008-5 [1]	12054-48-7 [1]	
Nickel hydroxide; [2]		234-348-1 [2]	11113-74-9 [2]	
Nickel sulfate	028-009-00-5	232-104-9	7786-81-4	
Nickel carbonate;	028-010-00-0			
Basic nickel carbonate;				
Carbonic acid, nickel (2+) salt; [1]		222-068-2 [1]	3333-67-3 [1]	
Carbonic acid, nickel salt; [2]		240-408-8 [2]	16337-84-1 [2]	
[μ-[carbonato(2-)-O:O′]] dihydroxy trinickel; [3]		265-748-4 [3]	65405-96-1 [3]	
[carbonato(2-)] tetrahydroxytrinickel; [4]		235-715-9 [4]	12607-70-4 [4]	
Nickel dichloride	028-011-00-6	231-743-0	7718-54-9	

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Nickel dinitrate; [1]	028-012-00-1	236-068-5 [1]	13138-45-9 [1]	
Nitric acid, nickel salt; [2]		238-076-4 [2]	14216-75-2 [2]	
Nickel matte	028-013-00-7	273-749-6	69012-50-6	
Slimes and sludges, copper electrolytic refining, decopperised, nickel sulphate	028-014-00-2	295-859-3	92129-57-2	
Slimes and sludges, copper electrolyte refining, decopperised	028-015-00-8	305-433-1	94551-87-8	
Nickel diperchlorate; Perchloric acid, nickel (II) salt	028-016-00-3	237-124-1	13637-71-3	
Nickel dipotassium bis(sulfate); [1]	028-017-00-9	237-563-9 [1]	13842-46-1 [1]	
Diammonium nickel bis(sulfate); [2]		239-793-2 [2]	15699-18-0 [2]	
Nickel bis(sulfamidate); Nickel sulfamate	028-018-00-4	237-396-1	13770-89-3	
Nickel bis(tetrafluoroborate)	028-019-00-X	238-753-4	14708-14-6	
Nickel diformate; [1]	028-021-00-0	222-101-0 [1]	3349-06-2 [1]	
Formic acid, nickel salt; [2]		239-946-6 [2]	15843-02-4 [2]	
Formic acid, copper nickel salt; [3]		268-755-0 [3]	68134-59-8 [3]	
Nickel di(acetate); [1]	028-022-00-6	206-761-7 [1]	373-02-4 [1]	
Nickel acetate; [2]		239-086-1 [2]	14998-37-9 [2]	
Nickel dibenzoate	028-024-00-7	209-046-8	553-71-9	
Nickel bis(4-cyclohexylbutyrate)	028-025-00-2	223-463-2	3906-55-6	
Nickel (II) stearate; Nickel (II) octadecanoate	028-026-00-8	218-744-1	2223-95-2	
Nickel dilactate	028-027-00-3	—	16039-61-5	
Nickel (II) octanoate	028-028-00-9	225-656-7	4995-91-9	
Nickel difluoride; [1]	028-029-00-4	233-071-3 [1]	10028-18-9 [1]	
Nickel dibromide; [2]		236-665-0 [2]	13462-88-9 [2]	
Nickel diiodide; [3]		236-666-6 [3]	13462-90-3 [3]	
Nickel potassium fluoride; [4]		- [4]	11132-10-8 [4]	
Nickel hexafluorosilicate	028-030-00-X	247-430-7	26043-11-8	

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Substances	Index No	EC No	CAS No	Notes
Nickel selenate	028-031-00-5	239-125-2	15060-62-5	
Nickel hydrogen phosphate; [1]	028-032-00-0	238-278-2 [1]	14332-34-4 [1]	
Nickel bis(dihydrogen phosphate); [2]		242-522-3 [2]	18718-11-1 [2]	
Trinickel bis(orthophosphate); [3]		233-844-5 [3]	10381-36-9 [3]	
Dinickel diphosphate; [4]		238-426-6 [4]	14448-18-1 [4]	
Nickel bis(phosphinate); [5]		238-511-8 [5]	14507-36-9 [5]	
Nickel phosphinate; [6]		252-840-4 [6]	36026-88-7 [6]	
Phosphoric acid, calcium nickel salt; [7]		- [7]	17169-61-8 [7]	
Diphosphoric acid, nickel (II) salt; [8]		- [8]	19372-20-4 [8]	
Diammonium nickel hexacyanoferrate	028-033-00-6	—	74195-78-1	
Nickel dicyanide	028-034-00-1	209-160-8	557-19-7	
Nickel chromate	028-035-00-7	238-766-5	14721-18-7	
Nickel (II) silicate; [1]	028-036-00-2	244-578-4 [1]	21784-78-1 [1]	
Dinickel orthosilicate; [2]		237-411-1 [2]	13775-54-7 [2]	
Nickel silicate (3:4); [3]		250-788-7 [3]	31748-25-1 [3]	
Silicic acid, nickel salt; [4]		253-461-7 [4]	37321-15-6 [4]	
Trihydrogen hydroxybis[orthosilicato(4-)]trinickelate(3-); [5]		235-688-3 [5]	12519-85-6 [5]	
Dinickel hexacyanoferrate	028-037-00-8	238-946-3	14874-78-3	
Trinickel bis(arsenate); Nickel (II) arsenate	028-038-00-3	236-771-7	13477-70-8	
Nickel oxalate; [1]	028-039-00-9	208-933-7 [1]	547-67-1 [1]	
Oxalic acid, nickel salt; [2]		243-867-2 [2]	20543-06-0 [2]	
Nickel telluride	028-040-00-4	235-260-6	12142-88-0	
Trinickel tetrasulfide	028-041-00-X	—	12137-12-1	
Trinickel bis(arsenite)	028-042-00-5	—	74646-29-0	
Cobalt nickel gray periclase; C.I. Pigment Black 25; C.I. 77332; [1]	028-043-00-0	269-051-6 [1]	68186-89-0 [1]	
Cobalt nickel dioxide; [2]		261-346-8 [2]	58591-45-0 [2]	
Cobalt nickel oxide; [3]		- [3]	12737-30-3 [3]	

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Nickel tin trioxide; Nickel stannate	028-044-00-6	234-824-9	12035-38-0	
Nickel triuranium decaoxide	028-045-00-1	239-876-6	15780-33-3	
Nickel dithiocyanate	028-046-00-7	237-205-1	13689-92-4	
Nickel dichromate	028-047-00-2	239-646-5	15586-38-6	
Nickel (II) selenite	028-048-00-8	233-263-7	10101-96-9	
Nickel selenide	028-049-00-3	215-216-2	1314-05-2	
Silicic acid, lead nickel salt	028-050-00-9	—	68130-19-8	
Nickel diarsenide; [1]	028-051-00-4	235-103-1 [1]	12068-61-0 [1]	
Nickel arsenide; [2]		248-169-1 [2]	27016-75-7 [2]	
Nickel barium titanium primrose priderite; C.I. Pigment Yellow 157; C.I. 77900	028-052-00-X	271-853-6	68610-24-2	
Nickel dichlorate; [1]	028-053-00-5	267-897-0 [1]	67952-43-6 [1]	
Nickel dibromate; [2]		238-596-1 [2]	14550-87-9 [2]	
Ethyl hydrogen sulfate, nickel (II) salt; [3]		275-897-7 [3]	71720-48-4 [3]	
Nickel (II) trifluoroacetate; [1]	028-054-00-0	240-235-8 [1]	16083-14-0 [1]	
Nickel (II) propionate; [2]		222-102-6 [2]	3349-08-4 [2]	
Nickel bis(benzenesulfonate); [3]		254-642-3 [3]	39819-65-3 [3]	
Nickel (II) hydrogen citrate; [4]		242-533-3 [4]	18721-51-2 [4]	
Citric acid, ammonium nickel salt; [5]		242-161-1 [5]	18283-82-4 [5]	
Citric acid, nickel salt; [6]		245-119-0 [6]	22605-92-1 [6]	
Nickel bis(2-ethylhexanoate); [7]		224-699-9 [7]	4454-16-4 [7]	
2-Ethylhexanoic acid, nickel salt; [8]		231-480-1 [8]	7580-31-6 [8]	
Dimethylhexanoic acid nickel salt; [9]		301-323-2 [9]	93983-68-7 [9]	
Nickel (II) isooctanoate; [10]		249-555-2 [10]	29317-63-3 [10]	
Nickel isooctanoate; [11]		248-585-3 [11]	27637-46-3 [11]	
Nickel bis(isononanoate); [12]		284-349-6 [12]	84852-37-9 [12]	

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Nickel (II) neononanoate; [13]		300-094-6 [13]	93920-10-6 [13]	
Nickel (II) isodecanoate; [14]		287-468-1 [14]	85508-43-6 [14]	
Nickel (II) neodecanoate; [15]		287-469-7 [15]	85508-44-7 [15]	
Neodecanoic acid, nickel salt; [16]		257-447-1 [16]	51818-56-5 [16]	
Nickel (II) neoundecanoate; [17]		300-093-0 [17]	93920-09-3 [17]	
Bis(D-gluconato-O^1,O^2) nickel; [18]		276-205-6 [18]	71957-07-8 [18]	
Nickel 3,5-bis(tert-butyl)-4-hydroxybenzoate (1:2); [19]		258-051-1 [19]	52625-25-9 [19]	
Nickel (II) palmitate; [20]		237-138-8 [20]	13654-40-5 [20]	
(2-ethylhexanoato-O)(isononanoato-O)nickel; [21]		287-470-2 [21]	85508-45-8 [21]	
(isononanoato-O)(isooctanoato-O) nickel; [22]		287-471-8 [22]	85508-46-9 [22]	
(isooctanoato-O)(neodecanoato-O) nickel; [23]		284-347-5 [23]	84852-35-7 [23]	
(2ethylhexanoato-O)(isodecanoato-O)nickel; [24]		284-351-7 [24]	84852-39-1 [24]	
(2-ethylhexanoato-O)(neodecanoato-O)nickel; [25]		285-698-7 [25]	85135-77-9 [25]	
(isodecanoato-O)(isooctanoato-O) nickel; [26]		285-909-2 [26]	85166-19-4 [26]	
(isodecanoato-O)(isononanoato-O) nickel; [27]		284-348-0 [27]	84852-36-8 [27]	
(isononanoato-O)(neodecanoato-O)nickel; [28]		287-592-6 [28]	85551-28-6 [28]	
Fatty acids, C_{6-19}-branched, nickel salts; [29]		294-302-1 [29]	91697-41-5 [29]	
Fatty acids, C_{8-18} and C_{18}-unsaturated, nickel salts; [30]		283-972-0 [30]	84776-45-4 [30]	
2,7-Naphthalenedisulfonic acid, nickel (II) salt; [31]		- [31]	72319-19-8 [31]	
Nickel (II) sulfite; [1]	028-055-00-6	231-827-7 [1]	7757-95-1 [1]	
Nickel tellurium trioxide; [2]		239-967-0 [2]	15851-52-2 [2]	
Nickel tellurium tetraoxide; [3]		239-974-9 [3]	15852-21-8 [3]	
Molybdenum nickel hydroxide oxide phosphate; [4]		268-585-7 [4]	68130-36-9 [4]	

▼M14

Substances	Index No	EC No	CAS No	Notes
Nickel boride (NiB); [1]	028-056-00-1	234-493-0 [1]	12007-00-0 [1]	
Dinickel boride; [2]		234-494-6 [2]	12007-01-1 [2]	
Trinickel boride; [3]		234-495-1 [3]	12007-02-2 [3]	
Nickel boride; [4]		235-723-2 [4]	12619-90-8 [4]	
Dinickel silicide; [5]		235-033-1 [5]	12059-14-2 [5]	
Nickel disilicide; [6]		235-379-3 [6]	12201-89-7 [6]	
Dinickel phosphide; [7]		234-828-0 [7]	12035-64-2 [7]	
Nickel boron phosphide; [8]		- [8]	65229-23-4 [8]	
Dialuminium nickel tetraoxide; [1]	028-057-00-7	234-454-8 [1]	12004-35-2 [1]	
Nickel titanium trioxide; [2]		234-825-4 [2]	12035-39-1 [2]	
Nickel titanium oxide; [3]		235-752-0 [3]	12653-76-8 [3]	
Nickel divanadium hexaoxide; [4]		257-970-5 [4]	52502-12-2 [4]	
Cobalt dimolybdenum nickel octaoxide; [5]		268-169-5 [5]	68016-03-5 [5]	
Nickel zirkonium trioxide; [6]		274-755-1 [6]	70692-93-2 [6]	
Molybdenum nickel tetraoxide; [7]		238-034-5 [7]	14177-55-0 [7]	
Nickel tungsten tetraoxide; [8]		238-032-4 [8]	14177-51-6 [8]	
Olivine, nickel green; [9]		271-112-7 [9]	68515-84-4 [9]	
Lithium nickel dioxide; [10]		- [10]	12031-65-1 [10]	
Molybdenum nickel oxide; [11]		- [11]	12673-58-4 [11]	
Cobalt lithium nickel oxide	028-058-00-2	442-750-5	—	

▼C1

Diarsenic trioxide; arsenic trioxide	033-003-00-0	215-481-4	1327-53-3	
Arsenic pentoxide; arsenic oxide	033-004-00-6	215-116-9	1303-28-2	

▼M73

Arsenic acid and its salts, except those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008	033-005-00-1	—	—	A

▼C1

Lead hydrogen arsenate	082-011-00-0	232-064-2	7784-40-9	
Butane [containing ≥ 0,1 % Butadiene (203-450-8)] [1]	601-004-01-8	203-448-7 [1]	106-97-8 [1]	C ►M5 ——— ◄
Isobutane [containing ≥ 0,1 % Butadiene (203-450-8)] [2]		200-857-2 [2]	75-28-5 [2]	
1,3-Butadiene; buta-1,3-diene	601-013-00-X	203-450-8	106-99-0	D
Benzene	601-020-00-8	200-753-7	71-43-2	►M5 ——— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
Triethyl arsenate	601-067-00-4	427-700-2	15606-95-8	
Vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	
▼M14 Bis(chloromethyl)ether; Oxybis(chloromethane)	603-046-00-5	208-832-8	542-88-1	
▼C1 Chloromethyl methyl ether; chlorodimethyl ether	603-075-00-3	203-480-1	107-30-2	
2-Naphthylamine; beta-naphthylamine	612-022-00-3	202-080-4	91-59-8	►M5 ——— ◄
Benzidine; 4,4′-diaminobiphenyl; biphenyl-4,4′-ylenediamine	612-042-00-2	202-199-1	92-87-5	►M5 ——— ◄
Salts of benzidine	612-070-00-5			
Salts of 2-naphthylamine	612-071-00-0	209-030-0[1] 210-313-6[2]	553-00-4[1] 612-52-2[2]	
Biphenyl-4-ylamine; xenylamine; 4-aminobiphenyl	612-072-00-6	202-177-1	92-67-1	
Salts of biphenyl-4-ylamine; salts of xenylamine; salts of 4-amino-biphenyl	612-073-00-1			
▼M26 Pitch, coal tar, high-temp.; (The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30 °C to 180 °C (86 °F to 356 °F). Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.)	648-055-00-5	266-028-2	65996-93-2	
▼C1 Tar, coal; Coal tar (The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.)	648-081-00-7	232-361-7	8007-45-2	
Tar, coal, high-temperature; Coal tar (The condensation product obtained by cooling, to approxi-mately ambient temperature, the gas evolved in the high temperature (greater than 700 °C) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of a complex mixture of condensed ring aromatic hydrocarbons. May contain minor amounts of phenolic compounds and aromatic nitrogen bases.)	648-082-00-2	266-024-0	65996-89-6	

▼C1

Substances	Index No	EC No	CAS No	Notes
Tar, coal, low-temperature; Coal oil (The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in low temperature (less than 700 °C) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of condensed ring aromatic hydrocarbons, phenolic compounds, aromatic nitrogen bases, and their alkyl derivatives.)	648-083-00-8	266-025-6	65996-90-9	
Tar brown-coal; (An oil distilled from brown-coal tar. Composed primarily of aliphatic, naphthenic and one- to three-ring aromatic hydrocarbons, their alkyl derivates, heteroaromatics and one- and two-ring phenols boiling in the range of approximately 150 °C to 360 °C.)	648-145-00-4	309-885-0	101316-83-0	
Tar, brown-coal, low temperature; (A tar obtained from low temperature carbonisation and low temperature gasification of brown coal. Composed primarily of aliphatic, naphthenic and cyclic aromatic hydrocarbons, heteroaromatic hydrocarbons and cyclic phenols.)	648-146-00-X	309-886-6	101316-84-1	
Distillates (petroleum), light paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated aliphatic hydrocarbons normally present in this distillation range of crude oil.)	649-050-00-0	265-051-5	64741-50-0	

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), heavy paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated aliphatic hydrocarbons.)	649-051-00-6	265-052-0	64741-51-1	
Distillates (petroleum), light naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-052-00-1	265-053-6	64741-52-2	
Distillates (petroleum), heavy naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-053-00-7	265-054-1	64741-53-3	
Distillates (petroleum), acid-treated heavy naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-054-00-2	265-117-3	64742-18-3	

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), acid-treated light naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-055-00-8	265-118-9	64742-19-4	
Distillates (petroleum), acid-treated heavy paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-056-00-3	265-119-4	64742-20-7	
Distillates (petroleum), acid-treated light paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-057-00-9	265-121-5	64742-21-8	
Distillates (petroleum), chemically neutralised heavy paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained from a treating process to remove acidic materials. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of aliphatic hydrocarbons.)	649-058-00-4	265-127-8	64742-27-4	

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), chemically neutralised light paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-059-00-X	265-128-3	64742-28-5	
Distillates (petroleum), chemically neutralised heavy naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-060-00-5	265-135-1	64742-34-3	
Distillates (petroleum), chemically neutralised light naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-061-00-0	265-136-7	64742-35-4	
Gases (petroleum), catalytic cracked naphtha depropaniser overhead, C_3-rich acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of C_2 through C_4, predominantly C_3.)	649-062-00-6	270-755-0	68477-73-6	►M5 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), catalytic cracker; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-063-00-1	270-756-6	68477-74-7	►M5 ———— ◄ K
Gases (petroleum), catalytic cracker, C_{1-5}-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_6, predominantly C_1 through C_5.)	649-064-00-7	270-757-1	68477-75-8	►M5 ———— ◄ K
Gases (petroleum), catalytic polymd. naphtha stabiliser overhead, C_{2-4}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic polymerised naphtha. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_2 through C_6, predominantly C_2 through C_4.)	649-065-00-2	270-758-7	68477-76-9	►M5 ———— ◄ K
Gases (petroleum), catalytic reformer, C_{1-4}-rich; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers in the range of C_1 through C_6, predominantly C_1 through C_4.)	649-066-00-8	270-760-8	68477-79-2	►M5 ———— ◄ K
Gases (petroleum), C_{3-5} olefinic-paraffinic alkylation feed; Petroleum gas (A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of C_3 through C_5 which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.)	649-067-00-3	270-765-5	68477-83-8	►M5 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), C_4-rich; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.)	649-068-00-9	270-767-6	68477-85-0	►M5 ——— ◄ K
Gases (petroleum), deethaniser overheads; Petroleum gas (A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly ethane and ethylene.)	649-069-00-4	270-768-1	68477-86-1	►M5 ——— ◄ K
Gases (petroleum), deisobutaniser tower overheads; Petroleum gas (A complex combination of hydrocarbons produced by the atmospheric distillation of a butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-070-00-X	270-769-7	68477-87-2	►M5 ——— ◄ K
Gases (petroleum), depropaniser dry, propene-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists predominantly of propylene with some ethane and propane.)	649-071-00-5	270-772-3	68477-90-7	►M5 ——— ◄ K
Gases (petroleum), depropaniser overheads; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-072-00-0	270-773-9	68477-91-8	►M5 ——— ◄ K
Gases (petroleum), gas recovery plant depropaniser overheads; Petroleum gas (A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4, predominantly propane.)	649-073-00-6	270-777-0	68477-94-1	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), Girbatol unit feed; Petroleum gas (A complex combination of hydrocarbons that is used as the feed into the Girbatol unit to remove hydrogen sulfide. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-074-00-1	270-778-6	68477-95-2	►M5 ——— ◄ K
Gases (petroleum), isomerised naphtha fractionator, C_4-rich, hydrogen sulfide-free; Petroleum gas	649-075-00-7	270-782-8	68477-99-6	►M5 ——— ◄ K
Tail gas (petroleum), catalytic cracked clarified oil and thermal cracked vacuum residue fractionation reflux drum; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked clarified oil and thermal cracked vacuum residue. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-076-00-2	270-802-5	68478-21-7	►M5 ——— ◄ K
Tail gas (petroleum), catalytic cracked naphtha stabilisation absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-077-00-8	270-803-0	68478-22-8	►M5 ——— ◄ K
Tail gas (petroleum), catalytic cracker, catalytic reformer and hydrodesulphuriser combined fractionater; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of products from catalytic cracking, catalytic reforming and hydrodesulphurising processes treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-078-00-3	270-804-6	68478-24-0	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic reformed naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-079-00-9	270-806-7	68478-26-2	►M5 ——— ◄ K
Tail gas (petroleum), saturate gas plant mixed stream, C_4-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabiliser tail gas. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly butane and isobutane.)	649-080-00-4	270-813-5	68478-32-0	►M5 ——— ◄ K
Tail gas (petroleum), saturate gas recovery plant, C_{1-2}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of distillate tail gas, straight-run naphtha, catalytic reformed naphtha stabiliser tail gas. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_5, predominantly methane and ethane.)	649-081-00-X	270-814-0	68478-33-1	►M5 ——— ◄ K
Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas (A complex combination of hydrocarbons obtained from the thermal cracking of vacuum residues. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-082-00-5	270-815-6	68478-34-2	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{3-4}-rich, petroleum distillate; Petroleum gas (A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_3 through C_4.)	649-083-00-0	270-990-9	68512-91-4	►M5 ——— ◄ K
Gases (petroleum), full-range straight-run naphtha dehexaniser off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of the full-range straight-run naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-084-00-6	271-000-8	68513-15-5	►M5 ——— ◄ K
Gases (petroleum), hydrocracking depropaniser off, hydrocarbon-rich; Petroleum gas (A complex combination of hydrocarbon produced by the distillation of products from a hydrocracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4. It may also contain small amounts of hydrogen and hydrogen sulfide.)	649-085-00-1	271-001-3	68513-16-6	►M5 ——— ◄ K
Gases (petroleum), light straight-run naphtha stabiliser off; Petroleum gas (A complex combination of hydrocarbons obtained by the stabilisation of light straight-run naphtha. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-086-00-7	271-002-9	68513-17-7	►M5 ——— ◄ K
Residues (petroleum), alkylation splitter, C_4-rich; Petroleum gas (A complex residuum from the distillation of streams from various refinery operations. It consists of hydrocarbons having carbon numbers in the range of C_4 through C_5, predominantly butane, and boiling in the range of approximately - 11,7 °C to 27,8 °C.)	649-087-00-2	271-010-2	68513-66-6	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{1-4}; Petroleum gas (A complex combination of hydrocarbons provided by thermal cracking and absorber operations and by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately - 164 °C to - 0,5 °C.)	649-088-00-8	271-032-2	68514-31-8	►M5 ——— ◄ K
Hydrocarbons, C_{1-4}, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately - 164 °C to - 0,5 °C.)	649-089-00-3	271-038-5	68514-36-3	►M5 ——— ◄ K
Hydrocarbons, C_{1-3}; Petroleum gas (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3 and boiling in the range of approximately - 164 °C to - 42 °C.)	649-090-00-9	271-259-7	68527-16-2	►M5 ——— ◄ K
Hydrocarbons, C_{1-4}, debutaniser fraction; Petroleum gas	649-091-00-4	271-261-8	68527-19-5	►M5 ——— ◄ K
Gases (petroleum), C_{1-5}, wet; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of crude oil and/or the cracking of tower gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-092-00-X	271-624-0	68602-83-5	►M5 ——— ◄ K
Hydrocarbons, C_{2-4}; Petroleum gas	649-093-00-5	271-734-9	68606-25-7	►M5 ——— ◄ K
Hydrocarbons, C_3; Petroleum gas	649-094-00-0	271-735-4	68606-26-8	►M5 ——— ◄ K
Gases (petroleum), alkylation feed; Petroleum gas (A complex combination of hydrocarbons produced by the catalytic cracking of gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-095-00-6	271-737-5	68606-27-9	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), depropaniser bottoms fractionation off; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists predominantly of butane, isobutane and butadiene.)	649-096-00-1	271-742-2	68606-34-8	►M5 ——— ◄ K
Gases (petroleum), refinery blend; Petroleum gas (A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-097-00-7	272-183-7	68783-07-3	►M5 ——— ◄ K
Gases (petroleum), catalytic cracking; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5.)	649-098-00-2	272-203-4	68783-64-2	►M5 ——— ◄ K
Gases (petroleum), C_{2-4}, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4 and boiling in the range of approximately - 51 °C to - 34 °C.)	649-099-00-8	272-205-5	68783-65-3	►M5 ——— ◄ K
Gases (petroleum), crude oil fractionation off; Petroleum gas (A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-100-00-1	272-871-7	68918-99-0	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), dehexaniser off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-101-00-7	272-872-2	68919-00-6	►M5 ——— ◄ K
Gases (petroleum), light straight run gasoline fractionation stabiliser off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-102-00-2	272-878-5	68919-05-1	►M5 ——— ◄ K
Gases (petroleum), naphtha unifiner desulphurisation stripper off; Petroleum gas (A complex combination of hydrocarbons produced by a naphtha unifiner desulphurisation process and stripped from the naphtha product. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-103-00-8	272-879-0	68919-06-2	►M5 ——— ◄ K
Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and fractionation of the total effluent. It consists of methane, ethane, and propane.)	649-104-00-3	272-882-7	68919-09-5	►M5 ——— ◄ K
Gases (petroleum), fluidised catalytic cracker splitter overheads; Petroleum gas (A complex combination of hydrocarbons produced by the fractionation of the charge to the C_3-C_4 splitter. It consists predominantly of C_3 hydrocarbons.)	649-105-00-9	272-893-7	68919-20-0	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), straight-run stabiliser off; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of the liquid from the first tower used in the distillation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-106-00-4	272-883-2	68919-10-8	►M5 ———— ◄ K
Gases (petroleum), catalytic cracked naphtha debutaniser; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-107-00-X	273-169-3	68952-76-1	►M5 ———— ◄ K
Tail gas (petroleum), catalytic cracked distillate and naphtha stabiliser; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of catalytic cracked naphtha and distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-108-00-5	273-170-9	68952-77-2	►M5 ———— ◄ K
Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the separation of thermal-cracked distillates, naphtha and gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-109-00-0	273-175-6	68952-81-8	►M5 ———— ◄ K
Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabiliser, petroleum coking; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of thermal cracked hydrocarbons from a petroleum coking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-110-00-6	273-176-1	68952-82-9	►M5 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum, light steam-cracked, butadiene conc.; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists of hydrocarbons having a carbon number predominantly of C_4.)	649-111-00-1	273-265-5	68955-28-2	►M5 ——— ◄ K
Gases (petroleum), straight-run naphtha catalytic reformer stabiliser overhead; Petroleum gas (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-112-00-7	273-270-2	68955-34-0	►M5 ——— ◄ K
Hydrocarbons, C_4; Petroleum gas	649-113-00-2	289-339-5	27741-01-3	►M5 ——— ◄ K
Alkanes, C_{1-4}, C_3-rich; Petroleum gas	649-114-00-8	292-456-4	90622-55-2	►M5 ——— ◄ K
Gases (petroleum), steam-cracker C_3-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a steam cracking process. It consists predominantly of propylene with some propane and boils in the range of approximately - 70 °C to 0 °C.)	649-115-00-3	295-404-9	92045-22-2	►M5 ——— ◄ K
Hydrocarbons, C_4, steam-cracker distillate; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products of a steam cracking process. It consists predominantly of hydrocarbons having a carbon number of C_4, predominantly 1-butene and 2-butene, containing also butane and isobutene and boiling in the range of approximately - 12 °C to 5 °C.)	649-116-00-9	295-405-4	92045-23-3	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Petroleum gases, liquefied, sweetened, C_4 fraction; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting a liquified petroleum gas mix to a sweetening process to oxidise mercaptans or to remove acidic impurities. It consists predominantly of C_4 saturated and unsaturated hydrocarbons.)	649-117-00-4	295-463-0	92045-80-2	►M5 ——— ◄ K
▼M14 Hydrocarbons, C_4, 1,3-butadiene- and isobutene-free; Petroleum gas	649-118-00-X	306-004-1	95465-89-7	K
▼C1 Raffinates (petroleum), steam-cracked C_4 fraction cuprous ammonium acetate extraction, C_{3-5} and C_{3-5} unsaturated, butadiene-free; Petroleum gas	649-119-00-5	307-769-4	97722-19-5	►M5 ——— ◄ K
Gases (petroleum), amine system feed; Refinery gas (The feed gas to the amine system for removal of hydrogen sulphide. It consists primarily of hydrogen. Carbon monoxide, carbon dioxide, hydrogen sulfide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5 may also be present.)	649-120-00-0	270-746-1	68477-65-6	►M5 ——— ◄ K
Gases (petroleum), benzene unit hydrodesulphuriser off; Refinery gas (Off gases produced by the benzene unit. It consists primarily of hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6, including benzene, may also be present.)	649-121-00-6	270-747-7	68477-66-7	►M5 ——— ◄ K
Gases (petroleum), benzene unit recycle, hydrogen-rich; Refinery gas (A complex combination of hydrocarbons obtained by recycling the gases of the benzene unit. It consists primarily of hydrogen with various small amounts of carbon monoxide and hydrocarbons having carbon numbers in the range of C_1 through C_6.)	649-122-00-1	270-748-2	68477-67-8	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), blend oil, hydrogen-nitrogen-rich; Refinery gas (A complex combination of hydrocarbons obtained by distillation of a blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide, and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-123-00-7	270-749-8	68477-68-9	►M5 ——— ◄ K
Gases (petroleum), catalytic reformed naphtha stripper overheads; Refinery gas (A complex combination of hydrocarbons obtained from stabilisation of catalytic reformed naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-124-00-2	270-759-2	68477-77-0	►M5 ——— ◄ K
Gases (petroleum), C_{6-8} catalytic reformer recycle; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of C_6-C_8 feed and recycled to conserve hydrogen. It consists primarily of hydrogen. It may also contain various small amounts of carbon monoxide, carbon dioxide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-125-00-8	270-760-3	68477-80-5	►M5 ——— ◄ K
Gases (petroleum), C_{6-8} catalytic reformer; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of C_6-C_8 feed. It consists of hydrocarbons having carbon numbers in the range of C_1 through C_5 and hydrogen.)	649-126-00-3	270-762-9	68477-81-6	►M5 ——— ◄ K
Gases (petroleum), C_{6-8} catalytic reformer recycle, hydrogen-rich; Refinery gas	649-127-00-9	270-763-4	68477-82-7	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), C_2-return stream; Refinery gas (A complex combination of hydrocarbons obtained by the extraction of hydrogen from a gas stream which consists primarily of hydrogen with small amounts of nitrogen, carbon monoxide, methane, ethane, and ethylene. It contains predominantly hydrocarbons such as methane, ethane, and ethylene with small amounts of hydrogen, nitrogen and carbon monoxide.)	649-128-00-4	270-766-0	68477-84-9	►M5 ———— ◄ K
Gases (petroleum), dry sour, gas-concentration-unit-off; Refinery gas (The complex combination of dry gases from a gas concentration unit. It consists of hydrogen, hydrogen sulphide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-129-00-X	270-774-4	68477-92-9	►M5 ———— ◄ K
Gases (petroleum), gas concentration reabsorber distillation; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from combined gas streams in a gas concentration reabsorber. It consists predominantly of hydrogen, carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide and hydrocarbons having carbon numbers in the range of C_1 through C_3.)	649-130-00-5	270-776-5	68477-93-0	►M5 ———— ◄ K
Gases (petroleum), hydrogen absorber off; Refinery gas (A complex combination obtained by absorbing hydrogen from a hydrogen rich stream. It consists of hydrogen, carbon monoxide, nitrogen, and methane with small amounts of C_2 hydrocarbons.)	649-131-00-0	270-779-1	68477-96-3	►M5 ———— ◄ K
Gases (petroleum), hydrogen-rich; Refinery gas (A complex combination separated as a gas from hydrocarbon gases by chilling. It consists primarily of hydrogen with various small amounts of carbon monoxide, nitrogen, methane, and C_2 hydrocarbons.)	649-132-00-6	270-780-7	68477-97-4	►M5 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), hydrotreater blend oil recycle, hydrogen-nitrogen-rich; Refinery gas (A complex combination obtained from recycled hydrotreated blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-133-00-1	270-781-2	68477-98-5	►M5 ——— ◄ K
Gases (petroleum), recycle, hydrogen-rich; Refinery gas (A complex combination obtained from recycled reactor gases. It consists primarily of hydrogen with various small amounts of carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_5.)	649-134-00-7	270-783-3	68478-00-2	►M5 ——— ◄ K
Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas (A complex combination obtained from the reformers. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-135-00-2	270-784-9	68478-01-3	►M5 ——— ◄ K
Gases (petroleum), reforming hydrotreater; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen, methane, and ethane with various small amounts of hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range C_3 through C_5.)	649-136-00-8	270-785-4	68478-02-4	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen and methane with various small amounts of carbon monoxide, carbon dioxide, nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_5.)	649-137-00-3	270-787-5	68478-03-5	►M5 ——— ◄ K
Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-138-00-9	270-788-0	68478-04-6	►M5 ——— ◄ K
Gases (petroleum), thermal cracking distillation; Refinery gas (A complex combination produced by distillation of products from a thermal cracking process. It consists of hydrogen, hydrogen sulphide, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-139-00-4	270-789-6	68478-05-7	►M5 ——— ◄ K
Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas (A complex combination of hydrocarbons obtained from refractionation of products from a catalytic cracking process. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-140-00-X	270-805-1	68478-25-1	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-141-00-5	270-807-2	68478-27-3	►M5 ——— ◄ K
Tail gas (petroleum), catalytic reformed naphtha stabiliser; Refinery gas (A complex combination of hydrocarbons obtained from the stabilisation of catalytic reformed naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-142-00-0	270-808-8	68478-28-4	►M5 ——— ◄ K
Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas (A complex combination of hydrocarbons obtained by treating cracked distillates with hydrogen in the presence of a catalyst. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-143-00-6	270-809-3	68478-29-5	►M5 ——— ◄ K
Tail gas (petroleum), hydrodesulphurised straight-run naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-144-00-1	270-810-9	68478-30-8	►M5 ——— ◄ K
Gases (petroleum), catalytic reformed straight-run naphtha stabiliser overheads; Refinery gas (A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha followed by fractionation of the total effluent. It consists of hydrogen, methane, ethane and propane.)	649-145-00-7	270-999-8	68513-14-4	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas (A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.)	649-146-00-2	271-003-4	68513-18-8	►M5 ——— ◄ K
Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas (A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.)	649-147-00-8	271-005-5	68513-19-9	►M5 ——— ◄ K
Gases (petroleum), oil refinery gas distillation off; Refinery gas (A complex combination separated by distillation of a gas stream containing hydrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers in the range of C_1 through C_6 or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_2, hydrogen, nitrogen, and carbon monoxide.)	649-148-00-3	271-258-1	68527-15-1	►M5 ——— ◄ K
Gases (petroleum), benzene unit hydrotreater depentaniser overheads; Refinery gas (A complex combination produced by treating the feed from the benzene unit with hydrogen in the presence of a catalyst followed by depentanising. It consists primarily of hydrogen, ethane and propane with various small amounts of nitrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6. It may contain trace amounts of benzene.)	649-149-00-9	271-623-5	68602-82-4	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), secondary absorber off, fluidised catalytic cracker overheads fractionator; Refinery gas (A complex combination produced by the fractionation of the overhead products from the catalytic cracking process in the fluidised catalytic cracker. It consists of hydrogen, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-150-00-4	271-625-6	68602-84-6	►M5 ——— ◄ K
Petroleum products, refinery gases; Refinery gas (A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane and propane.)	649-151-00-X	271-750-6	68607-11-4	►M5 ——— ◄ K
Gases (petroleum), hydrocracking low-pressure separator; Refinery gas (A complex combination obtained by the liquid-vapour separation of the hydrocracking process reactor effluent. It consists predominantly of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-152-00-5	272-182-1	68783-06-2	►M5 ——— ◄ K
Gases (petroleum), refinery; Refinery gas (A complex combination obtained from various petroleum refining operations. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-153-00-0	272-338-9	68814-67-5	►M5 ——— ◄ K
Gases (petroleum), platformer products separator off; Refinery gas (A complex combination obtained from the chemical reforming of naphthenes to aromatics. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-154-00-6	272-343-6	68814-90-4	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), hydrotreated sour kerosine dependaniser stabiliser off; Refinery gas (The complex combination obtained from the dependaniser stabilisation of hydrotreated kerosine. It consists primarily of hydrogen, methane, ethane, and propane with various small amounts of nitrogen, hydrogen sulphide, carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of C_4 through C_5.)	649-155-00-1	272-775-5	68911-58-0	►M5 ———— ◄ K
Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas (A complex combination obtained from the flash drum of the unit treating sour kerosine with hydrogen in the presence of a catalyst. It consists primarily of hydrogen and methane with various small amounts of nitrogen, carbon monoxide, and hydro-carbons having carbon numbers predominantly in the range of C_2 through C_5.)	649-156-00-7	272-776-0	68911-59-1	►M5 ———— ◄ K
Gases (petroleum), distillate unifiner desulphurisation stripper off; Refinery gas (A complex combination stripped from the liquid product of the unifiner desulphurisation process. It consists of hydrogen sulphide, methane, ethane, and propane.)	649-157-00-2	272-873-8	68919-01-7	►M5 ———— ◄ K
Gases (petroleum), fluidised catalytic cracker fractionation off; Refinery gas (A complex combination produced by the fractionation of the overhead product of the fluidised catalytic cracking process. It consists of hydrogen, hydrogen sulphide, nitrogen, and hydro-carbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-158-00-8	272-874-3	68919-02-8	►M5 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), fluidised catalytic cracker scrubbing secondary absorber off; Refinery gas (A complex combination produced by scrubbing the overhead gas from the fluidised catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.)	649-159-00-3	272-875-9	68919-03-9	►M5 ——— ◄ K
Gases (petroleum), heavy distillate hydrotreater desulphurisation stripper off; Refinery gas (A complex combination stripped from the liquid product of the heavy distillate hydrotreater desulphurisation process. It consists of hydrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-160-00-9	272-876-4	68919-04-0	►M5 ——— ◄ K
Gases (petroleum), platformer stabiliser off, light ends fractionation; Refinery gas (A complex combination obtained by the fractionation of the light ends of the platinum reactors of the platformer unit. It consists of hydrogen, methane, ethane and propane.)	649-161-00-4	272-880-6	68919-07-3	►M5 ——— ◄ K
Gases (petroleum), preflash tower off, crude distillation; Refinery gas (A complex combination produced from the first tower used in the distillation of crude oil. It consists of nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-162-00-X	272-881-1	68919-08-4	►M5 ——— ◄ K
Gases (petroleum), tar stripper off; Refinery gas (A complex combination obtained by the fractionation of reduced crude oil. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-163-00-5	272-884-8	68919-11-9	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), unifiner stripper off; Refinery gas (A combination of hydrogen and methane obtained by fractionation of the products from the unifiner unit.)	649-164-00-0	272-885-3	68919-12-0	►M5 ——— ◄ K
Tail gas (petroleum), catalytic hydrodesulphurised naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from the hydrodesulphurisation of naphtha. It consists of hydrogen, methane, ethane, and propane.)	649-165-00-6	273-173-5	68952-79-4	►M5 ——— ◄ K
Tail gas (petroleum), straight-run naphtha hydrodesulphuriser; Refinery gas (A complex combination obtained from the hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-166-00-1	273-174-0	68952-80-7	►M5 ——— ◄ K
Gases (petroleum), sponge absorber off, fluidised catalytic cracker and gas oil desulphuriser overhead fractionation; Refinery gas (A complex combination obtained by the fractionation of products from the fluidised catalytic cracker and gas oil desulphuriser. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-167-00-7	273-269-7	68955-33-9	►M5 ——— ◄ K
Gases (petroleum), crude distillation and catalytic cracking; Refinery gas (A complex combination produced by crude distillation and catalytic cracking processes. It consists of hydrogen, hydrogen sulphide, nitrogen, carbon monoxide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-168-00-2	273-563-5	68989-88-8	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), gas oil diethanolamine scrubber off; Refinery gas (A complex combination produced by desulphurisation of gas oils with diethanolamine. It consists predominantly of hydrogen sulphide, hydrogen and aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_5.)	649-169-00-8	295-397-2	92045-15-3	►M5 ——— ◄ K
Gases (petroleum), gas oil hydrodesulphurisation effluent; Refinery gas (A complex combination obtained by separation of the liquid phase from the effluent from the hydrogenation reaction. It consists predominantly of hydrogen, hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-170-00-3	295-398-8	92045-16-4	►M5 ——— ◄ K
Gases (petroleum), gas oil hydrodesulphurisation purge; Refinery gas (A complex combination of gases obtained from the reformer and from the purges from the hydrogenation reactor. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-171-00-9	295-399-3	92045-17-5	►M5 ——— ◄ K
Gases (petroleum), hydrogenator effluent flash drum off; Refinery gas (A complex combination of gases obtained from flash of the effluents after the hydrogenation reaction. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-172-00-4	295-400-7	92045-18-6	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), naphtha steam cracking high-pressure residual; Refinery gas (A complex combination obtained as a mixture of the non-condensable portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent products. It consists predominantly of hydrogen and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5 with which natural gas may also be mixed.)	649-173-00-X	295-401-2	92045-19-7	►M5 ——— ◄ K
Gases (petroleum), residue visbaking off; Refinery gas (A complex combination obtained from viscosity reduction of residues in a furnace. It consists predominantly of hydrogen sulphide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-174-00-5	295-402-8	92045-20-0	►M5 ——— ◄ K
Gases (petroleum), C_{3-4}; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_4, predominantly of propane and propylene, and boiling in the range of approximately - 51 °C to - 1 °C.)	649-177-00-1	268-629-5	68131-75-9	►M5 ——— ◄ K
Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber; Petroleum gas (The complex combination of hydrocarbons from the distillation of the products from catalytic cracked distillates and catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4.)	649-178-00-7	269-617-2	68307-98-2	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), catalytic polymerisation naphtha fractionation stabiliser; Petroleum gas (A complex combination of hydrocarbons from the fractionation stabilisation products from polymerisation of naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4.)	649-179-00-2	269-618-8	68307-99-3	►M5 ———— ◄ K
Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation stabilisation of catalytic reformed naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-180-00-8	269-619-3	68308-00-9	►M5 ———— ◄ K
Tail gas (petroleum), cracked distillate hydrotreater stripper; Petroleum gas (A complex combination of hydrocarbons obtained by treating thermal cracked distillates with hydrogen in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-181-00-3	269-620-9	68308-01-0	►M5 ———— ◄ K
Tail gas (petroleum), straight-run distillate hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of straight run distillates and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-182-00-9	269-630-3	68308-10-1	►M5 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of products from the catalytic cracking of gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-183-00-4	269-623-5	68308-03-2	►M5 ——— ◄ K
Tail gas (petroleum), gas recovery plant; Petroleum gas (A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-184-00-X	269-624-0	68308-04-3	►M5 ——— ◄ K
Tail gas (petroleum), gas recovery plant deethaniser; Petroleum gas (A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of C_1 through C_4.)	649-185-00-5	269-625-6	68308-05-4	►M5 ——— ◄ K
Tail gas (petroleum), hydrodesulphurised distillate and hydrodesulphurised naphtha fractionator, acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of hydrodesulphurised naphtha and distillate hydrocarbon streams and treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-186-00-0	269-626-1	68308-06-5	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), hydrodesulphurised vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from stripping stabilisation of catalytic hydrodesulphurised vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-187-00-6	269-627-7	68308-07-6	►M5 ——— ◄ K
Tail gas (petroleum), light straight-run naphtha stabiliser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation stabilisation of light straight-run naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-188-00-1	269-629-8	68308-09-8	►M5 ——— ◄ K
Tail gas (petroleum), propane-propylene alkylation feed prep deethaniser; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of the reaction products of propane with propylene. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-189-00-7	269-631-9	68308-11-2	►M5 ——— ◄ K
Tail gas (petroleum), vacuum gas oil hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-190-00-2	269-632-4	68308-12-3	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), catalytic cracked overheads; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from the catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5 and boiling in the range of approximately - 48 °C to 32 °C.)	649-191-00-8	270-071-2	68409-99-4	►M5 ——— ◄ K
Alkanes, C_{1-2}; Petroleum gas	649-193-00-9	270-651-5	68475-57-0	►M5 ——— ◄ K
Alkanes, C_{2-3}; Petroleum gas	649-194-00-4	270-652-0	68475-58-1	►M5 ——— ◄ K
Alkanes, C_{3-4}; Petroleum gas	649-195-00-X	270-653-6	68475-59-2	►M5 ——— ◄ K
Alkanes, C_{4-5}; Petroleum gas	649-196-00-5	270-654-1	68475-60-5	►M5 ——— ◄ K
Fuel gases; Petroleum gas (A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight hydrocarbons.)	649-197-00-0	270-667-2	68476-26-6	►M5 ——— ◄ K
Fuel gases, crude oil of distillates; Petroleum gas (A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately - 217 °C to - 12 °C.)	649-198-00-6	270-670-9	68476-29-9	►M5 ——— ◄ K
Hydrocarbons, C_{3-4}; Petroleum gas	649-199-00-1	270-681-9	68476-40-4	►M5 ——— ◄ K
Hydrocarbons, C_{4-5}; Petroleum gas	649-200-00-5	270-682-4	68476-42-6	►M5 ——— ◄ K
Hydrocarbons, C_{2-4}, C_3-rich; Petroleum gas	649-201-00-0	270-689-2	68476-49-3	►M5 ——— ◄ K
Petroleum gases, liquefied; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_7 and boiling in the range of approximately - 40 °C to 80 °C.)	649-202-00-6	270-704-2	68476-85-7	►M5 ——— ◄ K ►M5 ——— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
Petroleum gases, liquefied, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_7 and boiling in the range of approximately - 40 °C to 80 °C.)	649-203-00-1	270-705-8	68476-86-8	►M5 ——— ◄ K ►M5 ——— ◄
Gases (petroleum), C_{3-4}, isobutane-rich; Petroleum gas (A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from C_3 through C_6, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_4, predominantly isobutane.)	649-204-00-7	270-724-1	68477-33-8	►M5 ——— ◄ K
Distillates (petroleum), C_{3-6}, piperylene-rich; Petroleum gas (A complex combination of hydrocarbons from the distillation of saturated and unsaturated aliphatic hydrocarbons usually ranging in the carbon numbers C_3 through C_6. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly piperylenes.)	649-205-00-2	270-726-2	68477-35-0	►M5 ——— ◄ K
Gases (petroleum), butane splitter overheads; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of the butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-206-00-8	270-750-3	68477-69-0	►M5 ——— ◄ K
Gases (petroleum), C_{2-3}; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a catalytic fractionation process. It contains predominantly ethane, ethylene, propane, and propylene.)	649-207-00-3	270-751-9	68477-70-3	►M5 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), catalytic-cracked gas oil depropaniser bottoms, C_4-rich acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked gas oil hydrocarbon stream and treated to remove hydrogen sulphide and other acidic components. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.)	649-208-00-9	270-752-4	68477-71-4	►M5 ——— ◄ K
Gases (petroleum), catalytic-cracked naphtha debutaniser bottoms, C_{3-5}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5.)	649-209-00-4	270-754-5	68477-72-5	►M5 ——— ◄ K
Tail gas (petroleum), isomerised naphtha fractionation stabiliser; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation products from isomerised naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-210-00-X	269-628-2	68308-08-7	►M5 ——— ◄ K
Erionite	650-012-00-0		12510-42-8	
Asbestos	650-013-00-6		12001-29-5 12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5	

▼C1

Appendix 2

▼M61

Entry 28 – Carcinogens: Category 1 B

▼C1

Substances	Index No	EC No	CAS No	Notes
Beryllium	004-001-00-7	231-150-7	7440-41-7	
Beryllium compounds with the exception of aluminium beryllium silicates	004-002-00-2			
Beryllium oxide	004-003-00-8	215-133-1	1304-56-9	►M5 ———— ◄
▼M82 Diuron (ISO); 3-(3,4-dichlorophenyl)-1,1-dimethylurea	006-015-00-9	206-354-4	330-54-1	
▼C1 Sulfallate (ISO); 2-chlorallyl diethyldithiocarbamate	006-038-00-4	202-388-9	95-06-7	
Dimethylcarbamoyl chloride	006-041-00-0	201-208-6	79-44-7	
Diazomethane	006-068-00-8	206-382-7	334-88-3	
▼M14 O-isobutyl-N-ethoxy carbonyl-thiocarbamate	006-094-00-X	434-350-4	103122-66-3	
O-hexyl-N-ethoxycarbonylthiocarbamate	006-102-00-1	432-750-3	—	
▼C1 Hydrazine	007-008-00-3	206-114-9	302-01-2	►M5 ———— ◄
N,N-Dimethylhydrazine	007-012-00-5	200-316-0	57-14-7	
1,2-Dimethylhydrazine	007-013-00-0		540-73-8	►M5 ———— ◄
Salts of hydrazine	007-014-00-6			
Isobutyl nitrite	007-017-00-2	208-819-7	542-56-3	►M5 ———— ◄
Hydrazobenzene; 1,2-diphenylhydrazine	007-021-00-4	204-563-5	122-66-7	
Hydrazine bis(3-carboxy-4-hydroxybenzensulfonate)	007-022-00-X	405-030-1		
▼M45 E-glass microfibers of representative composition; [Calcium-aluminium-silicate fibres with random orientation with the following representative composition (% given by weight): SiO_2 50,0-56,0 %, Al_2O_3 13,0-16,0 %, B_2O_3 5,8-10,0 %, Na_2O < 0,6 %, K_2O < 0,4 %, CaO 15,0-24,0 %, MgO < 5,5 %, Fe_2O_3 < 0,5 %, F_2 < 1,0 %. Process: typically produced by flame attenuation and rotary process. (Additional individual elements may be present at low levels; the process list does not preclude innovation).]	014-046-00-4	—	—	

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M69 Silicon carbide fibres (with diameter < 3 μm, length > 5 μm and aspect ratio ≥ 3:1)	014-048-00-5	206-991-8	409-21-2 308076-74-6	
▼C1 Hexamethylphosphoric triamide; hexamethylphosphoramide	015-106-00-2	211-653-8	680-31-9	
▼M14 Mixture of: dimethyl(2-(hydroxymethylcarbamoyl)ethyl)phosphonate; Diethyl(2-(hydroxymethylcarbamoyl)ethyl)phosphonate; Methyl ethyl(2-(hydroxymethylcarbamoyl)ethyl)phosphonate	015-196-00-3	435-960-3	—	
▼M26 Indium phosphide	015-200-00-3	244-959-5	22398-80-7	
▼C1 Dimethyl sulphate	016-023-00-4	201-058-1	77-78-1	►M5 ——— ◄
Diethyl sulphate	016-027-00-6	200-589-6	64-67-5	
1,3-Propanesultone	016-032-00-3	214-317-9	1120-71-4	
Dimethylsulfamoylchloride	016-033-00-9	236-412-4	13360-57-1	
▼M73 Divanadium pentaoxide; vanadium pentoxide	023-001-00-8	215-239-8	1314-62-1	
▼C1 Potassium dichromate	024-002-00-6	231-906-6	7778-50-9	►M5 ——— ◄
Ammonium dichromate	024-003-00-1	232-143-1	7789-09-5	►M5 ——— ◄
▼M14 Sodium dichromate	024-004-00-7	234-190-3	10588-01-9	
———				
▼C1 Chromyl dichloride; chromic oxychloride	024-005-00-2	239-056-8	14977-61-8	
Potassium chromate	024-006-00-8	232-140-5	7789-00-6	
Calcium chromate	024-008-00-9	237-366-8	13765-19-0	
Strontium chromate	024-009-00-4	232-142-6	7789-06-2	
Chromium III chromate; chromic chromate	024-010-00-X	246-356-2	24613-89-6	
Chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in ►M5 Annex VI to Regulation (EC) No 1272/2008 ◄	024-017-00-8	—	—	
Sodium chromate	024-018-00-3	231-889-5	7775-11-3	►M5 ——— ◄
▼M61 Cobalt	027-001-00-9	231-158-0	7440-48-4	
▼C1 Cobalt dichloride	027-004-00-5	231-589-4	7646-79-9	►M5 ——— ◄
Cobalt sulphate	027-005-00-0	233-334-2	10124-43-3	►M5 ——— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M14				
Cobalt acetate	027-006-00-6	200-755-8	71-48-7	
Cobalt nitrate	027-009-00-2	233-402-1	10141-05-6	
Cobalt carbonate	027-010-00-8	208-169-4	513-79-1	
▼M26				
Gallium arsenide	031-001-00-4	215-114-8	1303-00-0	
▼C1				
Potassium bromate	035-003-00-6	231-829-8	7758-01-2	
Cadmium oxide	048-002-00-0	215-146-2	1306-19-0	►M5 ——— ◄
Cadmium fluoride	048-006-00-2	232-222-0	7790-79-6	►M5 ——— ◄
Cadmium chloride	048-008-00-3	233-296-7	10108-64-2	►M5 ——— ◄
Cadmium sulphate	048-009-00-9	233-331-6	10124-36-4	►M5 ——— ◄
Cadmium sulphide	048-010-00-4	215-147-8	1306-23-6	►M5 ——— ◄
Cadmium (pyrophoric)	048-011-00-X	231-152-8	7440-43-9	►M5 ——— ◄
▼M49				
Cadmium carbonate	048-012-00-5	208-168-9	513-78-0	
Cadmium hydroxide; cadmium dihydroxide	048-013-00-0	244-168-5	21041-95-2	
Cadmium nitrate; cadmium dinitrate	048-014-00-6	233-710-6	10325-94-7	
▼M14				
Lead chromate	082-004-00-2	231-846-0	7758-97-6	
Lead sulfochromate yellow; C.I. Pigment Yellow 34; [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.]	082-009-00-X	215-693-7	1344-37-2	
Lead chromate molybdate sulfate red; C.I. Pigment Red 104; [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77605.]	082-010-00-5	235-759-9	12656-85-8	
▼C1				
Isoprene (stabilised) 2-Methyl-1,3-butadiene	601-014-00-5	201-143-3	78-79-5	D
▼M73				
Cumene	601-024-00-X	202-704-5	98-82-8	
▼C1				
Benzo[a]pyrene; benzo[d,e,f]chrysene	601-032-00-3	200-028-5	50-32-8	
Benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	
Benzo[b]fluoranthene; benzo[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	
Benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3	

▼C1

Substances	Index No	EC No	CAS No	Notes
Benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	
Dibenz[a, h]anthracene	601-041-00-2	200-181-8	53-70-3	
Chrysene	601-048-00-0	205-923-4	218-01-9	
Benzo[e]pyrene	601-049-00-6	205-892-7	192-97-2	
▼M61 Benzo[*rst*]pentaphene	601-090-00-X	205-877-5	189-55-9	
Dibenzo[*b,def*]chrysene; dibenzo [*a,h*]pyrene	601-091-00-5	205-878-0	189-64-0	
▼M69 Dibenzo[*def,p*]chrysene; dibenzo [*a,l*]pyrene	601-092-00-0	205-886-4	191-30-0	
▼C1 1,2-Dibromoethane; ethylene dibromide	602-010-00-6	203-444-5	106-93-4	►M5 ———— ◄
1,2-Dichloroethane; ethylene dichloride	602-012-00-7	203-458-1	107-06-2	
▼M45 1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5	
▼C1 1,2-Dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	
Bromoethylene	602-024-00-2	209-800-6	593-60-2	
Trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6	
Chloroprene (stabilised) 2-Chlorobuta-1,3-diene	602-036-00-8	204-818-0	126-99-8	D ►M5 ———— ◄
α-Chlorotoluene; benzyl chloride	602-037-00-3	202-853-6	100-44-7	►M5 ———— ◄
α,α,α-Trichlorotoluene; benzotrichloride	602-038-00-9	202-634-5	98-07-7	
1,2,3-Trichloropropane	602-062-00-X	202-486-1	96-18-4	D
1,3-Dichloro-2-propanol	602-064-00-0	202-491-9	96-23-1	
Hexachlorobenzene	602-065-00-6	204-273-9	118-74-1	
1,4-Dichlorobut-2-ene	602-073-00-X	212-121-8	764-41-0	►M5 ———— ◄
2,3-dibromopropan-1-ol; 2,3-dibromo-1-propanol	602-088-00-1	202-480-9	96-13-9	►M5 ———— ◄
α,α,α,4-Tetrachlorotoluene p-Chlorobenzotrichloride	602-093-00-9	226-009-1	5216-25-1	►M5 ———— ◄
▼M69 Tetrafluoroethylene	602-110-00-X	204-126-9	116-14-3	
▼C1 Ethylene oxide; oxirane	603-023-00-X	200-849-9	75-21-8	
▼M69 1,4-Dioxane	603-024-00-5	204-661-8	123-91-1	
▼C1 1-Chloro-2,3-epoxypropane; epichlorhydrin	603-026-00-6	203-439-8	106-89-8	
Propylene oxide; 1,2-epoxypropane; methyloxirane	603-055-00-4	200-879-2	75-56-9	►M5 ———— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
2,2'-Bioxirane; 1,2:3,4-diepoxybutane	603-060-00-1	215-979-1	1464-53-5	
2,3-Epoxypropan-1-ol; glycidol oxiranemethanol	603-063-00-8	209-128-3	556-52-5	►M5 ——— ◄
▼M69 *m*-bis(2,3-epoxypropoxy)benzene; resorcinol diglycidyl ether	603-065-00-9	202-987-5	101-90-6	
7-Oxa-3-oxiranylbicyclo[4.1.0] heptane; 1,2-epoxy-4-epoxyethylcyclohexane; 4-vinylcyclohexene diepoxide	603-066-00-4	203-437-7	106-87-6	
▼C1 Phenyl glycidyl ether; 2,3-epoxypropyl phenyl ether; 1,2-epoxy-3-phenoxypropane	603-067-00-X	204-557-2	122-60-1	►M5 ——— ◄
Styrene oxide; (epoxyethyl) benzene; phenyloxirane	603-084-00-2	202-476-7	96-09-3	
Furan	603-105-00-5	203-727-3	110-00-9	►M5 ——— ◄
R-2,3-epoxy-1-propanol	603-143-00-2	404-660-4	57044-25-4	►M5 ——— ◄
(R)-1-chloro-2,3-epoxypropane	603-166-00-8	424-280-2	51594-55-9	
▼M14 2,3-Epoxypropyltrimethylammonium chloride …%; Glycidyl trimethylammonium chloride …%	603-211-00-1	221-221-0	3033-77-0	B
1-(2-amino-5-chlorophenyl)-2,2,2-trifluoro-1,1-ethanediol, hydrochloride; [containing < 0,1 % 4-chloroaniline (EC No 203-401-0)]	603-221-01-3	433-580-2	214353-17-0	
▼M69 2,2-bis(bromomethyl)propane-1,3-diol	603-240-00-X	221-967-7	3296-90-0	
▼M73 2,2-dimethylpropan-1-ol, tribromo derivative; 3-bromo-2,2-bis(bromomethyl)propan-1-ol	603-243-00-6	253-057-0	36483-57-5; 1522-92-5	
▼M61 1,2-dihydroxybenzene; pyrocatechol	604-016-00-4	204-427-5	120-80-9	
▼C1 4-Amino-3-fluorophenol	604-028-00-X	402-230-0	399-95-1	
▼M82 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol; tetrabromobisphenol-A	604-074-00-0	201-236-9	79-94-7	
▼M14 Phenolphthalein	604-076-00-1	201-004-7	77-09-8	
▼M49 Formaldehyde … %	605-001-00-5	200-001-8	50-00-0	
▼M61 acetaldehyde; ethanal	605-003-00-6	200-836-8	75-07-0	
▼C1 5-Allyl-1,3-benzodioxole; safrole	605-020-00-9	202-345-4	94-59-7	►M5 ——— ◄
3-Propanolide; 1,3-propiolactone	606-031-00-1	200-340-1	57-57-8	
4,4'-Bis(dimethylamino)benzophenone Michler's ketone	606-073-00-0	202-027-5	90-94-8	

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▼M49 Anthraquinone	606-151-00-4	201-549-0	84-65-1	
▼M73 Benzophenone	606-153-00-5	204-337-6	119-61-9	
▼M49 2,3-epoxypropyl methacrylate; glycidyl methacrylate	607-123-00-4	203-441-9	106-91-2	
▼C1 Urethane(INN); ethyl carbamate	607-149-00-6	200-123-1	51-79-6	
Methyl acrylamidomethoxyacetate (containing ≥ 0,1 % acrylamide)	607-190-00-X	401-890-7	77402-03-0	
Methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide)	607-210-00-7	403-230-3	77402-05-2	
Oxiranemethanol, 4-methylbenzene-sulfonate, (S)-	607-411-00-X	417-210-7	70987-78-9	
▼M14 Ethyl 1-(2,4-dichlorophenyl)-5-(trichloromethyl)-1H-1,2,4-triazole-3-carboxylate	607-626-00-9	401-290-5	103112-35-2	
▼M49 N,N′-methylenedimorpholine; N,N′-methylenebismorpholine; [formaldehyde released from N,N′-methylenebismorpholine]; [MBM]	607-721-00-5	227-062-3	5625-90-1	
▼M61 spirodiclofen (ISO); 3-(2,4-dichlorophenyl)-2-oxo-1-oxaspiro[4.5]dec-3-en-4-yl 2,2-dimethylbutyrate	607-730-00-4	-	148477-71-8	
▼M69 Sodium *N*-(hydroxymethyl) glycinate; [formaldehyde released from sodium *N*-(hydroxymethyl) glycinate]	607-746-00-1	274-357-8	70161-44-3	
▼C1 Acrylonitrile	608-003-00-4	203-466-5	107-13-1	D ►M5 ——— ◄
2-Nitropropane	609-002-00-1	201-209-1	79-46-9	
▼M14 2,4-Dinitrotoluene; [1] Dinitrotoluene; [2]	609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]	
▼C1 5-Nitroacenaphthene	609-037-00-2	210-025-0	602-87-9	
2-Nitronaphthalene	609-038-00-8	209-474-5	581-89-5	
4-Nitrobiphenyl	609-039-00-3	202-204-7	92-93-3	
Nitrofen (ISO); 2,4-dichlorophenyl4-nitrophenyl ether	609-040-00-9	217-406-0	1836-75-5	
2-Nitroanisole	609-047-00-7	202-052-1	91-23-6	

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2,6-Dinitrotoluene	609-049-00-8	210-106-0	606-20-2	►M5 ——— ◄
2,3-dinitrotoluene	609-050-00-3	210-013-5	602-01-7	►M5 ——— ◄
3,4-dinitrotoluene	609-051-00-9	210-222-1	610-39-9	►M5 ——— ◄
3,5-dinitrotoluene	609-052-00-4	210-566-2	618-85-9	►M5 ——— ◄
Hydrazine-tri-nitromethane	609-053-00-X	414-850-9	—	
2,5-dinitrotoluene	609-055-00-0	210-581-4	619-15-8	►M5 ——— ◄
2-Nitrotoluene	609-065-00-5	201-853-3	88-72-2	►M5 ——— ◄
Azobenzene	611-001-00-6	203-102-5	103-33-3	►M5 ——— ◄
Methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate	611-004-00-2	209-765-7	592-62-1	
Disodium {5-[(4′-((2,6-hydroxy-3-((2-hydroxy-5-sulphophenyl)azo)-phenyl)azo) (1,1′-biphenyl)-4-yl)-azo]salicylato(4-)} cuprate(2-); CI Direct Brown 95	611-005-00-8	240-221-1	16071-86-6	
4-o-Tolylazo-o-toluidine; 4-amino-2′,3-dimethylazobenzene; fast garnet GBC base; AAT; o-aminoazotoluene	611-006-00-3	202-591-2	97-56-3	
4-Aminoazobenzene	611-008-00-4	200-453-6	60-09-3	
Benzidine based azo dyes; 4,4'-diarylazobiphenyl dyes, with the exception of those specified elsewhere in ►M5 Annex VI to Regulation (EC) No 1272/2008 ◄	611-024-00-1	—	—	
Disodium 4-amino 3-[[4′-[(2,4-diaminophenyl)azo][1,1′-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphtalene-2,7-disulphonate; C.I. Direct Black 38	611-025-00-7	217-710-3	1937-37-7	
Tetrasodium 3,3′-[[1,1′-biphenyl]-4,4′-dylbis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]; C.I. Direct Blue 6	611-026-00-2	220-012-1	2602-46-2	
Disodium 3,3′-[[1,1′-bifenyl]-4,4′ dylbis(azo)]bis[4-aminonaphthalene-1-sulphonate); C.I. Direct Red 28	611-027-00-8	209-358-4	573-58-0	
o-Dianisidine based azo dyes; 4,4'-diarylazo-3,3'-dimethoxybiphenyl dyes with the exception of those mentioned elsewhere in ►M5 Annex VI to Regulation (EC) No 1272/2008 ◄	611-029-00-9	—	—	

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Substances	Index No	EC No	CAS No	Notes
o-Tolidine based dyes; 4,4'-diarylazo-3,3'-dimethylbiphenyl dyes, with the exception of those mentioned elsewhere in ►M5 Annex VI to Regulation (EC) No 1272/2008 ◄	611-030-00-4	—	—	
1,4,5,8-Tetraaminoanthraquinone; C.I. Disperse Blue 1	611-032-00-5	219-603-7	2475-45-8	
6-hydroxy-1-(3-isopropoxy-propyl)-4-methyl-2-oxo-5-[4-(phenylazo)phenylazo]-1,2-dihydro-3-pyridinecarbonitrile	611-057-00-1	400-340-3	85136-74-9	
(6-(4-hydroxy-3-(2-methoxyphenylazo)-2-sulfonato-7-naphthylamino)-1,3,5-triazin-2,4-diyl)bis[(amino-1-methylethyl)-ammonium] formate	611-058-00-7	402-060-7	108225-03-2	
Trisodium-[4'-(8-acetylamino-3,6-disulfonato-2-naphthylazo)-4"-(6-benzoylamino-3-sulfonato-2-naphthylazo)biphenyl-1,3',3",1'"-tetraolato-O, O', O", O'"]copper(II)	611-063-00-4	413-590-3	164058-22-4	
(Methylenebis(4,1-phenylenazo(1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diyl)))-1,1'-dipyridinium dichloride dihydrochloride	611-099-00-0	401-500-5	—	
Phenylhydrazine [1]	612-023-00-9	202-873-5 [1]	100-63-0 [1]	►M5 ———— ◄
Phenylhydrazinium chloride [2]		200-444-7 [2]	59-88-1 [2]	
Phenylhydrazine hydrochloride [3]		248-259-0 [3]	27140-08-5 [3]	
Phenylhydrazinium sulphate (2:1) [4]		257-622-2 [4]	52033-74-6 [4]	
2-Methoxyaniline; o-anisidine	612-035-00-4	201-963-1	90-04-0	►M5 ———— ◄
3,3′-Dimethoxybenzidine; o-dianisidine	612-036-00-X	204-355-4	119-90-4	
Salts of 3,3′-dimethoxybenzidine; salts of o-dianisidine	612-037-00-5			
3,3′-Dimethylbenzidine; o-tolidine	612-041-00-7	204-358-0	119-93-7	
▼M14 N,N′-diacetylbenzidine	612-044-00-3	210-338-2	613-35-4	
▼C1 4,4′-Diaminodiphenylmethane; 4,4′-methylenedianiline	612-051-00-1	202-974-4	101-77-9	►M5 ———— ◄
3,3′-Dichlorobenzidine; 3,3′-dichlorobiphenyl-4,4′-ylenediamine	612-068-00-4	202-109-0	91-94-1	

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Salts of 3,3′-dichlorobenzidine; salts of 3,3′-dichlorobiphenyl-4,4′-ylenediamine	612-069-00-X	210-323-0[1] 265-293-1[2] 277-822-3[3]	612-83-9[1] 64969-34-2[2] 74332-73-3[3]	
N-nitrosodimethylamine; dimethylnitrosamine	612-077-00-3	200-549-8	62-75-9	►M5 ——— ◄
2,2′-Dichloro-4,4′-methylene-dianiline; 4,4′-Methylene bis(2-chloroaniline)	612-078-00-9	202-918-9	101-14-4	
Salts of 2,2′-dichloro-4,4-methylenedianiline; salts of 4,4′-methylenebis(2-chloroaniline)	612-079-00-4			
Salts of 3,3′-dimethylbenzidine; salts of o-tolidine	612-081-00-5	210-322-5[1] 265-294-7[2] 277-985-0[3]	612-82-8[1] 64969-36-4[2] 74753-18-7[3]	
1-Methyl-3-nitro-1-nitrosoguanidine	612-083-00-6	200-730-1	70-25-7	
4,4′-Methylenedi-o-toluidine	612-085-00-7	212-658-8	838-88-0	
2,2′-(Nitrosoimino)bisethanol	612-090-00-4	214-237-4	1116-54-7	
o-Toluidine	612-091-00-X	202-429-0	95-53-4	
Nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7	

▼M14

4-Methyl-m-phenylenediamine; 2,4-Toluenediamine	612-099-00-3	202-453-1	95-80-7	

▼C1

Toluene-2,4-diammonium sulphate	612-126-00-9	265-697-8	65321-67-7	
4-Chloraniline	612-137-00-9	203-401-0	106-47-8	

▼M14

Methyl-phenylene diamine; Diaminotoluene; [technical product – reaction mass of 4-methyl-m-phenylene diamine (EC No 202-453-1) and 2-methyl-m-phenylene diamine (EC No 212-513-9)]	612-151-00-5	—	—	

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4-Chloro-o-toluidine [1] 4-chloro-o-toluidine hydrochloride [2]	612-196-00-0	202-441-6 [1] 221-627-8 [2]	95-69-2 [1] 3165-93-3 [2]	►M5 ——— ◄
2,4,5-Trimethylaniline [1] 2,4,5-trimethylaniline hydrochloride [2]	612-197-00-6	205-282-0 [1] -[2]	137-17-7 [1] 21436-97-5 [2]	►M5 ——— ◄

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Substances	Index No	EC No	CAS No	Notes
4,4'-Thiodianiline [1] and its salts	612-198-00-1	205-370-9 [1]	139-65-1 [1]	►M5 ——— ◄
4,4'-Oxydianiline [1] and its salts p-Aminophenyl ether [1]	612-199-00-7	202-977-0 [1]	101-80-4 [1]	►M5 ——— ◄
2,4-Diaminoanisole [1] 4-methoxy-m-phenylenediamine 2,4-diaminoanisole sulphate [2]	612-200-00-0	210-406-1 [1] 254-323-9 [2]	615-05-4 [1] 39156-41-7 [2]	
N, N,N',N'-tetramethyl-4,4'-methylendianiline	612-201-00-6	202-959-2	101-61-1	
C.I. Basic Violet 3 with ≥ 0,1 % of Michler's ketone (EC No 202-027-5)	612-205-00-8	208-953-6	548-62-9	►M5 ——— ◄
6-Methoxy-m-toluidine p-cresidine	612-209-00-X	204-419-1	120-71-8	►M5 ——— ◄
▼M14 Biphenyl-3,3′,4,4′-tetrayltetraamine; Diaminobenzidine	612-239-00-3	202-110-6	91-95-2	
(2-chloroethyl)(3-hydroxypropyl) ammonium chloride	612-246-00-1	429-740-6	40722-80-3	
3-Amino-9-ethyl carbazole; 9-Ethylcarbazol-3-ylamine	612-280-00-7	205-057-7	132-32-1	
▼M49 Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2); [formaldehyde released from 3,3′-methylenebis[5-methyloxazolidine]; formaldehyde released from oxazolidin]; [MBO]	612-290-00-1	—	—	
Reaction products of paraformaldehyde with 2-hydroxypropylamine (ratio 1:1); [formaldehyde released from α,α,α-trimethyl-1,3,5-triazine-1,3,5 (2H,4H,6H)-triethanol]; [HPT]	612-291-00-7	—	—	
Methylhydrazine	612-292-00-2	200-471-4	60-34-4	
▼M82 *N,N*-dimethyl-*p*-toluidine	612-296-00-4	202-805-4	99-97-8	
▼C1 Ethyleneimine; aziridine	613-001-00-1	205-793-9	151-56-4	
2-Methylaziridine; propyleneimine	613-033-00-6	200-878-7	75-55-8	►M5 ——— ◄
Captafol (ISO); 1,2,3,6-tetrahydro-N-(1,1,2,2-tetrachloroethylthio) phthalimide	613-046-00-7	219-363-3	2425-06-1	

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Substances	Index No	EC No	CAS No	Notes
Carbadox (INN); methyl 3-(quinoxalin-2-ylmethylene)carbazate 1,4-dioxide; 2-(methoxycarbonylhydrazonomethyl) quinoxaline 1,4-dioxide	613-050-00-9	229-879-0	6804-07-5	
A mixture of: 1,3,5-tris(3-aminomethylphenyl)-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione; a mixture of oligomers of 3,5-bis (3-aminomethylphenyl)-1-poly [3,5-bis(3-aminomethylphenyl)-2,4,6-trioxo-1,3,5-(1H,3H,5H)-triazin-1-yl]-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione	613-199-00-X	421-550-1	—	
▼M14 Quinoline	613-281-00-5	202-051-6	91-22-5	
▼M82 4-nitrosomorpholine	613-346-00-8	-	59-89-2	
4-methylimidazole	613-349-00-4	212-497-3	822-36-6	
▼C1 Acrylamide	616-003-00-0	201-173-7	79-06-1	
▼M69 Butanone oxime; ethyl methyl ketoxime; ethyl methyl ketone oxime	616-014-00-0	202-496-6	96-29-7	
▼C1 Thioacetamide	616-026-00-6	200-541-4	62-55-5	
A mixture of: N-[3-hydroxy-2-(2-methylacryloylamino-methoxy) propoxymethyl]-2-methylacrylamide; N-[2,3-Bis-(2-methylacryloylamino-methoxy)propoxymethyl]-2-methylacrylamide; methacrylamide; 2-methyl-N-(2-methyl-acryloylaminomethoxymethyl)-acrylamide; N-2,3-dihydroxypropoxymethyl)-2-methylacrylamide	616-057-00-5	412-790-8	—	
▼M14 N-[6,9-dihydro-9-[[2-hydroxy-1-(hydroxymethyl)ethoxy]methyl]-6-oxo-1H-purin-2-yl]acetamide	616-148-00-X	424-550-1	84245-12-5	
▼M69 *N*-(hydroxymethyl)acrylamide; methylolacrylamide; [NMA]	616-230-00-5	213-103-2	924-42-5	
▼C1 Distillates (coal tar), benzole fraction; Light oil (A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists of hydrocarbons having carbon numbers primarily in the range of C_4 to C_{10} and distilling in the approximate range of 80 to 160 °C.)	648-001-00-0	283-482-7	84650-02-2	
Tar oils, brown-coal; Light oil (The distillate from lignite tar boiling in the range of approximately 80 to 250 °C. Composed primarily of aliphatic and aromatic hydrocarbons and monobasic phenols.)	648-002-00-6	302-674-4	94114-40-6	J

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Substances	Index No	EC No	CAS No	Notes
Benzol forerunnings (coal); Light oil redistillate, low boiling (The distillate from coke oven light oil having an approximate distillation range below 100 °C. Composed primarily of C_4 to C_6 aliphatic hydrocarbons.)	648-003-00-1	266-023-5	65996-88-5	J
Distillates (coal tar), benzole fraction, BTX-rich; Light oil redistillate, low boiling (A residue from the distillation of crude benzole to remove benzole fronts. Composed primarily of benzene, toluene and xylenes boiling in the range of approximately 75 to 200 °C.)	648-004-00-7	309-984-9	101896-26-8	J
Aromatic hydrocarbons, C_{6-10}, C_8-rich; Light oil redistillate, low boiling	648-005-00-2	292-697-5	90989-41-6	J
Solvent naphtha (coal), light; Light oil redistillate, low boiling	648-006-00-8	287-498-5	85536-17-0	J
Solvent naphtha (coal), xylene-styrene cut; Light oil redistillate, intermediate boiling	648-007-00-3	287-502-5	85536-20-5	J
Solvent naphtha (coal), coumarone-styrene contg.; Light oil redistillate, intermediate boiling	648-008-00-9	287-500-4	85536-19-2	J
Naphtha (coal), distillation residues; Light oil redistillate, high boiling (The residue remaining from the distillation of recovered naphtha. Composed primarily of naphthalene and condensation products of indene and styrene.)	648-009-00-4	292-636-2	90641-12-6	J
Aromatic hydrocarbons, C_8; Light oil redistillate, high boiling	648-010-00-X	292-694-9	90989-38-1	J
Aromatic hydrocarbons, C_{8-9}, hydrocarbon resin polymerisation by-product; Light oil redistillate, high boiling (A complex combination of hydrocarbons obtained from the evaporation of solvent under vacuum from polymerised hydrocarbon resin. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_9 and boiling in the range of approximately 120 to 215 °C.)	648-012-00-0	295-281-1	91995-20-9	J

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Substances	Index No	EC No	CAS No	Notes
Aromatic hydrocarbons, C_{9-12}, benzene distillation; Light oil redistillate, high boiling	648-013-00-6	295-551-9	92062-36-7	J
Extract residues (coal), benzole fraction alk., acid ext.; Light oil extract residues, low boiling (The redistillate from the distillate, freed of tar acids and tar bases, from bituminous coal high temperature tar boiling in the approximate range of 90 to 160 °C. It consists predominantly of benzene, toluene and xylenes.)	648-014-00-1	295-323-9	91995-61-8	J
Extract residues (coal tar), benzole fraction alk., acd ext.; Light oil extract residues, low boiling (A complex combination of hydrocarbons obtained by the redistillation of the distillate of high temperature coal tar (tar acid and tar base free). It consists predominantly of unsubstituted and substituted mononuclear aromatic hydrocarbons boiling in the range of 85 to 195 °C.)	648-015-00-7	309-868-8	101316-63-6	J
Extract residues (coal), benzole fraction acid; Light oil extract residues, low boiling (An acid sludge by-product of the sulphuric acid refining of crude high temperature coal. Composed primarily of sulfuric acid and organic compounds.)	648-016-00-2	298-725-2	93821-38-6	J
Extract residues (coal), light oil alk., distillation overheads; Light oil extract residues, low boiling (The first fraction from the distillation of aromatic hydrocarbons, coumarone, naphthalene and indene rich prefactionator bottoms or washed carbolic oil boiling substantially below 145 °C. Composed primarily of C_7 and C_8 aliphatic and aromatic hydrocarbons.)	648-017-00-8	292-625-2	90641-02-4	J

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Substances	Index No	EC No	CAS No	Notes
Extract residues (coal), light oil alk., acid ext., indene fraction; Light oil extract residues, intermediate boiling	648-018-00-3	309-867-2	101316-62-5	J
Extract residues (coal), light oil alk., indene naphtha fraction; Light oil extract residues, high boiling (The distillate from aromatic hydrocarbons, coumarone, naphthalene and indene rich prefractionator bottoms or washed carbolic oils, having an approximate boiling range of 155 to 180 °C. Composed primarily of indene, indan and trimethylbenzenes.)	648-019-00-9	292-626-8	90641-03-5	J
Solvent naphtha (coal); Light oil extract residues, high boiling (The distillate from either high temperature coal tar, coke oven light oil, or coal tar oil alkaline extract residue having an approximate distillation range of 130 to 210 °C. Composed primarily of indene and other polycyclic ring systems containing a single aromatic ring. May contain phenolic compounds and aromatic nitrogen bases.)	648-020-00-4	266-013-0	65996-79-4	J
Distillates (coal tar), light oils, neutral fraction; Light oil extract residues, high boiling (A distillate from the fractional distillation of high temperature coal tar. Composed primarily of alkyl-substituted one ring aromatic hydrocarbons boiling in the range of approximately 135 to 210 °C. May also include unsaturated hydrocarbons such as indene and coumarone.)	648-021-00-X	309-971-8	101794-90-5	J
Distillates (coal tar), light oils, acid extracts; Light oil extract residues, high boiling (This oil is a complex mixture of aromatic hydrocarbons, primarily indene, naphthalene, coumarone, phenol and o-, m- and p-cresol and boiling in the range of 140 to 215 °C.)	648-022-00-5	292-609-5	90640-87-2	J

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Substances	Index No	EC No	CAS No	Notes
Distillates (coal tar), light oils; Carbolic oil (A complex combination of hydrocarbons obtained by distillation of coal tar. It consists of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills at the approximate range of 150 to 210 °C.)	648-023-00-0	283-483-2	84650-03-3	J
Tar oils, coal; Carbolic oil (The distillate from high temperature coal tar having an approximate distillation range of 130 to 250 °C. Composed primarily of naphthalene, alkylnaphthalenes, phenolic compounds, and aromatic nitrogen bases.)	648-024-00-6	266-016-7	65996-82-9	J
Extract residues (coal), light oil alk., acid extract; Carbolic oil extract residue (The oil resulting from the acid washing of alkali-washed carbolic oil to remove the minor amounts of basic compounds (tar bases). Composed primarily of indene, indan and alkylbenzenes.)	648-026-00-7	292-624-7	90641-01-3	J
Extract residues (coal), tar oil alkaline; Carbolic oil extract residue (The residue obtained from coal tar oil by an alkaline wash such as aqueous sodium hydroxide after the removal of crude coal tar acids. Composed primarily of naphthalenes and aromatic nitrogen bases.)	648-027-00-2	266-021-4	65996-87-4	J
Extract oils (coal), light oil; Acid Extract (The aqueous extract produced by an acidic wash of alkali-washed carbolic oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.)	648-028-00-8	292-622-6	90640-99-6	J

▼C1

Substances	Index No	EC No	CAS No	Notes
Pyridine, alkyl derivs.; Crude tar bases (The complex combination of polyalkylated pyridines derived from coal tar distillation or as high-boiling distillates approximately above 150 °C from the reaction of ammonia with acetaldehyde, formaldehyde or paraformaldehyde.)	648-029-00-3	269-929-9	68391-11-7	J
Tar bases, coal, picoline fraction; Distillate bases (Pyridine bases boiling in the range of approximately 125 to 160 °C obtained by distillation of neutralised acid extract of the base-containing tar fraction obtained by the distillation of bituminous coal tars. Composed chiefly of lutidines and picolines.)	648-030-00-9	295-548-2	92062-33-4	J
Tar bases, coal, lutidine fraction; Distillate bases	648-031-00-4	293-766-2	91082-52-9	J
Extract oils (coal), tar base, collidine fraction; Distillate bases (The extract produced by the acid extraction of bases from crude coal tar aromatic oils, neutralisation, and distillation of the bases. Composed primarily of collidines, aniline, toluidines, lutidines, xylidines.)	648-032-00-X	273-077-3	68937-63-3	J
Tar bases, coal, collidine fraction; Distillate bases (The distillation fraction boiling in the range of approximately 181 to 186 °C from the crude bases obtained from the neutralised, acid-extracted base-containing tar fractions obtained by the distillation of bituminous coal tar. It contains chiefly aniline and collidines.)	648-033-00-5	295-543-5	92062-28-7	J
Tar Bases, coal, aniline fraction; Distillate bases (The distillation fraction boiling in the range of approximately 180 to 200 °C from the crude bases obtained by dephenolating and debasing the carbolated oil from the distillation of coal tar. It contains chiefly aniline, collidines, lutidines and toluidines.)	648-034-00-0	295-541-4	92062-27-6	J

▼C1

Substances	Index No	EC No	CAS No	Notes
Tar bases, coal, toluidine fraction; Distillate bases	648-035-00-6	293-767-8	91082-53-0	J
Distillates (petroleum), alkene-alkyene manuf. pyrolysis oil, mixed with high-temperature coal tar, indene fraction; Redistillates (A complex combination of hydrocarbons obtained as a redistillate from the fractional distillation of bituminous coal high temperature tar and residual oils that are obtained by the pyrolytic production of alkenes and alkynes from petroleum products or natural gas. It consists predominantly of indene and boils in a range of approximately 160 to 190 °C.)	648-036-00-1	295-292-1	91995-31-2	J
Distillates (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates (The redistillate obtained from the fractional distillation of bituminous coal high temperature tar and pyrolysis residual oils and boiling in the range of approximately 190 to 270 °C. Composed primarily of substituted dinuclear aromatics.)	648-037-00-7	295-295-8	91995-35-6	J
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, redistillate; Redistillates (The redistillate from the fractional distillation of dephenolated and debased methylnaphthalene oil obtained from bituminous coal high temperature tar and pyrolysis residual oils boiling in the approximate range of 220 to 230 °C. It consists predominantly of unsubstituted and substituted dinuclear aromatic hydrocarbons.)	648-038-00-2	295-329-1	91995-66-3	J
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates (A neutral oil obtained by debasing and dephenolating the oil obtained from the distillation of high temperature tar and pyrolysis residual oils which has a boiling range of 225 to 255 °C. Composed primarily of substituted dinuclear aromatic hydrocarbons.)	648-039-00-8	310-170-0	122070-79-5	J

▼C1

Substances	Index No	EC No	CAS No	Notes
Extract oils (coal), coal tar residual pyrolysis oils, naphthalene oil, distillation residues; Redistillates (Residue from the distillation of dephenolated and debased methylnaphthalene oil (from bituminous coal tar and pyrolysis residual oils) with a boiling range of 240 to 260 °C. Composed primarily of substituted dinuclear aromatic and heterocyclic hydrocarbons.)	648-040-00-3	310-171-6	122070-80-8	J
Absorption oils, bicyclo arom. and heterocyclic hydrocarbon fraction; Wash oil redistillate (A complex combination of hydrocarbons obtained as a redistillate from the distillation of wash oil. It consists predominantly of two-ringed aromatic and heterocyclic hydrocarbons boiling in the range of approximately 260 to 290 °C.)	648-041-00-9	309-851-5	101316-45-4	M
Distillates (coal tar), upper, fluorene-rich; Wash oil redistillate (A complex combination of hydrocarbons obtained by the crystallisation of tar oil. It consists of aromatic and polycyclic hydrocarbons primarily fluorene and some acenaphthene.)	648-042-00-4	284-900-0	84989-11-7	M

▼M14

Creosote oil, acenaphthene fraction, acenaphthene-free; Wash Oil Redistillate; [The oil remaining after removal by a crystallization process of acenaphthene from acenaphthene oil from coal tar. Composed primarily of naphthalene and alkylnaphthalenes.]	648-043-00-X	292-606-9	90640-85-0	M

▼C1

Distillates (coal tar), heavy oils; Heavy anthracene oil (Distillate from the fractional distillation of coal tar of bituminous coal, with boiling range of 240 to 400 °C. Composed primarily of tri- and polynuclear hydrocarbons and heterocyclic compounds.)	648-044-00-5	292-607-4	90640-86-1	

▼C1

Substances	Index No	EC No	CAS No	Notes
Anthracene oil, acid ext.; Anthracene oil extract residue (A complex combination of hydrocarbons from the base-freed fraction obtained from the distillation of coal tar and boiling in the range of approximately 325 to 365 °C. It contains predominantly anthracene and phenanthrene and their alkyl derivatives.)	648-046-00-6	295-274-3	91995-14-1	M
Distillates (coal tar); Heavy anthracene oil (The distillate from coal tar having an approximate distillation range of 100 to 450 °C. Composed primarily of two to four membered condensed ring aromatic hydrocarbons, phenolic compounds, and aromatic nitrogen bases.)	648-047-00-1	266-027-7	65996-92-1	M
Distillates (coal tar), pitch, heavy oils; Heavy anthracene oil (The distillate from the distillation of the pitch obtained from bituminous high temperature tar. Composed primarily of tri- and polynuclear aromatic hydrocarbons and boiling in the range of approximately 300 to 470 °C. The product may also contain heteroatoms.)	648-048-00-7	295-312-9	91995-51-6	M
Distillates (coal tar), pitch; Heavy anthracene oil (The oil obtained from condensation of the vapours from the heat treatment of pitch. Composed primarily of two-to four-ring aromatic compounds boiling in the range of 200 to greater than 400 °C.)	648-049-00-2	309-855-7	101316-49-8	M
Distillates (coal tar), heavy oils, pyrene fraction; Heavy anthracene oil redistillate (The redistillate obtained from the fractional distillation of pitch distillate boiling in the range of approximately 350 to 400 °C. Consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.)	648-050-00-8	295-304-5	91995-42-5	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (coal tar), pitch, pyrene fraction; Heavy anthracene oil redistillate (The redistillate obtained from the fractional distillation of pitch distillate and boiling in the range of approximately 380 to 410 °C. Composed primarily of tri- and polynuclear aromatic hydrocarbons and heterocyclic compounds.)	648-051-00-3	295-313-4	91995-52-7	M
Paraffin waxes (coal), brown-coal high-temperature tar, carbon-treated; Coal tar extract (A complex combination of hydrocarbons obtained by the treatment of lignite carbonisation tar with activated carbon for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-052-00-9	308-296-6	97926-76-6	M
Paraffin waxes (coal), brown-coal high-temperature tar, carbon-treated; Coal tar extract (A complex combination of hydrocarbons obtained by the treatment of lignite carbonisation tar with bentonite for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-053-00-4	308-297-1	97926-77-7	M
Pitch; Pitch	648-054-00-X	263-072-4	61789-60-4	M

▼M26

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▼C1

Substances	Index No	EC No	CAS No	Notes
Pitch, coal tar, high temperature, heat-treated; Pitch (The heat treated residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 80 to 180 °C. Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.)	648-056-00-0	310-162-7	121575-60-8	M
Pitch, coal tar, high temperature, secondary; Pitch redistillate (The residue obtained during the distillation of high boiling fractions from bituminous coal high temperature tar and/or pitch coke oil, with a softening point of 140 to 170 °C according to DIN 52025. Composed primarily of tri- and polynuclear aromatic compounds which also contain heteroatoms.)	648-057-00-6	302-650-3	94114-13-3	M
Residues (coal tar), pitch distillation; Pitch redistillate (Residue from the fractional distillation of pitch distillate boiling in the range of approximately 400 to 470 °C. Composed primarily of polynuclear aromatic hydrocarbons, and heterocyclic compounds.)	648-058-00-1	295-507-9	92061-94-4	M
Tar, coal, high-temperature, distillation and storage residues; Coal tar solids residue (Coke- and ash-containing solid residues that separate on distillation and thermal treatment of bituminous coal high temperature tar in distillation installations and storage vessels. Consists predominantly of carbon and contains a small quantity of hetero compounds as well as ash components.)	648-059-00-7	295-535-1	92062-20-9	M
Tar, coal, storage residues; Coal tar solids residue (The deposit removed from crude coal tar storages. Composed primarily of coal tar and carbonaceous particulate matter.)	648-060-00-2	293-764-1	91082-50-7	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Tar, coal, high-temperature, residues; Coal tar solids residue (Solids formed during the coking of bituminous coal to produce crude bituminous coal high temperature tar. Composed primarily of coke and coal particles, highly aromatised compounds and mineral substances.)	648-061-00-8	309-726-5	100684-51-3	M
Tar, coal, high-temperature, high-solids; Coal tar solids residue (The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in the high temperature (greater than 700 °C) destructive distillation of coal. Composed primarily of a complex mixture of condensed ring aromatic hydrocarbons with a high solid content of coal-type materials.)	648-062-00-3	273-615-7	68990-61-4	M
Waste solids, coal-tar pitch coking; Coal tar solids residue (The combination of wastes formed by the coking of bituminous coal tar pitch. It consists predominantly of carbon.)	648-063-00-9	295-549-8	92062-34-5	M
Extract residues (coal), brown; Coal tar extract (The residue from extraction of dried coal.)	648-064-00-4	294-285-0	91697-23-3	M
Paraffin waxes (coal), brown-coal-high-temperature tar; Coal tar extract (A complex combination of hydrocarbons obtained from lignite carbonisation tar by solvent crystallisation (solvent deoiling), by sweating or an adducting process. It consists predominantly of straight and branched chain saturated hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-065-00-X	295-454-1	92045-71-1	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Paraffin waxes (coal), brown-coal-high-temperature tar, hydrotreated; Coal tar extract (A complex combination of hydrocarbons obtained from lignite carbonisation tar by solvent crystallisation (solvent deoiling), by sweating or an adducting process treated with hydrogen in the presence of a catalyst. It consists predominantly of straight and branched chain saturated hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-066-00-5	295-455-7	92045-72-2	M
Paraffin waxes (coal), brown-coal high-temp tar, silicic acid-treated; Coal tar extract (A complex combination of hydrocarbons obtained by the treatment of lignite carbonisation tar with silicic acid for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-067-00-0	308-298-7	97926-78-8	M
Tar, coal, low-temperature, distillation residues; Tar oil, intermediate boiling (Residues from fractional distillation of low temperature coal tar to remove oils that boil in a range up to approximately 300 °C. Composed primarily of aromatic compounds.)	648-068-00-6	309-887-1	101316-85-2	M
Pitch, coal tar, low-temp; Pitch residue (A complex black solid or semi-solid obtained from the distillation of a low temperature coal tar. It has a softening point within the approximate range of 40 to 180 ° C. Composed primarily of a complex mixture of hydrocarbons.)	648-069-00-1	292-651-4	90669-57-1	M
Pitch, coal tar, low-temperature, oxidised; Pitch residue, oxidised (The product obtained by air-blowing, at elevated temperature, low-temperature coal tar pitch. It has a softening-point within the approximate range of 70to 180 ° C. Composed primarily of a complex mixture of hydrocarbons.)	648-070-00-7	292-654-0	90669-59-3	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Pitch, coal tar, low-temperature, heat-treated; Pitch residue, oxidised; Pitch residue, heat-treated (A complex black solid obtained by the heat treatment of low temperature coal tar pitch. It has a softening point within the approximate range of 50 to 140 °C. Composed primarily of a complex mixture of aromatic compounds.)	648-071-00-2	292-653-5	90669-58-2	M
Distillates (coal-petroleum), condensed ring arom.; Distillates (The distillate from a mixture of coal and tar and aromatic petroleum streams having an approximate distillation range of 220 to 450 °C. Composed primarily of three- to four-membered condensed ring aromatic hydrocarbons.)	648-072-00-8	269-159-3	68188-48-7	M
Aromatic hydrocarbons, C_{20-28}, polycyclic, mixed coal-tar pitch-polyethylene-polypropylene pyrolysis-derived; Pyrolysis products (A complex combination of hydrocarbons obtained from mixed coal tar pitch-polyethylene-polypropylene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{28} and having a softening point of 100 to 220 °C according to DIN 52025.)	648-073-00-3	309-956-6	101794-74-5	M
Aromatic hydrocarbons, C_{20-28}, polycyclic, mixed coal-tar pitch-polyethylene pyrolysis-derived; Pyrolysis products (A complex combination of hydrocarbons obtained from mixed coal tar pitch-polyethylene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{28} and having a softening point of 100 to 220 °C according to DIN 52025.)	648-074-00-9	309-957-1	101794-75-6	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Aromatic hydrocarbons, C_{20-28}, polycyclic, mixed coal-tar pitch-polystyrene pyrolysis-derived; Pyrolysis products (A complex combination of hydrocarbons obtained from mixed coal tar pitch-polystyrene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{28} and having a softening point of 100 to 220 °C according to DIN 52025.)	648-075-00-4	309-958-7	101794-76-7	M
Pitch, coal tar-petroleum; Pitch residues (The residue from the distillation of a mixture of coal tar and aromatic petroleum streams. A solid with a softening point from 40 to 180 °C. Composed primarily of a complex combination of three or more membered condensed ring aromatic hydrocarbons.)	648-076-00-X	269-109-0	68187-57-5	M
Phenanthrene, distillation residues; Heavy anthracene oil redistillate (Residue from the distillation of crude phenanthrene boiling in the approximate range of 340 to 420 °C. It consists predominantly of phenanthrene, anthracene and carbazole.)	648-077-00-5	310-169-5	122070-78-4	M
Distillates (coal tar), upper, fluorene-free; Wash oil redistillate (A complex combination of hydrocarbons obtained by the crystallisation of tar oil. It consists of aromatic polycyclic hydrocarbons, primarily diphenyl, dibenzofuran and acenaphthene.)	648-078-00-0	284-899-7	84989-10-6	M

▼M14

Residues (coal tar), creosote oil distn.; Wash Oil Redistillate; [The residue from the fractional distillation of wash oil boiling in the approximate range of 270 °C to 330 °C (518 °F to 626 °F). It consists predominantly of dinuclear aromatic and heterocyclic hydrocarbons.]	648-080-00-1	295-506-3	92061-93-3	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (coal), coke-oven light oil, naphthalene cut; Naphthalene oil (The complex combination of hydrocarbons obtained from prefractionation (continuous distillation) of coke oven light oil. It consists predominantly of naphthalene, coumarone and indene and boils above 148 °C.)	648-084-00-3	285-076-5	85029-51-2	J, M

▼M14

Distillates (coal tar), naphthalene oils; Naphthalene Oil; [A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists primarily of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills in the approximate range of 200 °C to 250 °C (392 °F to 482 °F).]	648-085-00-9	283-484-8	84650-04-4	J, M

▼C1

Distillates (coal tar), naphthalene oils, naphthalene-low; Naphthalene oil redistillate (A complex combination of hydrocarbons obtained by crystallisation of naphthalene oil. Composed primarily of naphthalene, alkyl naphthalenes and phenolic compounds.)	648-086-00-4	284-898-1	84989-09-3	J, M
Distillates (coal tar), naphthalene oil crystn. mother liquor; Naphthalene oil redistillate (A complex combination of organic compounds obtained as a filtrate from the crystallisation of the naphthalene fraction from coal tar and boiling in the range of approximately 200 to 230 °C. Contains chiefly naphthalene, thionaphthene and alkylnaphthalenes.)	648-087-00-X	295-310-8	91995-49-2	J, M
Extract residues (coal), naphthalene oil, alk.; Naphthalene oil extract residue (A complex combination of hydrocarbons obtained from the alkali washing of naphthalene oil to remove phenolic compounds (tar acids). It is composed of naphthalene and alkyl naphthalenes.)	648-088-00-5	310-166-9	121620-47-1	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Extract residues (coal), naphthalene oil, alk., naphthalene-low; Naphthalene oil extract residue (A complex combination of hydrocarbons remaining after the removal of naphthalene from alkali-washed naphthalene oil by a crystallisation process. It is composed primarily of naphthalene and alkyl naphthalenes.)	648-089-00-0	310-167-4	121620-48-2	J, M
Distillates (coal tar), naphthalene oils, naphthalene-free, alk. extracts; Naphthalene oil extract residue (The oil remaining after the removal of phenolic compounds (tar acids) from drained naphthalene oil by an alkali wash. Composed primarily of naphthalene and alkyl naphthalenes.)	648-090-00-6	292-612-1	90640-90-7	J, M
Extract residues (coal), naphthalene oil alk., distillation overheads; Naphthalene oil extract residue (The distillation from alkali-washed naphthalene oil having an approximate distillation range of 180 to 220 °C. Composed primarily of naphthalene, alkylbenzenes, indene and indan.)	648-091-00-1	292-627-3	90641-04-6	J, M
Distillates (coal tar), naphthalene oils, methylnaphthalene fraction; Methylnaphthalene oil (A distillate from the fractional distillation of high temperature coal tar. Composed primarily of substituted two ring aromatic hydrocarbons and aromatic nitrogen bases boiling in the range of approximately 225 to 255 °C.)	648-092-00-7	309-985-4	101896-27-9	J, M
Distillates (coal tar), naphthalene oils, indole-methylnaphthalene fraction; Methylnaphthalene oil (A distillate from the fractional distillation of high temperature coal tar. Composed primarily of indole and methylnaphthalene boiling in the range of approximately 235 to 255 °C.)	648-093-00-2	309-972-3	101794-91-6	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (coal tar), naphthalene oils, acid extracts; Methylnaphtalene oil extract residue (A complex combination of hydrocarbons obtained by debasing the methylnaphthalene fraction obtained by the distillation of coal tar and boiling in the range of approximately 230 to 255 °C. Contains chiefly 1(2)-methylnaphthalene, naphthalene, dimethylnaphthalene and biphenyl.)	648-094-00-8	295-309-2	91995-48-1	J, M
Extract residues (coal), naphthalene oil alk., distillation residues; Methylnaphthalene oil extract residue (The residue from the distillation of alkali-washed naphthalene oil having an approximate distillation range of 220 to 300 °C. Composed primarily of naphthalene, alkylnaphthalenes and aromatic nitrogen bases.)	648-095-00-3	292-628-9	90641-05-7	J, M
Extract oils (coal), acidic, tar-base free; Methylnaphthalene oil extract residue (The extract oil boiling in the range of approximately 220 to 265 °C from coal tar alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove tar bases. Composed primarily of alkylnaphthalenes.)	648-096-00-9	284-901-6	84989-12-8	J, M
Distillates (coal tar), benzole fraction, distillation residues; Wash oil (A complex combination of hydrocarbons obtained from the distillation of crude benzole (high temperature coal tar). It may be a liquid with the approximate distillation range of 150 to 300 °C or a semi-solid or solid with a melting point up to 70 °C. It is composed primarily of naphthalene and alkyl naphthalenes.)	648-097-00-4	310-165-3	121620-46-0	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M14 Creosote oil, acenaphthene fraction; Wash Oil; [A complex combination of hydrocarbons produced by the distillation of coal tar and boiling in the range of approximately 240 °C to 280 °C (464 °F to 536 °F). Composed primarily of acenaphthene, naphthalene and alkyl naphthalene.]	648-098-00-X	292-605-3	90640-84-9	M
Creosote oil; [A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists primarily of aromatic hydrocarbons and may contain appreciable quantities of tar acids and tar bases. It distills at the approximate range of 200 °C to 325 °C (392 °F to 617 °F).]	648-099-00-5	263-047-8	61789-28-4	M
Creosote oil, high-boiling distillate; Wash Oil; [The high-boiling distillation fraction obtained from the high temperature carbonization of bituminous coal which is further refined to remove excess crystalline salts. It consists primarily of creosote oil with some of the normal polynuclear aromatic salts, which are components of coal tar distillates, removed. It is crystal free at approximately 5 °C (41 °F).]	648-100-00-9	274-565-9	70321-79-8	M
▼C1 Creosote	648-101-00-4	232-287-5	8001-58-9	►M5 ——— ◄
▼M14 Extract residues (coal), creosote oil acid; Wash Oil Extract Residue; [A complex combination of hydrocarbons from the base-freed fraction from the distillation of coal tar, boiling in the range of approximately 250 °C to 280 °C (482 °F to 536 °F). It consists predominantly of biphenyl and isomeric diphenylnaphthalenes.]	648-102-00-X	310-189-4	122384-77-4	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Anthracene oil, anthracene paste; Anthracene oil fraction (The anthracene-rich solid obtained by the crystallisation and centrifuging of anthracene oil. It is composed primarily of anthracene, carbazole and phenanthrene.)	648-103-00-5	292-603-2	90640-81-6	J, M
Anthracene oil, anthracene-low; Anthracene oil fraction (The oil remaining after the removal, by a crystallisation process, of an anthracene-rich solid (anthracene paste) from anthracene oil. It is composed primarily of two, three and four membered aromatic compounds.)	648-104-00-0	292-604-8	90640-82-7	J, M
Residues (coal tar), anthracene oil distillation; Anthracene oil fraction (The residue from the fraction distillation of crude anthracene boiling in the approximate range of 340 to 400 °C. It consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.)	648-105-00-6	295-505-8	92061-92-2	J, M
Anthracene oil, anthracene paste, anthracene fraction; Anthracene oil fraction (A complex combination of hydrocarbons from the distillation of anthracene obtained by the crystallisation of anthracene oil from bituminous high temperature tar and boiling in the range of 330 to 350 °C. It contains chiefly anthracene, carbazole and phenanthrene.)	648-106-00-1	295-275-9	91995-15-2	J, M
Anthracene oil, anthracene paste, carbazole fraction; Anthracene oil fraction (A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallisation of anthrancene oil from bituminous coal high temperature tar and boiling in the approximate range of 350 to 360 °C. It contains chiefly anthracene, carbazole and phenanthrene.)	648-107-00-7	295-276-4	91995-16-3	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Anthracene oil, anthracene paste, distillation lights; Anthracene oil fraction (A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallisation of anthracene oil from bituminous light temperature tar and boiling in the range of approximately 290 to 340 °C. It contains chiefly trinuclear aromatics and their dihydro derivatives.)	648-108-00-2	295-278-5	91995-17-4	J, M
Tar oils, coal, low-temperature; Tar oil, high boiling (A distillate from low-temperature coal tar. Composed primarily of hydrocarbons, phenolic compounds and aromatic nitrogen bases boiling in the range of approximately 160 to 340 °C.)	648-109-00-8	309-889-2	101316-87-4	J, M

▼M14

Extract residues (coal), low temp. coal tar alk.; [The residue from low temperature coal tar oils after an alkaline wash, such as aqueous sodium hydroxide, to remove crude coal tar acids. Composed primarily of hydrocarbons and aromatic nitrogen bases.]	648-110-00-3	310-191-5	122384-78-5	J, M

▼C1

Phenols, ammonia liquor ext.; Alkaline extract (The combination of phenols extracted, using isobutyl acetate, from the ammonia liquor condensed from the gas evolved in low-temperature (less than 700 °C) destructive distillation of coal. It consists predominantly of a mixture of monohydric and dihydric phenols.)	648-111-00-9	284-881-9	84988-93-2	J, M
Distillates (coal tar), light oils, alkaline extracts; Alkaline extract (The aqueous extract from carbolic oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.)	648-112-00-4	292-610-0	90640-88-3	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Extracts, coal tar oil alkaline; Alkaline extract (The extract from coal tar oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.)	648-113-00-X	266-017-2	65996-83-0	J, M
Distillates (coal tar), naphthalene oils, alkaline extracts; Alkaline extract (The aqueous extract from naphthalene oil produced by an alkaline wash such as aqueous sodium hydroxid. Composed primarily of the alkali salts of various phenolic compounds.)	648-114-00-5	292-611-6	90640-89-4	J, M
Extract residues (coal), tar oil alkaline, carbonated, limed; Crude phenols (The product obtained by treatment of coal tar oil alkaline extract with CO_2 and CaO. Composed primarily of $CaCO_3$, $Ca(OH)_2$, Na_2CO_3 and other organic and inorganic impurities.)	648-115-00-0	292-629-4	90641-06-8	J, M
▼M14 Tar acids, coal, crude; Crude Phenols; [The reaction product obtained by neutralizing coal tar oil alkaline extract with an acidic solution, such as aqueous sulfuric acid, or gaseous carbon dioxide, to obtain the free acids. Composed primarily of tar acids such as phenol, cresols, and xylenols.]	648-116-00-6	266-019-3	65996-85-2	J, M
▼C1 Tar acids, brown-coal, crude; Crude phenols (An acidified alkaline extract of brown coal tar distillate. Composed primarily of phenol and phenol homologs.)	648-117-00-1	309-888-7	101316-86-3	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Tar acids, brown-coal gasification; Crude phenols (A complex combination of organic compounds obtained from brown coal gasification. Composed primarily of C_{6-10} hydroxy aromatic phenols and their homologs.)	648-118-00-7	295-536-7	92062-22-1	J, M
Tar acids, distillation residues; Distillate phenols (A residue from the distillation of crude phenol from coal. It consists predominantly of phenols having carbon numbers in the range of C_8 through C_{10} with a softening point of 60 to 80 °C.)	648-119-00-2	306-251-5	96690-55-0	J, M
Tar acids, methylphenol fraction; Distillate phenols (The fraction of tar acid rich in 3- and 4-methylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)	648-120-00-8	284-892-9	84989-04-8	J, M
Tar acids, polyalkylphenol fraction; Distillate phenols (The fraction of tar acids, recovered by distillation of low-temperature coal tar crude tar acids, having an approximate boiling range of 225 to 320 °C. Composed primarily of poly-alkylphenols.)	648-121-00-3	284-893-4	84989-05-9	J, M
Tar acids, xylenol fraction; Distillate phenols (The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)	648-122-00-9	284-895-5	84989-06-0	J, M
Tar acids, ethylphenol fraction; Distillate phenols (The fraction of tar acids, rich in 3- and 4-ethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)	648-123-00-4	284-891-3	84989-03-7	J, M
Tar acids, 3,5-xylenol fraction; Distillate phenols (The fraction of tar acids, rich in 3,5-dimethylphenol, recovered by distillation of low-temperature coal tar acids.)	648-124-00-X	284-896-0	84989-07-1	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Tar acids, residues, distillates, first-cut; Distillate phenols (The residue from the distillation in the range of 235 to 355 °C of light carbolic oil.)	648-125-00-5	270-713-1	68477-23-6	J, M
Tar acids, cresylic, residues; Distillate phenols (The residue from crude coal tar acids after removal of phenol, cresols, xylenols and any higher boiling phenols. A black solid with a melting point approximately 80 °C. Composed primarily of polyalkyphenols, resin gums, and inorganic salts.)	648-126-00-0	271-418-0	68555-24-8	J, M
Phenols, C_{9-11}; Distillate phenols	648-127-00-6	293-435-2	91079-47-9	J, M
Tar acids, cresylic; Distillate phenols (A complex combination of organic compounds obtained from brown coal and boiling in the range of approximately 200 to 230 °C. It contains chiefly phenols and pyridine bases.)	648-128-00-1	295-540-9	92062-26-5	J, M
Tar acids, brown-coal, C_2-alkylphenol fraction; Distillate phenols (The distillate from the acidification of alkaline washed lignite tar distillate boiling in the range of approximately 200 to 230 °C. Composed primarily of m- and p-ethylphenol as well as cresols and xylenols.)	648-129-00-7	302-662-9	94114-29-1	J, M
Extract oils (coal), naphthalene oils; Acid extract (The aqueous extract produced by an acidic wash of alkali-washed naphthalene oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.)	648-130-00-2	292-623-1	90641-00-2	J, M
Tar bases, quinoline derivs.; Distillate bases	648-131-00-8	271-020-7	68513-87-1	J, M
Tar bases, coal, quinoline derivs. fraction; Distillate bases	648-132-00-3	274-560-1	70321-67-4	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
Tar bases, coal, distillation residues; Distillate bases (The distillation residue remaining after the distillation of the neutralised, acid-extracted base-containing tar fractions obtained by the distillation of coal tars. It contains chiefly aniline, collidines, quinoline and quinoline derivatives and toluidines.)	648- 133 -00-9	274-544-0	92062-29-8	J, M
Hydrocarbon oils, arom., mixed with polyethylene and polypropylene, pyrolysed, light oil fraction; Heat treatment products (The oil obtained from the heat treatment of a polyethylene/polypropylene mixture with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 to 120 °C.)	648-134-00-4	309-745-9	100801-63-6	J, M
Hydrocarbon oils, arom., mixed with polyethylene, pyrolysed, light oil fraction; Heat treatment products (The oil obtained from the heat treatment of polyethylene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of 70 to 120 °C.)	648-135-00-X	309-748-5	100801-65-8	J, M
Hydrocarbon oils, arom., mixed with polystyrene, pyrolysed, light oil fraction; Heat treatment products (The oil obtained from the heat treatment of polystyrene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 to 210 °C.)	648-136-00-5	309-749-0	100801-66-9	J, M
Extract residues (coal), tar oil alkaline, naphthalene distillation residues; Naphthalene oil extract residue (The residue obtained from chemical oil extracted after the removal of naphthalene by distillation composed primarily of two to four membered condensed ring aromatic hydrocarbons and aromatic nitrogen bases.)	648-137-00-0	277-567-8	736665-18-6	J, M

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M14 Creosote oil, low-boiling distillate; Wash Oil; [The low-boiling distillation fraction obtained from the high temperature carbonization of bituminous coal, which is further refined to remove excess crystalline salts. It consists primarily of creosote oil with some of the normal polynuclear aromatic salts, which are components of coal tar distillate, removed. It is crystal free at approximately 38 °C (100 °F).]	648-138-00-6	274-566-4	70321-80-1	M
▼C1 Tar acids, cresylic, sodium salts, caustic solutions.; Alkaline extract	648-139-00-1	272-361-4	68815-21-4	J, M
Extract oils (coal), tar base; Acid extract (The extract from coal tar oil alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove naphthalene. Composed primarily of the acid salts of various aromatic nitrogen bases including pyridine, quinoline, and their alkyl derivatives.)	648-140-00-7	266-020-9	65996-86-3	J, M
Tar bases, coal, crude; Crude tar bases (The reaction product obtained by neutralising coal tar base extract oil with an alkaline solution, such as aqueous sodium hydroxide, to obtain the free bases. Composed primarily of such organic bases as acridine, phenanthridine, pyridine, quinoline and their alkyl derivatives.)	648-141-00-2	266-018-8	65996-84-1	J, M
Residues (coal), liquid solvent extraction; (A cohesive powder composed of coal mineral matter and undissolved coal remaining after extraction of coal by a liquid solvent.)	648-142-00-8	302-681-2	94114-46-2	M

▼C1

Substances	Index No	EC No	CAS No	Notes
Coal liquids, liquid solvent extraction solution.; (The product obtained by filtration of coal mineral matter and undissolved coal from coal extract solution produced by digesting coal in a liquid solvent. A black, viscous, highly complex liquid combination composed primarily of aromatic and partly hydrogenated aromatic hydrocarbons, aromatic nitrogen compounds, aromatic sulfur compounds, phenolic and other aromatic oxygen compounds and their alkyl derivatives.)	648-143-00-3	302-682-8	94114-47-3	M
Coal liquids, liquid solvent extraction; (The substantially solvent-free product obtained by the distillation of the solvent from filtered coal extract solution produced by digesting coal in a liquid solvent. A black semi-solid, composed primarily of a complex combination of condensed-ring aromatic hydrocarbons, aromatic nitrogen compounds, aromatic sulfur compounds, phenolic compounds and other aromatic oxygen compounds, and their alkyl derivatives.)	648-144-00-9	302-683-3	94114-48-4	M
Light oil (coal), coke-oven; Crude benzole (The volatile organic liquid extracted from the gas evolved in the high temperature (greater than 700 °C) destructive distillation of coal. Composed primarily of benzene, toluene, and xylenes. May contain other minor hydrocarbon constituents.)	648-147-00-5	266-012-5	65996-78-3	J
Distillates (coal), liquid solvent extraction, primary; (The liquid product of condensation of vapours emitted during the digestion of coal in a liquid solvent and boiling in the range of approximately 30 to 300 °C. Composed primarily of partly hydrogenated condensed-ring aromatic hydrocarbons, aromatic compounds containing nitrogen, oxygen and sulfur, and their alkyl derivatives having carbon numbers predominantly in the range of C_4 through C_{14}.)	648-148-00-0	302-688-0	94114-52-0	J

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (coal), solvent extraction, hydrocracked; (Distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction process and boiling in the range of approximately 30 to 300 °C. Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of C_4 through C_{14}. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.)	648-149-00-6	302-689-6	94114-53-1	J
Naphtha (coal), solvent extraction, hydrocracked; (Fraction of the distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 to 180 °C. Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of C_4 to C_9. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.)	648-150-00-1	302-690-1	94114-54-2	J
Gasoline, coal solvent extraction, hydrocracked naphtha; (Motor fuel produced by the reforming of the refined naphtha fraction of the products of hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 to 180 °C. Composed primarily of aromatic and naphthenic hydrocarbons, their alkyl derivatives and alkyl hydrocarbons having carbon numbers in the range of C_4 through C_9.)	648-151-00-7	302-691-7	94114-55-3	J

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (coal), solvent extraction, hydrocracked middle; (Distillate obtained from the hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 to 300 °C. Composed primarily of two-ring aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes having carbon numbers predominantly in the range of C_9 through C_{14}. Nitrogen, sulfur and oxygen-containing compounds are also present.)	648-152-00-2	302-692-2	94114-56-4	J
Distillates (coal), solvent extraction, hydrocracked hydrogenated middle; (Distillate from the hydrogenation of hydrocracked middle distillate from coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 to 280 °C. Composed primarily of hydrogenated two-ring carbon compounds and their alkyl derivatives having carbon numbers predominantly in the range of C_9 through C_{14}.)	648-153-00-8	302-693-8	94114-57-5	J
Light oil (coal), semi-coking process; Fresh oil (The volatile organic liquid condensed from the gas evolved in the low temperature (less than 700 °C) destructive distillation of coal. Composed primarily of $C_{6\text{-}10}$ hydrocarbons.)	648-156-00-4	292-635-7	90641-11-5	J
Extracts (petroleum), light naphthenic distillate solvent	649-001-00-3	265-102-1	64742-03-6	►M5 ——— ◄
Extracts (petroleum), heavy paraffinic distillate solvent	649-002-00-9	265-103-7	64742-04-7	►M5 ——— ◄
Extracts (petroleum), light paraffinic distillate solvent	649-003-00-4	265-104-2	6472-05-8	►M5 ——— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), heavy naphthenic distillate solvent	649-004-00-X	265-111-0	64742-11-6	►M5 ——— ◄
Extracts (petroleum), light vacuum gas oil solvent	649-005-00-5	295-341-7	91995-78-7	►M5 ——— ◄
Hydrocarbons C_{26-55}, arom.-rich	649-006-00-0	307-753-7	97722-04-8	►M5 ——— ◄
Residues (petroleum), atm. tower; Heavy fuel oil (A complex residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-008-00-1	265-045-2	64741-45-3	
Gas oils (petroleum), heavy vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and boiling in the range of approximately 350 to 600 °C. This stream is likely to contain 5 wt % more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-009-00-7	265-058-3	64741-57-7	
Distillates (petroleum), heavy catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{35} and boiling in the range of approximately 260 to 500 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-010-00-2	265-063-0	64741-61-3	

▼C1

Substances	Index No	EC No	CAS No	Notes
Clarified oils (petroleum), catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-011-00-8	265-064-6	64741-62-4	
Residues (petroleum), hydrocracked; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the products of a hydrocracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C.)	649-012-00-3	265-076-1	64741-75-9	
Residues (petroleum), thermal cracked; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-013-00-9	265-081-9	64741-80-6	
Distillates (petroleum), heavy thermal cracked; Heavy fuel oil (A complex combination of hydrocarbons from the distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{36} and boiling in the range of approximately 260 to 480 °C. This stream is likely to contain 5 wt % or more or four- to six-membered condensed ring aromatic hydrocarbons.)	649-014-00-4	265-082-4	64741-81-7	

▼C1

Substances	Index No	EC No	CAS No	Notes
Gas oils (petroleum), hydrotreated vacuum; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{50} and boiling in the range of approximately 230 to 600 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-015-00-X	265-162-9	64742-59-2	
Residues (petroleum) hydrodesulphurised atmospheric tower; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating an atmospheric tower residuum with hydrogen in the presence of a catalyst under conditions primarily to remove organic sulfur compounds. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-016-00-5	265-181-2	64742-78-5	
Gas oils (petroleum), hydrodesulphurised heavy vacuum; Heavy fuel oil (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and boiling in the range of approximately 350 to 600 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-017-00-0	265-189-6	64742-86-5	

▼C1

Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), steam-cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained as the residual fraction from the distillation of the products of a steam cracking process (including steam cracking to produce ethylene). It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly greater than C_{14} and boiling above approximately 260 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-018-00-6	265-193-8	64742-90-1	
Residues (petroleum), atmospheric; Heavy fuel oil (A complex residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{11} and boiling above approximately 200 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-019-00-1	269-777-3	68333-22-2	
Clarified oils (petroleum), hydrodesulphurised catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating catalytic cracked clarified oil with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-020-00-7	269-782-0	68333-26-6	

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), hydrodesulphurised intermediate catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating intermediate catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{30} and boiling in the range of approximately 205 to 450 °C. It contains a relatively large proportion of tricyclic aromatic hydrocarbons.)	649-021-00-2	269-783-6	68333-27-7	
Distillates (petroleum), hydrodesulphurised heavy catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained by treatment of heavy catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{35} and boiling in the range of approximately 260 to 500 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-022-00-8	269-784-1	68333-28-8	
Fuel oil, residues-straight-run gas oils, high-sulfur; Heavy fuel oil	649-023-00-3	270-674-0	68476-32-4	
Fuel oil, residual; Heavy fuel oil (The liquid product from various refinery streams, usually residues. The composition is complex and varies with the source of the crude oil.)	649-024-00-9	270-675-6	68476-33-5	
Residues (petroleum), catalytic reformer fractionator residue distillation; Heavy fuel oil (A complex residuum from the distillation of catalytic reformer fractionator residue. It boils above approximately 399 °C.)	649-025-00-4	270-792-2	68478-13-7	

▼C1

Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), heavy coker gas oil and vacuum gas oil; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and vacuum gas oil. It predominantly consists of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230 °C.)	649-026-00-X	270-796-4	68478-17-1	
Residues (petroleum), heavy coker and light vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and light vacuum gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230 °C.)	649-027-00-5	270-983-0	68512-61-8	
Residues (petroleum), light vacuum; Heavy fuel oil (A complex residuum from the vacuum distillation of the residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230 °C.)	649-028-00-0	270-984-6	68512-62-9	
Residues (petroleum), steam-cracked light; Heavy fuel oil (A complex residuum from the distillation of the products from a steam-cracking process. It consists predominantly of aromatic and unsaturated hydrocarbons having carbon numbers greater than C_7 and boiling in the range of approximately 101 to 555 °C.)	649-029-00-6	271-013-9	68513-69-9	
Fuel oil, No 6; Heavy fuel oil (A distillate oil having a minimum viscosity of 197 10^{-6} m^2s^{-1} at 37,7 °C to a maximum of 197 10^{-5} m^2s^{-1} at 37,7 °C.)	649-030-00-1	271-384-7	68553-00-4	

▼C1

Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), topping plant, low-sulfur; Heavy fuel oil (A low-sulfur complex combination of hydrocarbons produced as the residual fraction from the topping plant distillation of crude oil. It is the residuum after the straight-run gasoline cut, kerosene cut and gas oil cut have been removed.)	649-031-00-7	271-763-7	68607-30-7	
Gas oils (petroleum), heavy atmospheric; Heavy fuel oil (A complex combination of hydrocarbons obtained by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{35} and boiling in the range of approximately 121 to 510 °C.)	649-032-00-2	272-184-2	68783-08-4	
Residues (petroleum), coker scrubber, Condensed-ring-arom.-contg.; Heavy fuel oil (A very complex combination of hydrocarbons produced as the residual fraction from the distillation of vacuum residuum and the products from a thermal cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-033-00-8	272-187-9	68783-13-1	
Distillates (petroleum), petroleum residues vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from the atmospheric distillation of crude oil.)	649-034-00-3	273-263-4	68955-27-1	
Residues (petroleum), steam-cracked, resinous; Heavy fuel oil (A complex residuum from the distillation of steam-cracked petroleum residues.)	649-035-00-9	273-272-3	68955-36-2	

▼C1

Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), intermediate vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{14} through C_{42} and boiling in the range of approximately 250 to 545 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-036-00-4	274-683-0	70592-76-6	
Distillates (petroleum), light vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{35} and boiling in the range of approximately 250 to 545 °C.)	649-037-00-X	247-684-6	70592-77-7	
Distillates (petroleum), vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having numbers predominantly in the range of C_{15} through C_{50} and boiling in the range of approximately 270 to 600 °C. This stream is likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-038-00-5	274-685-1	70592-78-8	
Gas oils (petroleum), hydrodesulphurised coker heavy vacuum; Heavy fuel oil (A complex combination of hydrocarbons obtained by hydrodesulphurisation of heavy coker distillate stocks. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range C_{18} to C_{44} and boiling in the range of approximately 304 to 548 °C. Likely to contain 5 wt % or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-039-00-0	285-555-9	85117-03-9	

▼C1

Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), steam-cracked, distillates; Heavy fuel oil (A complex combination of hydrocarbons obtained during the production of refined petroleum tar by the distillation of steam cracked tar. It consists predominantly of aromatic and other hydrocarbons and organic sulfur compounds.)	649-040-00-6	292-657-7	90669-75-3	
Residues (petroleum), vacuum, light; Heavy fuel oil (A complex residuum from the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{24} and boiling above approximately 390 °C.)	649-041-00-1	292-658-2	90669-76-4	
Fuel oil, heavy, high-sulphur; Heavy fuel oil (A complex combination of hydrocarbons obtained by the distillation of crude petroleum. It consists predominantly of aliphatic, aromatic and cycloaliphatic hydrocarbons having carbon numbers predominantly higher than C_{25} and boiling above approximately 400 °C.)	649-042-00-7	295-396-7	92045-14-2	
Residues (petroleum), catalytic cracking; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{11} and boiling above approximately 200 °C.)	649-043-00-2	295-511-0	92061-97-7	
Distillates (petroleum), intermediate catalytic cracked, thermally degraded; Heavy fuel oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process which has been used as a heat transfer fluid. It consists predominantly of hydrocarbons boiling in the range of approximately 220 to 450 °C. This stream is likely to contain organic sulfur compounds.)	649-044-00-8	295-990-6	92201-59-7	

▼C1

Substances	Index No	EC No	CAS No	Notes
Residual oils (petroleum); Heavy fuel oil (A complex combination of hydrocarbons, sulfur compounds and metal-containing organic compounds obtained as the residue from refinery fractionation cracking processes. It produces a finished oil with a viscosity above 2 10^{-6} $m^2.s^{-1}$ at 100 °C.)	649-045-00-3	298-754-0	93821-66-0	
Residues, steam cracked, thermally treated; Heavy fuel oil (A complex combination of hydrocarbons obtained by the treatment and distillation of raw steam-cracked naphtha. It consists predominantly of unsaturated hydrocarbons boiling in the range above approximately 180 °C.)	649-046-00-9	308-733-0	98219-64-8	
Distillates (petroleum), hydrodesulphurised full-range middle; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating a petroleum stock with hydrogen. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150 to 400 °C.)	649-047-00-4	309-863-0	101316-57-8	
Residues (petroleum), catalytic reformer fractionator; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{25} and boiling in the range of approximately 160 to 400 °C. This stream is likely to contain 5 wt % or more of four- or six-membered condensed ring aromatic hydrocarbons.)	649-048-00-X	265-069-3	64741-67-9	

▼C1

Substances	Index No	EC No	CAS No	Notes
Petroleum; Crude oil (A complex combination of hydrocarbons. It consists predominantly of aliphatic, alicyclic and aromatic hydrocarbons. It may also contain small amounts of nitrogen, oxygen and sulfur compounds. This category encompasses light, medium, and heavy petroleums, as well as the oils extended from tar sands. Hydrocarbonaceous materials requiring major chemical changes for their recovery or conversion to petroleum refinery feedstocks such as crude shale oils; upgraded shale oils and liquid coal fuels are not included in this definition.)	649-049-00-5	232-298-5	8002-05-9	
▼M5 _____				
▼M14 _____				
▼M5 _____				
▼C1 Foots oil (petroleum), acid-treated; Foots oil (A complex combination of hydrocarbons obtained by treatment of Foot's oil with sulphuric acid. It consists predominantly of branched-chain hydrocarbons with carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-175-00-0	300-225-7	93924-31-3	L
Foots oil (petroleum), clay-treated; Foots oil (A complex combination of hydrocarbons obtained by treatment of Foot's oil with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists predominantly of branched chain hydrocarbons with carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-176-00-6	300-226-2	93924-32-4	L

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M5 _____				
▼C1 Foots oil (petroleum), carbon-treated; Foot's oil (A complex combination of hydrocarbons obtained by the treatment of Foot's oil with activated carbon for the removal of trace constituents and impurities. It consists predominantly of saturated straight chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-211-00-5	308-126-0	97862-76-5	L
Distillates (petroleum), sweetened middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20} and boiling in the range of approximately 150 °C to 345 °C.)	649-212-00-0	265-088-7	64741-86-2	N
Gas oils (petroleum), solvent-refined; Gas oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205 °C to 400 °C.)	649-213-00-6	265-092-9	64741-90-8	N
Distillates (petroleum), solvent-refined middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20} and boiling in the range of approximately 150 °C to 345 °C.)	649-214-00-1	265-093-4	64741-91-9	N

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Substances	Index No	EC No	CAS No	Notes
Gas oils (petroleum), acid-treated; Gas oil — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230 °C to 400 °C.)	649-215-00-7	265-112-6	64742-12-7	N
Distillates (petroleum), acid-treated middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{20} and boiling in the range of approximately 205 °C to 345 °C.)	649-216-00-2	265-113-1	64742-13-8	N
Distillates (petroleum), acid-treated light; Gas oil — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{16} and boiling in the range of approximately 150 °C to 290 °C.)	649-217-00-8	265-114-7	64742-14-9	N
Gas oils (petroleum), chemically neutralised; Gas oil — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230 °C to 400 °C.)	649-218-00-3	265-129-9	64742-29-6	N
Distillates (petroleum), chemically neutralised middle; Gas oil — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{20} and boiling in the range of approximately 205 °C to 345 °C.)	649-219-00-9	265-130-4	64742-30-9	N

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), clay-treated middle; Gas oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20} and boiling in the range of approximately 150 °C to 345 °C.)	649-220-00-4	265-139-3	64742-38-7	N
Distillates (petroleum), hydro-treated middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205 °C to 400 °C.)	649-221-00-X	265-148-2	64742-46-7	N
Gas oils (petroleum), hydrodesulphurised; Gas oil — unspecified (A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230 °C to 400 °C.)	649-222-00-5	265-182-8	64742-79-6	N
Distillates (petroleum), hydrodesulphurised middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205 ° C to 400 °C.)	649-223-00-0	265-183-3	64742-80-9	N

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), catalytic reformer fractionator residue, high-boiling; Gas oil — unspecified (A complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils in the range of approximately 343 °C to 399 °C.)	649-228-00-8	270-719-4	68477-29-2	N
Distillates (petroleum), catalytic reformer fractionator residue, intermediate-boiling; Gas oil — unspecified (A complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils in the range of approximately 288 °C to 371 °C.)	649-229-00-3	270-721-5	68477-30-5	N
Distillates (petroleum), catalytic reformer fractionator residue, low-boiling; Gas oil — unspecified (The complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils approximately below 288 °C.)	649-230-00-9	270-722-0	68477-31-6	N
Distillates (petroleum), highly refined middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the subjection of a petroleum fraction to several of the following steps: filtration, centrifugation, atmospheric distillation, vacuum distillation, acidification, neutralisation and clay treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{20}.)	649-231-00-4	292-615-8	90640-93-0	N
Distillates (petroleum) catalytic reformer, heavy aromatic concentrate; Gas oil — unspecified (A complex combination of hydrocarbons obtained from the distillation of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{16} and boiling in the range of approximately 200 °C to 300 °C.)	649-232-00-X	295-294-2	91995-34-5	N

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Substances	Index No	EC No	CAS No	Notes
Gas oils, paraffinic; Gas oil — unspecified (A distillate obtained from the redistillation of a complex combination of hydrocarbons obtained by the distillation of the effluents from a severe catalytic hydrotreatment of paraffins. It boils in the range of approximately 190 °C to 330 °C.)	649-233-00-5	300-227-8	93924-33-5	N
Naphtha (petroleum), solvent-refined hydrodesulphurised heavy; Gas oil — unspecified	649-234-00-0	307-035-3	97488-96-5	N
Hydrocarbons, C_{16-20}, hydrotreated middle distillate, distillation lights; Gas oil — unspecified (A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of a middle distillate with hydrogen. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{20} and boiling in the range of approximately 290 °C to 350 °C. It produces a finished oil having a viscosity of 2 10^{-6} $m^2.s^{-1}$ at 100 °C.)	649-235-00-6	307-659-6	97675-85-9	N
Hydrocarbons, C_{12-20}, hydrotreated paraffinic, distillation lights; Gas oil — unspecified (A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of heavy paraffins with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{20} and boiling in the range of approximately 230 °C to 350 °C. It produces a finished oil having a viscosity of 2 10^{-6} $m^2.s^{-1}$ at 100 °C.)	649-236-00-1	307-660-1	97675-86-0	N
Hydrocarbons, C_{11-17}, solvent-extd. light naphthenic; Gas oil — unspecified (A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of 2,2 10^{-6} $m^2.s^{-1}$ at 40 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{17} and boiling in the range of approximately 200 °C to 300 °C.)	649-237-00-7	307-757-9	97722-08-2	N

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Substances	Index No	EC No	CAS No	Notes
Gas oils, hydrotreated; Gas oil — unspecified (A complex combination of hydrocarbons obtained from the redistillation of the effluents from the treatment of paraffins with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{27} and boiling in the range of approximately 330 °C to 340 °C.)	649-238-00-2	308-128-1	97862-78-7	N
Distillates (petroleum), carbon-treated light paraffinic; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of a petroleum oil fraction with activated charcoal for the removal of traces of polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{28}.)	649-239-00-8	309-667-5	100683-97-4	N
Distillates (petroleum), intermediate paraffinic, carbon-treated; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of petroleum with activated charcoal for the removal of trace polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{36}.)	649-240-00-3	309-668-0	100683-98-5	N
Distillates (petroleum), intermediate paraffinic, clay-treated; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of petroleum with bleaching earth for the removal of trace polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{36}.)	649-241-00-9	309-669-6	100683-99-6	N
Alkanes, C_{12-26}-branched and linear;	649-242-00-4	292-454-3	90622-53-0	N

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Substances	Index No	EC No	CAS No	Notes
Lubricating greases; Grease (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{50}. May contain organic salts of alkali metals, alkaline earth metals, and/or aluminium compounds.)	649-243-00-X	278-011-7	74869-21-9	N
Slack wax (petroleum); Slack wax (A complex combination of hydrocarbons obtained from a petroleum fraction by solvent crystallisation (solvent dewaxing) or as a distillation fraction from a very waxy crude. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-244-00-5	265-165-5	64742-61-6	N
Slack wax (petroleum), acid-treated; Slack wax (A complex combination of hydrocarbons obtained as a raffinate by treatment of a petroleum slack wax fraction with sulphuric acid treating process. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-245-00-0	292-659-8	90669-77-5	N
Slack wax (petroleum), clay-treated; Slack wax (A complex combination of hydrocarbons obtained by treatment of a petroleum slack wax fraction with natural or modified clay in either a contacting or percolation process. It consists predominantly of saturated straight and branched hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-246-00-6	292-660-3	90669-78-6	N
Slack wax (petroleum), hydro-treated; Slack wax (A complex combination of hydrocarbons obtained by treating slack wax with hydrogen in the presence of a catalyst. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-247-00-1	295-523-6	92062-09-4	N

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Substances	Index No	EC No	CAS No	Notes
Slack wax (petroleum), low-melting; Slack wax (A complex combination of hydrocarbons obtained from a petroleum fraction by solvent deparaffination. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-248-00-7	295-524-1	92062-10-7	N
Slack wax (petroleum), low-melting, hydrotreated; Slack wax (A complex combination of hydrocarbons obtained by treatment of low-melting petroleum slack wax with hydrogen in the presence of a catalyst. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-249-00-2	295-525-7	92062-11-8	N
Slack wax (petroleum), low-melting, carbon-treated; Slack wax (A complex combination of hydrocarbons obtained by the treatment of low-melting slack wax with activated carbon for the removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-250-00-8	308-155-9	97863-04-2	N
Slack wax (petroleum), low-melting, clay-treated; Slack wax (A complex combination of hydrocarbons obtained by the treatment of low-melting petroleum slack wax with bentonite for removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-251-00-3	308-156-4	97863-05-3	N

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Substances	Index No	EC No	CAS No	Notes
Slack wax (petroleum), low-melting, silicic acid-treated; Slack wax (A complex combination of hydrocarbons obtained by the treatment of low-melting petroleum slack wax with silicic acid for the removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-252-00-9	308-158-5	97863-06-4	N
Slack wax (petroleum), carbon-treated; Slack wax (A complex combination of hydrocarbons obtained by treatment of petroleum slack wax with activated charcoal for the removal of trace polar constituents and impurities.)	649-253-00-4	309-723-9	100684-49-9	N
Petrolatum; Petrolatum (A complex combination of hydrocarbons obtained as a semi-solid from dewaxing paraffinic residual oil. It consists predominantly of saturated crystalline and liquid hydrocarbons having carbon numbers predominantly greater than C_{25}.)	649-254-00-X	232-373-2	8009-03-8	N
Petrolatum (petroleum), oxidised; Petrolatum (A complex combination of organic compounds, predominantly high molecular weight carboxylic acids, obtained by the air oxidation of petrolatum.)	649-255-00-5	265-206-7	64743-01-7	N
Petrolatum (petroleum), alumina-treated; Petrolatum (A complex combination of hydrocarbons obtained when petrolatum is treated with Al_2O_3 to remove polar components and impurities. It consists predominantly of saturated, crystalline, and liquid hydrocarbons having carbon numbers predominantly greater than C_{25}.)	649-256-00-0	285-098-5	85029-74-9	N

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Substances	Index No	EC No	CAS No	Notes
Petrolatum (petroleum), hydrotreated; Petrolatum (A complex combination of hydrocarbons obtained as a semi-solid from dewaxed paraffinic residual oil treated with hydrogen in the presence of a catalyst. It consists predominantly of saturated, microcrystalline, and liquid hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-257-00-6	295-459-9	92045-77-7	N
Petrolatum (petroleum), carbon-treated; Petrolatum (A complex combination of hydrocarbons obtained by the treatment of petroleum petrolatum with activated carbon for the removal of trace polar constituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-258-00-1	308-149-6	97862-97-0	N
Petrolatum (petroleum), silicic acid-treated; Petrolatum (A complex combination of hydrocarbons obtained by the treatment of petroleum petrolatum with silicic acid for the removal of trace polar constituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-259-00-7	308-150-1	97862-98-1	N
Petrolatum (petroleum), clay-treated; Petrolatum (A complex combination of hydrocarbons obtained by treatment of petrolatum with bleaching earth for the removal of traces of polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of greater than C_{25}.)	649-260-00-2	309-706-6	100684-33-1	N
Gasoline, natural; Low boiling point naphtha (A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_8 and boiling in the range of approximately - 20 °C to 120 °C.)	649-261-00-8	232-349-1	8006-61-9	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha; Low boiling point naphtha (Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_6 and boiling in the range of approximately 100 °C to 200 °C.)	649-262-00-3	232-443-2	8030-30-6	P
Ligroine; Low boiling point naphtha (A complex combination of hydrocarbons obtained by the fractional distillation of petroleum. This fraction boils in a range of approximately 20 °C to 135 °C.)	649-263-00-9	232-453-7	8032-32-4	P
Naphtha (petroleum), heavy straight-run; Low boiling point naphtha (A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C.)	649-264-00-4	265-041-0	64741-41-9	P
Naphtha (petroleum), full-range straight-run; Low boiling point naphtha (A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 220 °C.)	649-265-00-X	265-042-6	64741-42-0	P
Naphtha (petroleum), light straight-run; Low boiling point naphtha (A complex combination of hydrocarbons produced by distillation of crude oil. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10} and boiling in the range of approximately - 20 °C to 180 °C.)	649-266-00-5	265-046-8	64741-46-4	P
Solvent naphtha (petroleum), light aliph.; Low boiling point naphtha (A complex combination of hydrocarbons obtained from the distillation of crude oil or natural gasoline. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 35 °C to 160 °C.)	649-267-00-0	265-192-2	64742-89-8	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), straight-run light; Low boiling point naphtha (A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_7 and boiling in the range of approximately - 88 °C to 99 °C.)	649-268-00-6	270-077-5	68410-05-9	P
Gasoline, vapour-recovery; Low boiling point naphtha (A complex combination of hydrocarbons separated from the gases from vapour recovery systems by cooling. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 196 °C.)	649-269-00-1	271-025-4	68514-15-8	P
Gasoline, straight-run, topping-plant; Low boiling point naphtha (A complex combination of hydrocarbons produced from the topping plant by the distillation of crude oil. It boils in the range of approximately 36,1 °C to 193,3 °C.)	649-270-00-7	271-727-0	68606-11-1	P
Naphtha (petroleum), unsweetened; Low boiling point naphtha (A complex combination of hydrocarbons produced from the distillation of naphtha streams from various refinery processes. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 0 °C to 230 °C.)	649-271-00-2	272-186-3	68783-12-0	P
Distillates (petroleum), light straight-run gasoline fractionation stabiliser overheads; Low boiling point naphtha (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6.)	649-272-00-8	272-931-2	68921-08-4	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), heavy straight run, arom.-contg.; Low boiling point naphtha (A complex combination of hydrocarbons obtained from a distillation process of crude petroleum. It consists predominantly of hydrocarbons having carbon numbers in the range of C_8 through C_{12} and boiling in the range of approximately 130 °C to 210 °C.)	649-273-00-3	309-945-6	101631-20-3	P
Naphtha (petroleum), full-range alkylate; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 220 °C.)	649-274-00-9	265-066-7	64741-64-6	P
Naphtha (petroleum), heavy alkylate; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 to C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{12} and boiling in the range of approximately 150 °C to 220 °C.)	649-275-00-4	265-067-2	64741-65-7	P
Naphtha (petroleum), light alkylate; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 90 °C to 160 °C.)	649-276-00-X	265-068-8	64741-66-8	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), isomerisation; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained from catalytic isomerisation of straight chain paraffinic C_4 through C_6 hydrocarbons. It consists predominantly of saturated hydrocarbons such as isobutane, isopentane, 2,2-dimethylbutane, 2-methylpentane, and 3-methylpentane.)	649-277-00-5	265-073-5	64741-70-4	P
Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C.)	649-278-00-0	265-086-6	64741-84-0	P
Naphtha (petroleum), solvent-refined heavy; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C.)	649-279-00-6	265-095-5	64741-92-0	P
Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent extracts; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinate from the UDEX extraction process on the catalytic reformer stream. It consists of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_9.)	649-280-00-1	270-088-5	68410-71-9	P
Raffinates (petroleum), reformer, Lurgi unit-separated; Low boiling point modified naphtha (The complex combination of hydrocarbons obtained as a raffinate from a Lurgi separation unit. It consists predominantly of non-aromatic hydrocarbons with various small amounts of aromatic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8.)	649-281-00-7	270-349-3	68425-35-4	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), full-range alkylate, butane-contg.; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by the distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} with some butanes and boiling in the range of approximately 35 °C to 200 °C.)	649-282-00-2	271-267-0	68527-27-5	P
Distillates (petroleum), naphtha steam cracking-derived, solvent-refined light hydrotreated; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinates from a solvent extraction process of hydrotreated light distillate from steam-cracked naphtha.)	649-283-00-8	295-315-5	91995-53-8	P
Naphtha (petroleum), C_{4-12} butane-alkylate, isooctane-rich; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by alkylation of butanes. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12}, rich in isooctane, and boiling in the range of approximately 35 °C to 210 °C.)	649-284-00-3	295-430-0	92045-49-3	P
Hydrocarbons, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha (A combination of hydrocarbons obtained from the distillation of hydrotreated naphtha followed by a solvent extraction and distillation process. It consists predominantly of saturated hydrocarbons boiling in the range of approximately 94 °C to 99 °C.)	649-285-00-9	295-436-3	92045-55-1	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), isomerisation, C_6-fraction; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by distillation of a gasoline which has been catalytically isomerised. It consists predominantly of hexane isomers boiling in the range of approximately 60 °C to 66 °C.)	649-286-00-4	295-440-5	92045-58-4	P
Hydrocarbons, C_{6-7}, naphtha-cracking, solvent-refined; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by the sorption of benzene from a catalytically fully hydrogenated benzene-rich hydrocarbon cut that was distillatively obtained from prehydrogenated cracked naphtha. It consists predominantly of paraffinic and naphthenic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_7 and boiling in the range of approximately 70 °C to 100 °C.)	649-287-00-X	295-446-8	92045-64-2	P
Hydrocarbons, C_6-rich, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by distillation of hydrotreated naphtha followed by solvent extraction. It consists predominantly of saturated hydrocarbons and boiling in the range of approximately 65 °C to 70 °C.)	649-288-00-5	309-871-4	101316-67-0	P
Naphtha (petroleum), heavy catalytic cracked; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by a distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C. It contains a relatively large proportion of unsaturated hydrocarbons.)	649-289-00-0	265-055-7	64741-54-4	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light catalytic cracked; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 190 °C. It contains a relatively large proportion of unsaturated hydrocarbons.)	649-290-00-6	265-056-2	64741-55-5	P
Hydrocarbons, C_{3-11}, catalytic cracker distillates; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillations of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_{11} and boiling in a range approximately up to 204 °C.)	649-291-00-1	270-686-6	68476-46-0	P
Naphtha (petroleum), catalytic cracked light distilled; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-292-00-7	272-185-8	68783-09-5	P
Distillates (petroleum), naphtha steam cracking-derived, hydrotreated light arom.; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by treating a light distillate from steam-cracked naphtha. It consists predominantly of aromatic hydrocarbons.)	649-293-00-2	295-311-3	91995-50-5	P
Naphtha (petroleum), heavy catalytic cracked, sweetened; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by subjecting a catalytic cracked petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 60 °C to 200 °C.)	649-294-00-8	295-431-6	92045-50-6	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light catalytic cracked sweetened; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by subjecting naphtha from a catalytic cracking process to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons boiling in a range of approximately 35 °C to 210 °C.)	649-295-00-3	295-441-0	92045-59-5	P
Hydrocarbons, C_{8-12}, catalytic-cracking, chem. neutralised; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillation of a cut from the catalytic cracking process, having undergone an alkaline washing. It consists predominantly of hydrocarbons having carbon numbers in the range of C_8 through C_{12} and boiling in the range of approximately 130 °C to 210 °C.)	649-296-00-9	295-794-0	92128-94-4	P
Hydrocarbons, C_{8-12}, catalytic cracker distillates; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by distillation of products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{12} and boiling in the range of approximately 140 °C to 210 °C.)	649-297-00-4	309-974-4	101794-97-2	P
Hydrocarbons, C_{8-12}, catalytic cracking, chem. neutralised, sweetened; Low boiling point cat-cracked naphtha	649-298-00-X	309-987-5	101896-28-0	P
Naphtha (petroleum), light catalytic reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C. It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 % vol. or more benzene.)	649-299-00-5	265-065-1	64741-63-5	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), heavy catalytic reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C.)	649-300-00-9	265-070-9	64741-68-0	P
Distillates (petroleum), catalytic reformed depentaniser; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons from the distillation of products from a catalytic reforming process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately - 49 °C to 63 °C.)	649-301-00-4	270-660-4	68475-79-6	P
Hydrocarbons, C_{2-6}, C_{6-8} catalytic reformer; Low boiling point cat-reformed naphtha	649-302-00-X	270-687-1	68476-47-1	P
Residues (petroleum), C_{6-8} catalytic reformer; Low boiling point cat-reformed naphtha (A complex residuum from the catalytic reforming of C_{6-8} feed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-303-00-5	270-794-3	68478-15-9	P
Naphtha (petroleum), light catalytic reformed, arom.-free; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained from distillation of products from a catalytic reforming process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_8 and boiling in the range of approximately 35 °C to 120 °C. It contains a relatively large proportion of branched chain hydrocarbons with the aromatic components removed.)	649-304-00-0	270-993-5	68513-03-1	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), catalytic reformed straight-run naphtha overheads; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha followed by the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-305-00-6	271-008-1	68513-63-3	P
Petroleum products, hydrofiner-powerformer reformates; Low boiling point cat-reformed naphtha (The complex combination of hydrocarbons obtained in a hydrofiner-powerformer process and boiling in a range of approximately 27 °C to 210 °C.)	649-306-00-1	271-058-4	68514-79-4	P
Naphtha (petroleum, full-range reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 35 °C to 230 °C.)	649-307-00-7	272-895-8	68919-37-9	P
Naphtha (petroleum), catalytic reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced by the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 30 °C to 220 °C. It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 % vol. or more benzene.)	649-308-00-2	273-271-8	68955-35-1	P
Distillates (petroleum), catalytic reformed hydrotreated light, C_{8-12} arom. fraction; Low boiling point cat-reformed naphtha (A complex combination of alkylbenzenes obtained by the catalytic reforming of petroleum naphtha. It consists predominantly of alkylbenzenes having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 160 °C to 180 °C.)	649-309-00-8	285-509-8	85116-58-1	P

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Substances	Index No	EC No	CAS No	Notes
Aromatic hydrocarbons, C_8, catalytic reforming-derived; Low boiling point cat-reformed naphtha	649-310-00-3	295-279-0	91995-18-5	P
Aromatic hydrocarbons, C_{7-12}, C_8-rich; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} (primarily C_8) and can contain nonaromatic hydrocarbons, both boiling in the range of approximately 130 °C to 200 °C.)	649-311-00-9	297-401-8	93571-75-6	P
Gasoline, C_{5-11}, high-octane stabilised reformed; Low boiling point cat-reformed naphtha (A complex high octane combination of hydrocarbons obtained by the catalytic dehydrogenation of a predominantly naphthenic naphtha. It consists predominantly of aromatics and non-aromatics having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 45 °C to 185 °C.)	649-312-00-4	297-458-9	93572-29-3	P
Hydrocarbons, C_{7-12}, $C_{>9}$-arom.-rich, reforming heavy fraction; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 120 °C to 210 °C and C_9 and higher aromatic hydrocarbons.)	649-313-00-X	297-465-7	93572-35-1	P

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{5-11}, nonaroms.-rich, reforming light fraction; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 35 °C to 125 °C, benzene and toluene.)	649-314-00-5	297-466-2	93572-36-2	P
Foots oil (petroleum), silicic acid-treated; Foots oil (A complex combination of hydrocarbons obtained by the treatment of Foots oil with silicic acid for removal of trace constituents and impurities. It consists predominantly of straight chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-315-00-0	308-127-6	97862-77-6	L
Naphtha (petroleum), light thermal cracked; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_8 and boiling in the range of approximately –10 °C to 130 °C.)	649-316-00-6	265-075-6	64741-74-8	P
Naphtha (petroleum), heavy thermal cracked; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 220 °C.)	649-317-00-1	265-085-0	64741-83-9	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), heavy aromatic; Low boiling point thermally cracked naphtha (The complex combination of hydrocarbons from the distillation of products from the thermal cracking of ethane and propane. This higher boiling fraction consists predominantly of C_5-C_7 aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C_5. This stream may contain benzene.)	649-318-00-7	267-563-4	67891-79-6	P
Distillates (petroleum), light aromatic; Low boiling point thermally cracked naphtha (The complex combination of hydrocarbons from the distillation of products from the thermal cracking of ethane and propane. This lower boiling fraction consists predominantly of C_5-C_7 aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C_5. This stream may contain benzene.)	649-319-00-2	267-565-5	67891-80-9	P
Distillates (petroleum), naphtha-raffinate pyrolyzate-derived, gasoline-blending; Low boiling point thermally cracked naphtha (The complex combination of hydrocarbons obtained by the pyrolysis fractionation at 816 °C of naphtha and raffinate. It consists predominantly of hydrocarbons having a carbon number of C_9 and boiling at approximately 204 °C.)	649-320-00-8	270-344-6	68425-29-6	P
Aromatic hydrocarbons, C_{6-8}, naphtha-raffinate pyrolyzate-derived; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons obtained by the fractionation pyrolysis at 816 °C of naphtha and raffinate. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8, including benzene.)	649-321-00-3	270-658-3	68475-70-7	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), thermal cracked naphtha and gas oil; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by distillation of thermally cracked naphtha and/or gas oil. It consists predominantly of olefinic hydrocarbons having a carbon number of C_5 and boiling in the range of approximately 33 °C to 60 °C.)	649-322-00-9	271-631-9	68603-00-9	P
Distillates (petroleum), thermal cracked naphtha and gas oil, C_5-dimer-contg.; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists predominantly of hydrocarbons having a carbon number of C_5 with some dimerised C_5 olefins and boiling in the range of approximately 33 °C to 184 °C.)	649-323-00-4	271-632-4	68603-01-0	P
Distillates (petroleum), thermal cracked naphtha and gas oil, extractive; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists of paraffinic and olefinic hydrocarbons predominantly isoamylenes such as 2-methyl-1-butene and 2-methyl-2-butene and boiling in the range of approximately 31 °C to 40 °C.)	649-324-00-X	271-634-5	68603-03-2	P
Distillates (petroleum), light thermal cracked, debutanised aromatic; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists predominantly of aromatic hydrocarbons, primarily benzene.)	649-325-00-5	273-266-0	68955-29-3	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light thermal cracked, sweetened; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate from the high temperature thermal cracking of heavy oil fractions to a sweetening process to convert mercaptans. It consists predominantly of aromatics, olefins and saturated hydrocarbons boiling in the range of approximately 20 °C to 100 °C.)	649-326-00-0	295-447-3	92045-65-3	P
Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{13} and boiling in the range of approximately 65 °C to 230 °C.)	649-327-00-6	265-150-3	64742-48-9	P
Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 190 °C.)	649-328-00-1	265-151-9	64742-49-0	P
Naphtha (petroleum), hydrodesulphurised light; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 190 °C.)	649-329-00-7	265-178-6	64742-73-0	P
Naphtha (petroleum), hydrodesulphurised heavy; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C.)	649-330-00-2	265-185-4	64742-82-1	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), hydrotreated middle, intermediate boiling; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by the distillation of products from a middle distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 127 °C to 188 °C.)	649-331-00-8	270-092-7	68410-96-8	P
Distillates (petroleum), light distillate hydrotreating process, low-boiling; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by the distillation of products from the light distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_9 and boiling in the range of approximately 3 °C to 194 °C.)	649-332-00-3	270-093-2	68410-97-9	P
Distillates (petroleum), hydrotreated heavy naphtha, deisohexaniser overheads; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by distillation of the products from a heavy naphtha hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately - 49 °C to 68 °C.)	649-333-00-9	270-094-8	68410-98-0	P
Solvent naphtha (petroleum), light arom., hydrotreated; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 135 °C to 210 °C.)	649-334-00-4	270-988-8	68512-78-7	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), hydrodesulphurised thermal cracked light; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by fractionation of hydrodesulphurised thermal cracker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 23 °C to 195 °C.)	649-335-00-X	285-511-9	85116-60-5	P
Naphtha (petroleum), hydrotreated light, cycloalkane-contg.; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from the distillation of a petroleum fraction. It consists predominantly of alkanes and cycloalkanes boiling in the range of approximately - 20 °C to 190 °C.)	649-336-00-5	285-512-4	85116-61-6	P
Naphtha (petroleum), heavy steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha	649-337-00-0	295-432-1	92045-51-7	P
Naphtha (petroleum), hydrodesulphurised full-range; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurisation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately 30 °C to 250 °C.)	649-338-00-6	295-433-7	92045-52-8	P
Naphtha (petroleum), hydrotreated light steam-cracked; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction, derived from a pyrolysis process, with hydrogen in the presence of a catalyst. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C.)	649-339-00-1	295-438-4	92045-57-3	P

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{4-12}, naphtha-cracking, hydrotreated; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by distillation from the product of naphtha steam cracking process and subsequent catalytic selective hydrogenation of gum formers. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 30 °C to 230 °C.)	649-340-00-7	295-443-1	92045-61-9	P
Solvent naphtha (petroleum), hydrotreated light naphthenic; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of cycloparaffinic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_7 and boiling in the range of approximately 73 °C to 85 °C.)	649-341-00-2	295-529-9	92062-15-2	P
Naphtha (petroleum), light steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons produced from the separation and subsequent hydrogenation of the products of a steam-cracking process to produce ethylene. It consists predominantly of saturated and unsaturated paraffins, cyclic paraffins and cyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10} and boiling in the range of approximately 50 °C to 200 °C. The proportion of benzene hydrocarbons may vary up to 30 % wt and the stream may also contain small amounts of sulphur and oxygenated compounds.)	649-342-00-8	296-942-7	93165-55-0	P
Hydrocarbons, C_{6-11}, hydrotreated, dearomatised; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.)	649-343-00-3	297-852-0	93763-33-8	P

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{9-12}, hydrotreated, dearomatised; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.)	649-344-00-9	297-853-6	93763-34-9	P
Stoddard solvent; Low boiling point naphtha — unspecified (A colourless, refined petroleum distillate that is free from rancid or objectionable odours and that boils in a range of approximately 149 °C to 205 °C.)	649-345-00-4	232-489-3	8052-41-3	P
Natural gas condensates (petroleum); Low boiling point naphtha — unspecified (A complex combination of hydrocarbons separated as a liquid from natural gas in a surface separator by retrograde condensation. It consists mainly of hydrocarbons having carbon numbers predominantly in the range of C_2 to C_{20}. It is a liquid at atmospheric temperature and pressure.)	649-346-00-X	265-047-3	64741-47-5	P
Natural gas (petroleum), raw liquid mix; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons separated as a liquid from natural gas in a gas recycling plant by processes such as refrigeration or absorption. It consists mainly of saturated aliphatic hydrocarbons having carbon numbers in the range of C_2 through C_8.)	649-347-00-5	265-048-9	64741-48-6	P
Naphtha (petroleum), light hydrocracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10}, and boiling in the range of approximately –20 °C to 180 °C.)	649-348-00-0	265-071-4	64741-69-1	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum) heavy hydrocracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12}, and boiling in the range of approximately 65 °C to 230 °C.)	649-349-00-6	265-079-8	64741-78-2	P
Naphtha (petroleum), sweetened; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately - 10 °C to 230 °C.)	649-350-00-1	265-089-2	64741-87-3	P
Naphtha (petroleum), acid-treated; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C.)	649-351-00-7	265-115-2	64742-15-0	P
Naphtha (petroleum), chemically neutralised heavy; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C.)	649-352-00-2	265-122-0	64742-22-9	P
Naphtha (petroleum), chemically neutralised light; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 190 °C.)	649-353-00-8	265-123-6	64742-23-0	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), catalytic dewaxed; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the catalytic dewaxing of a petroleum fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 35 °C to 230 °C.)	649-354-00-3	265-170-2	64742-66-1	P
Naphtha (petroleum), light steam-cracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the distillation of the products from a steam cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 190 °C. This stream is likely to contain 10 % vol. or more benzene.)	649-355-00-9	265-187-5	64742-83-2	P
Solvent naphtha (petroleum), light aromatic; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 135 °C to 210 °C.)	649-356-00-4	265-199-0	64742-95-6	P
Aromatic hydrocarbons, $C_{6\text{-}10}$, acid-treated, neutralised; Low boiling point naphtha — unspecified	649-357-00-X	268-618-5	68131-49-7	P
Distillates (petroleum), $C_{3\text{-}5}$, 2-methyl-2-butene-rich; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons from the distillation of hydrocarbons usually ranging in carbon numbers from C_3 through C_5, predominantly isopentane and 3-methyl-1-butene. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly 2-methyl-2-butene.)	649-358-00-5	270-725-7	68477-34-9	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), polymd. steam-cracked petroleum distillates, C_{5-12} fraction; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the distillation of polymerised steam-cracked petroleum distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12}.)	649-359-00-0	270-735-1	68477-50-9	P
Distillates (petroleum), steam-cracked, C_{5-12} fraction; Low boiling point naphtha — unspecified (A complex combination of organic compounds obtained by the distillation of products from a steam cracking process. It consists of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12}.)	649-360-00-6	270-736-7	68477-53-2	P
Distillates (petroleum), steam-cracked, C_{5-10} fraction, mixed with light steam-cracked petroleum naphtha C_5 fraction; Low boiling point naphtha — unspecified	649-361-00-1	270-738-8	68477-55-4	P
Extracts (petroleum), cold-acid, C_{4-6}; Low boiling point naphtha — unspecified (A complex combination of organic compounds produced by cold acid unit extraction of saturated and unsaturated aliphatic hydrocarbons usually ranging in carbon numbers from C_3 through C_6, predominantly pentanes and amylenes. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_4 through C_6, predominantly C_5.)	649-362-00-7	270-741-4	68477-61-2	P
Distillates (petroleum), depentaniser overheads; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from a catalytic cracked gas stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.)	649-363-00-2	270-771-8	68477-894-4	P

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Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), butane splitter bottoms; Low boiling point naphtha — unspecified (A complex residuum from the distillation of butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.)	649-364-00-8	270-791-7	68478-12-6	P
Residual oils (petroleum), deisobutaniser tower; Low boiling point naphtha — unspecified (A complex residuum from the atmospheric distillation of the butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.)	649-365-00-3	270-795-9	68478-16-0	P
Naphtha (petroleum), full-range coker; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by the distillation of products from a fluid coker. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{15} and boiling in the range of approximately 43 °C to 250 °C.)	649-366-00-9	270-991-4	68513-02-0	P
Naphtha (petroleum), steam-cracked middle aromatic; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by the distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 130 °C to 220 °C.)	649-367-00-4	271-138-9	68516-20-1	P
Naphtha (petroleum), clay-treated full-range straight-run; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons resulting from treatment of full-range straight-run, naphtha with natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately - 20 °C to 220 °C.)	649-368-00-X	271-262-3	68527-21-9	P

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Naphtha (petroleum), clay-treated light straight-run; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons resulting from treatment of light straight-run naphtha with a natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities, present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 93 °C to 180 °C.)	649-369-00-5	271-263-9	68527-22-0	P
Naphtha (petroleum), light steam-cracked arom.; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_9, and boiling in the range of approximately 110 °C to 165 °C.)	649-370-00-0	271-264-4	68527-23-1	P
Naphtha (petroleum), light steam-cracked, debenzenised; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 80 °C to 218 °C.)	649-371-00-6	271-266-5	68527-26-4	P
Naphtha (petroleum), aromatic-containing; Low boiling point naphtha — unspecified	649-372-00-1	271-635-0	68603-08-7	P
Gasoline, pyrolysis, debutaniser bottoms; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists of hydrocarbons having carbon numbers predominantly greater than C_5.)	649-373-00-7	271-726-5	68606-10-0	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light, sweetened; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately - 20 °C to 100 °C.)	649-374-00-2	272-206-0	68783-66-4	P
Natural gas condensates; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons separated and/or condensed from natural gas during transportation and collected at the wellhead and/or from the production, gathering, transmission, and distribution pipelines in deeps, scrubbers, etc. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_8.)	649-375-00-8	272-896-3	68919-39-1	J
Distillates (petroleum), naphtha unifiner stripper; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by stripping the products from the naphtha unifiner. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-376-00-3	272-932-8	68921-09-5	P
Naphtha (petroleum), catalytic reformed light, aromatic-free fraction; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons remaining after removal of aromatic compounds from catalytic reformed light naphtha in a selective absorption process. It consists predominantly of paraffinic and cyclic compounds having carbon numbers predominantly in the range of C_5 to C_8 and boiling in the range of approximately 66 °C to 121 °C.)	649-377-00-9	285-510-3	85116-59-2	P

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Substances	Index No	EC No	CAS No	Notes
Gasoline; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C_3 and boiling in the range of 30 °C to 260 °C.)	649-378-00-4	289-220-8	86290-81-5	P
Aromatic hydrocarbons, C_{7-8}, dealkylation products, distillation residues; Low boiling point naphtha — unspecified	649-379-00-X	292-698-0	90989-42-7	P
Hydrocarbons, C_{4-6}, depentaniser lights, arom. hydrotreater; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained as first runnings from the depentaniser column before hydrotreatment of the aromatic charges. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6, predominantly pentanes and pentenes, and boiling in the range of approximately 25 °C to 40 °C.)	649-380-00-5	295-298-4	91995-38-9	P
Distillates (petroleum), heat-soaked steam-cracked naphtha, C_5-rich; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of heat-soaked steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_4 through C_6, predominantly C_5.)	649-381-00-0	295-302-4	91995-41-4	P
Extracts (petroleum), catalytic reformed light naphtha solvent; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained as the extract from the solvent extraction of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_8 and boiling in the range of approximately 100 °C to 200 °C.)	649-382-00-6	295-331-2	91995-68-5	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), hydrodesulphurised light, dearomatised; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of hydrodesulphurised and dearomatised light petroleum fractions. It consists predominantly of C_7 paraffins and cycloparaffins boiling in a range of approximately 90 °C to 100 °C.)	649-383-00-1	295-434-2	92045-53-9	P
Naphtha (petroleum), light, C_5-rich, sweetened; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_5, predominantly C_5, and boiling in the range of approximately - 10 ° C to 35 °C.)	649-384-00-7	295-442-6	92045-60-8	P
Hydrocarbons, C_{8-11}, naphtha-cracking, toluene cut; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation from prehydrogenated cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{11} and boiling in the range of approximately 130 °C to 205 °C.)	649-385-00-2	295-444-7	92045-62-0	P
Hydrocarbons, C_{4-11}, naphtha-cracking; aromatic-free; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from prehydrogenated cracked naphtha after distillative separation of benzene- and toluene-containing hydrocarbon cuts and a higher boiling fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately 30 °C to 205 °C.)	649-386-00-8	295-445-2	92045-63-1	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light heat-soaked, steam-cracked; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the fractionation of steam cracked naphtha after recovery from a heat soaking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6 and boiling in the range of approximately 0 °C to 80 °C.)	649-387-00-3	296-028-8	92201-97-3	P
Distillates (petroleum), C_6-rich; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the distillation of a petroleum feedstock. It consists predominantly of hydrocarbons having carbon numbers of C_5 through C_7, rich in C_6, and boiling in the range of approximately 60 °C to 70 °C.)	649-388-00-9	296-903-4	93165-19-6	P
Gasoline, pyrolysis, hydrogenated; low boiling point naphtha — unspecified (A distillation fraction from the hydrogenation of pyrolysis gasoline boiling in the range of approximately 20 °C to 200 °C.)	649-389-00-4	302-639-3	94114-03-1	P
Distillates (petroleum), steam-cracked, C_{8-12} fraction, polymd., distillation lights; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of the polymerised C_8 through C_{12} fraction from steam-cracked petroleum distillates. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{12}.)	649-390-00-X	305-750-5	95009-23-7	P
Extracts (petroleum); heavy naphtha solvent, clay-treated; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the treatment of heavy naphthic solvent petroleum extract with bleaching earth. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{10}, and boiling in the range of approximately 80 °C to 180 °C.)	649-391-00-5	308-261-5	97926-43-7	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light steam-cracked, debenzenised, thermally treated; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the treatment and distillation of debenzenised light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 95 °C to 200 °C.)	649-392-00-0	308-713-1	98219-46-6	P
Naphtha (petroleum), light steam-cracked, thermally treated; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the treatment and distillation of light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_6 and boiling in the range of approximately 35 °C to 80 °C.)	649-393-00-6	308-714-7	98219-47-7	P
Distillates (petroleum), C_{7-9}, C_8-rich, hydrodesulphurised dearomatised; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the distillation of petroleum light fraction, hydrodesulphurised and dearomatised. It consists predominantly of hydrocarbons having carbon numbers in the range of C_7 through C_9, predominantly C_8 paraffins and cycloparaffins, boiling in the range of approximately 120 °C to 130 °C.)	649-394-00-1	309-862-5	101316-56-7	P
Hydrocarbons, C_{6-8}, hydrogenated sorption-dearomatised, toluene raffination; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained during the sorption of toluene from a hydrocarbon fraction from cracked gasoline treated with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8 and boiling in the range of approximately 80 °C to 135 °C.)	649-395-00-7	309-870-9	101316-66-9	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), hydrodesulphurised full-range coker; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by fractionation from hydrodesulphurised coker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 23 °C to 196 °C.)	649-396-00-2	309-879-8	101316-76-1	P
Naphtha (petroleum), sweetened light; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_8 and boiling in the range of approximately 20 °C to 130 °C.)	649-397-00-8	309-976-5	101795-01-1	P
Hydrocarbons, C_{3-6}, C_5-rich, steam-cracked naphtha; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly C_5.)	649-398-00-3	310-012-0	102110-14-5	P
Hydrocarbons, C_5-rich, dicyclopentadiene-containing; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of the products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers of C_5 and dicyclopentadiene and boiling in the range of approximately 30 °C to 170 °C.)	649-399-00-9	310-013-6	102110-15-6	P

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Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), steam-cracked light, aromatic; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the distillation of the products of steam cracking or similar processes after taking off the very light products resulting in a residue starting with hydrocarbons having carbon numbers greater than C_5. It consists predominantly of aromatic hydrocarbons having carbon numbers greater than C_5 and boiling above approximately 40 °C.)	649-400-00-2	310-057-6	102110-55-4	P
Hydrocarbons, $C_{\geq 5}$, C_{5-6}-rich; low boiling point naphtha — unspecified	649-401-00-8	270-690-8	68476-50-6	P
Hydrocarbons, C_5-rich; low boiling point naphtha — unspecified	649-402-00-3	270-695-5	68476-55-1	P
Aromatic hydrocarbons, C_{8-10}; Light oil redistillate, high boiling	649-403-00-9	292-695-4	90989-39-2	P
Distillates (petroleum), light catalytic cracked; Cracked gas oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150 °C to 400 °C. It contains a relatively large proportion of bicyclic aromatic hydrocarbons.)	649-435-00-3	265-060-4	64741-59-9	
Distillates (petroleum), intermediate catalytic cracked; Cracked gas oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{30} and boiling in the range of approximately 205 °C to 450 °C. It contains a relatively large proportion of tricyclic aromatic hydrocarbons.)	649-436-00-9	265-062-5	64741-60-2	

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), light thermal cracked; Cracked gas oil (A complex combination of hydrocarbons from the distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{22} and boiling in the range of approximately 160 °C to 370 °C.)	649-438-00-X	265-084-5	64741-82-8	
Distillates (petroleum), hydrodesulphurised light catalytic cracked; Cracked gas oil (A complex combination of hydrocarbons obtained by treating light catalytic cracked distillates with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150 °C to 400 °C. It contains a relatively large proportion of bicyclic aromatic hydrocarbons.)	649-439-00-5	269-781-5	68333-25-5	
Distillates (petroleum), light steam-cracked naphtha; Cracked gas oil (A complex combination of hydrocarbons from the multiple distillation of products from a steam cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{18}.)	649-440-00-0	270-662-5	68475-80-9	
Distillates (petroleum), cracked steam-cracked petroleum distillates; Cracked gas oil (A complex combination of hydrocarbons produced by distilling cracked steam cracked distillate and/or its fractionation products. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{10} to low molecular weight polymers.)	649-441-00-6	270-727-8	68477-38-3	

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Substances	Index No	EC No	CAS No	Notes
Gas oils (petroleum), steam-cracked; Cracked gas oil (A complex combination of hydrocarbons produced by distillation of the products from a steam cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_9 and boiling in the range of from approximately 205 °C to 400 °C.)	649-442-00-1	271-260-2	68527-18-4	
Distillates (petroleum), hydrodesulphurised thermal cracked middle; Cracked gas oil (A complex combination of hydrocarbons obtained by fractionation from hydrodesulphurised thermal cracker distillate stocks. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{11} to C_{25} and boiling in the range of from approximately 205 °C to 400 °C.)	649-443-00-7	285-505-6	85116-53-6	
Gas oils (petroleum), thermal-cracked, hydrodesulphurised; Cracked gas oil	649-444-00-2	295-411-7	92045-29-9	
Residues (petroleum), hydrogenated steam-cracked naphtha; Cracked gas oil (A complex combination of hydrocarbons obtained as a residual fraction from the distillation of hydrotreated steam-cracked naphtha. It consists predominantly of hydrocarbons boiling in the range of approximately 200 °C to 350 °C.)	649-445-00-8	295-514-7	92062-00-5	
Residues (petroleum), steam-cracked naphtha distillation; Cracked gas oil (A complex combination of hydrocarbons obtained as a column bottom from the separation of effluents from steam cracking naphtha at a high temperature. It boils in the range of approximately 147 °C to 300 °C and produces a finished oil having a viscosity of 18 10^{-6} $m^2.s^{-1}$ at 50 °C.)	649-446-00-3	295-517-3	92062-04-9	

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), light catalytic cracked, thermally degraded; Cracked gas oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process which has been used as a heat transfer fluid. It consists predominantly of hydrocarbons boiling in the range of approximately 190 °C to 340 °C. This steam is likely to contain organic sulphur compounds.)	649-447-00-9	295-991-1	92201-60-0	
Residues (petroleum), steam-cracked, heat-soaked naphtha; Cracked gas oil (A complex combination of hydrocarbons obtained as residue from the distillation of steam-cracked heat-soaked naphtha and boiling in the range of approximately 150 °C to 350 °C.)	649-448-00-4	297-905-8	93763-85-0	
Gas oils (petroleum), light vacuum, thermal-cracked hydrodesulphurised; Cracked gas oil (A complex combination of hydrocarbons obtained by catalytic dehydrosulphurisation of thermal-cracked light vacuum petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{14} through C_{20} and boiling in the range of approximately 270 °C to 370 °C.)	649-450-00-5	308-278-8	97926-59-5	
Distillates (petroleum), hydrodesulphurised middle coker; Cracked gas oil (A complex combination of hydrocarbons by fractionation from hydrodesulphurised coker distillate stocks. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{21} and boiling in the range of approximately 200 °C to 360 °C.)	649-451-00-0	309-865-1	101316-59-0	

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), heavy steam-cracked; Cracked gas oil (A complex combination of hydrocarbons obtained by distillation of steam cracking heavy residues. It consists predominantly of highly alkylated heavy aromatic hydrocarbons boiling in the range of approximately 250 °C to 400 °C.)	649-452-00-6	309-939-3	101631-14-5	
Distillates (petroleum), heavy hydrocracked; Base oil — unspecified (A complex combination of hydrocarbons from the distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{15} through C_{39} and boiling in the range of approximately 260 °C to 600 °C.)	649-453-00-1	265-077-7	64741-76-0	L
Distillates (petroleum), solvent-refined heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-454-00-7	265-090-8	64741-88-4	L
Distillates (petroleum), solvent-refined light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-455-00-2	265-091-3	64741-89-5	L

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Substances	Index No	EC No	CAS No	Notes
Residual oils (petroleum), solvent deasphalted; Base oil — unspecified (A complex combination of hydrocarbons obtained as the solvent soluble fraction from C_3-C_4 solvent deasphalting of a residuum. It consists of hydrocarbons having carbon numbers predominantly higher than C_{25} and boiling above approximately 400 °C.)	649-456-00-8	265-096-0	64741-95-3	L
Distillates (petroleum), solvent-refined heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-457-00-3	265-097-6	64741-96-4	L
Distillates (petroleum), solvent-refined light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-458-00-9	265-098-1	64741-97-5	L
Residual oils (petroleum), solvent-refined; Base oil — unspecified (A complex combination of hydrocarbons obtained as the solvent insoluble fraction from solvent refining of a residuum using a polar organic solvent such as phenol or furfural. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C.)	649-459-00-4	265-101-6	64742-01-4	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), clay-treated paraffinic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-460-00-X	265-137-2	64742-36-5	L
Distillates (petroleum), clay-treated light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-461-00-5	265-138-8	64742-37-6	L
Residual oils (petroleum), clay-treated; Base oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of a residual oil with a natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C.)	649-462-00-0	265-143-5	64742-41-2	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), clay-treated heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with a natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-463-00-6	265-146-1	64742-44-5	L
Distillates (petroleum), clay-treated light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-464-00-1	265-147-7	64742-45-6	L
Distillates (petroleum), hydro-treated heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-465-00-7	265-155-0	64742-52-5	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), hydrotreated light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-466-00-2	265-156-6	64742-53-6	L
Distillates (petroleum), hydrotreated heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-467-00-8	265-157-1	64742-54-7	L
Distillates (petroleum), hydrotreated light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-468-00-3	265-158-7	64742-55-8	L
Distillates (petroleum), solvent-dewaxed light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-469-00-9	265-159-2	64742-56-9	L

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Substances	Index No	EC No	CAS No	Notes
Residual oils (petroleum), hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C.)	649-470-00-4	265-160-8	64742-57-0	L
Residual oils (petroleum), solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of long, branched chain hydrocarbons from a residual oil by solvent crystallisation. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C.)	649-471-00-X	265-166-0	64742-62-7	L
Distillates (petroleum), solvent-dewaxed heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil of not less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-472-00-5	265-167-6	64742-63-8	L
Distillates (petroleum), solvent-dewaxed light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-473-00-0	265-168-1	64742-64-9	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), solvent-dewaxed heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallisation. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of not less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-474-00-6	265-169-7	64742-65-0	L
Naphthenic oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-475-00-1	265-172-3	64742-68-3	L
Naphthenic oils (petroleum), catalytic dewaxed light; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-476-00-7	265-173-9	64742-69-4	L
Paraffin oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-477-00-2	265-174-4	64742-70-7	L

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Substances	Index No	EC No	CAS No	Notes
Paraffin oils (petroleum), catalytic dewaxed light; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-478-00-8	265-176-5	64742-71-8	L
Naphthenic oils (petroleum), complex dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained by removing straight chain paraffin hydrocarbons as a solid by treatment with an agent such as urea. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-479-00-3	265-179-1	64742-75-2	L
Naphthenic oils (petroleum), complex dewaxed light; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-480-00-9	265-180-7	64742-76-3	L
Lubricating oils (petroleum), C_{20-50}, hydrotreated neutral oil-based high-viscosity; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil, and solvent deasphalted residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil having a viscosity of approximately 112 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-481-00-4	276-736-3	72623-85-9	L

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Substances	Index No	EC No	CAS No	Notes
Lubricating oils (petroleum), C_{15-30}, hydrotreated neutral oil-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating light vacuum gas oil and heavy vacuum gas oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity of approximately 15 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-482-00-X	276-737-9	72623-86-0	L
Lubricating oils (petroleum), C_{20-50}, hydrotreated neutral oil-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil and solvent deasphalted residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of approximately 32 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)	649-483-00-5	276-738-4	72623-87-1	L
Lubricating oils; Base oil — unspecified (A complex combination of hydrocarbons obtained from solvent extraction and dewaxing processes. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{15} through C_{50}.)	649-484-00-0	278-012-2	74869-22-0	L
Distillates (petroleum), complex dewaxed heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by dewaxing heavy paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of equal to or greater than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-485-00-6	292-613-7	90640-91-8	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), complex dewaxed light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by dewaxing light paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{30} and produces a finished oil with a viscosity of less than 19 10^{-6} $m^2.s^{-1}$ at 40 °C. It contains relatively few normal paraffins.)	649-486-00-1	292-614-2	90640-92-9	L
Distillates (petroleum), solvent-dewaxed heavy paraffinic, clay-treated; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating dewaxed heavy paraffinic distillate with neutral or modified clay in either a contacting or percolation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-487-00-7	292-616-3	90640-94-1	L
Hydrocarbons, C_{20-50}, solvent-dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons produced by treating dewaxed heavy paraffinic distillate with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-488-00-2	292-617-9	90640-95-2	L
Distillates (petroleum), solvent dewaxed light paraffinic, clay-treated; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of dewaxed light paraffinic distillate with natural or modified clay in either a contacting or percolation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}.)	649-489-00-8	292-618-4	90640-96-3	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), solvent dewaxed light paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons produced by treating a dewaxed light paraffinic distillate with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}.)	649-490-00-3	292-620-5	90640-97-4	L
Residual oils (petroleum), hydrotreated solvent dewaxed; Base oil — unspecified	649-491-00-9	292-656-1	90669-74-2	L
Residual oils (petroleum), catalytic dewaxed; Base oil — unspecified	649-492-00-4	294-843-3	91770-57-9	L
Distillates (petroleum), dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained from an intensive treatment of dewaxed distillate by hydrogenation in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{25} through C_{39} and produces a finished oil with a viscosity of approximately 44 10^{-6} $m^2.s^{-1}$ at 50 °C.)	649-493-00-X	295-300-3	91995-39-0	L
Distillates (petroleum), dewaxed light paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained from an intensive treatment of dewaxed distillate by hydrogenation in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{21} through C_{29} and produces a finished oil with a viscosity of approximately 13 10^{-6} $m^2.s^{-1}$ at 50 °C.)	649-494-00-5	295-301-9	91995-40-3	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), hydrocracked solvent-refined, dewaxed; Base oil — unspecified (A complex combination of liquid hydrocarbons obtained by recrystallisation of dewaxed hydrocracked solvent-refined petroleum distillates.)	649-495-00-0	295-306-6	91995-45-8	L
Distillates (petroleum), solvent-refined light naphthenic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst and removing the aromatic hydrocarbons by solvent extraction. It consists predominantly of naphthenic hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of between 13-15 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-496-00-6	295-316-0	91995-54-9	L
Lubricating oils (petroleum) C_{17-35}, solvent-extd., dewaxed, hydrotreated; Base oil — unspecified	649-497-00-1	295-423-2	92045-42-6	L
Lubricating oils (petroleum), hydrocracked nonarom. solvent-deparaffined; Base oil — unspecified	649-498-00-7	295-424-8	92045-43-7	L
Residual oils (petroleum), hydrocracked acid-treated solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons produced by solvent removal of paraffins from the residue of the distillation of acid-treated, hydrocracked heavy paraffins and boiling approximately above 380 °C.)	649-499-00-2	295-499-7	92061-86-4	L
Paraffin oils (petroleum), solvent-refined dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained from sulphur-containing paraffinic crude oil. It consists predominantly of a solvent refined deparaffinated lubricating oil with a viscosity of 65 10^{-6} $m^2.s^{-1}$ at 50 °C.)	649-500-00-6	295-810-6	92129-09-4	L

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Substances	Index No	EC No	CAS No	Notes
Lubricating oils (petroleum), base oils, paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by refining crude oil. It consists predominantly of aromatics, naphthenics and paraffinics and produces a finished oil with a viscosity of 23 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-501-00-1	297-474-6	93572-43-1	L
Hydrocarbons, hydrocracked paraffinic distillation residues, solvent-dewaxed; Base oil — unspecified	649-502-00-7	297-857-8	93763-38-3	L
Hydrocarbons, C_{20-50}, residual oil hydrogenation vacuum distillate; Base oil — unspecified	649-503-00-2	300-257-1	93924-61-9	L
Distillates (petroleum), solvent-refined hydrotreated heavy; hydrogenated; Base oil — unspecified	649-504-00-8	305-588-5	94733-08-1	L
Distillates (petroleum), solvent-refined hydrocracked light; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent dearomatisation of the residue of hydrocracked petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{27} and boiling in the range of approximately 370 °C to 450 °C.)	649-505-00-3	305-589-0	94733-09-2	L
Lubricating oils (petroleum), C_{18-40}, solvent-dewaxed hydrocracked distillate-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent deparaffination of the distillation residue from hydrocracked petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{40} and boiling in the range of approximately 370 °C to 550 °C.)	649-506-00-9	305-594-8	94733-15-0	L

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Substances	Index No	EC No	CAS No	Notes
Lubricating oils (petroleum), C_{18-40}, solvent-dewaxed hydrogenated raffinate-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent deparaffination of the hydrogenated raffinate obtained by solvent extraction of a hydrotreated petroleum distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{40} and boiling in the range of approximately 370 °C to 550 °C.)	649-507-00-4	305-595-3	94733-16-1	L
Hydrocarbons, C_{13-30}, aromatic-rich, solvent-extracted naphthenic distillate; Base oil — unspecified	649-508-00-X	305-971-7	95371-04-3	L
Hydrocarbons, C_{16-32}, arom.-rich, solvent-extracted naphthenic distillate; Base oil — unspecified	649-509-00-5	305-972-2	95371-05-4	L
Hydrocarbons, C_{37-68}, dewaxed deasphalted hydrotreated vacuum distillation residues; Base oil — unspecified	649-510-00-0	305-974-3	95371-07-6	L
Hydrocarbons, C_{37-65}, hydrotreated deasphalted vacuum distillation residues; Base oil — unspecified	649-511-00-6	305-975-9	95371-08-7	L
Distillates (petroleum), hydrocracked solvent-refined light; Base oil — unspecified (A complex combination of hydrocarbons obtained by the solvent treatment of a distillate from hydrocracked petroleum distillates. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{27} and boiling in the range of approximately 370 °C to 450 °C.)	649-512-00-1	307-010-7	97488-73-8	L

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), solvent-refined hydrogenated heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of a hydrogenated petroleum distillate with a solvent. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{19} through C_{40} and boiling in the range of approximately 390 °C to 550 °C.)	649-513-00-7	307-011-2	97488-74-9	L
Lubricating oils (petroleum) C_{18-27}, hydrocracked solvent-dewaxed; Base oil — unspecified	649-514-00-2	307-034-8	97488-95-4	L
Hydrocarbons, C_{17-30}, hydrotreated solvent-deasphalted atmospheric distillation residue, distillation lights; Base oil — unspecified (A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of a solvent deasphalted short residue with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{30} and boiling in the range of approximately 300 °C to 400 °C. It produces a finished oil having a viscosity of 4 10^{-6} $m^2.s^{-1}$ at approximately 100 °C.)	649-515-00-8	307-661-7	97675-87-1	L
Hydrocarbons, C_{17-40}, hydrotreated solvent-deasphalted distillation residue, vacuum distillation lights; Base oil — unspecified (A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the catalytic hydrotreatment of a solvent deasphalted short residue having a viscosity of 8 10^{-6} $m^2.s^{-1}$ at approximately 100 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{40} and boiling in the range of approximately 300 °C to 500 °C.)	649-516-00-3	307-755-8	97722-06-0	L

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{13-27}, solvent-extracted light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of 9,5 10^{-6} $m^2.s^{-1}$ at 40 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{27} and boiling in the range of approximately 240 °C to 400 °C.)	649-517-00-9	307-758-4	97722-09-3	L
Hydrocarbons, C_{14-29}, solvent-extracted light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of 16 10^{-6} $m^2.s^{-1}$ at 40 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{14} through C_{29} and boiling in the range of approximately 250 °C to 425 °C.)	649-518-00-4	307-760-5	97722-10-6	L
Hydrocarbons, C_{27-42}, dearomatised; Base oil — unspecified	649-519-00-X	308-131-8	97862-81-2	L
Hydrocarbons, C_{17-30}, hydrotreated distillates, distillation lights; Base oil — unspecified	649-520-00-5	308-132-3	97862-82-3	L
Hydrocarbons, C_{27-45}, naphthenic vacuum distillation; Base oil — unspecified	649-521-00-0	308-133-9	97862-83-4	L
Hydrocarbons, C_{27-45}, dearomatised; Base oil — unspecified	649-522-00-6	308-287-7	97926-68-6	L
Hydrocarbons, C_{20-58}, hydrotreated; Base oil — unspecified	649-523-00-1	308-289-8	97926-70-0	L
Hydrocarbons, C_{27-42}, naphthenic; Base oil — unspecified	649-524-00-7	308-290-3	97926-71-1	L

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Substances	Index No	EC No	CAS No	Notes
Residual oils (petroleum), carbon-treated solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of solvent-dewaxed petroleum residual oils with activated charcoal for the removal of trace polar constituents and impurities.)	649-525-00-2	309-710-8	100684-37-5	L
Residual oils (petroleum), clay-treated solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons obtained by treatment of solvent-dewaxed petroleum residual oils with bleaching earth for the removal of trace polar constituents and impurities.)	649-526-00-8	309-711-3	100684-38-6	L
Lubricating oils (petroleum) C_{25}, solvent-extracted, deasphalted, dewaxed, hydrogenated; base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of vacuum distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of greater than C_{25} and produces a finished oil with a viscosity in the order of 32 10^{-6} $m^2.s^{-1}$ to 37 10^{-6} $m^2.s^{-1}$ at 100 °C.)	649-527-00-3	309-874-0	101316-69-2	L
Lubricating oils (petroleum) C_{17-32}, solvent-extracted, dewaxed, hydrogenated; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{32} and produces a finished oil with a viscosity in the order 17 10^{-6} $m^2.s^{-1}$ to 23 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-528-00-9	309-875-6	101316-70-5	L

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Substances	Index No	EC No	CAS No	Notes
Lubricating oils (petroleum) C_{20-35}, solvent-extracted, dewaxed, hydrogenated; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{35} and produces a finished oil with a viscosity in the order of 37 10^{-6} $m^2.s^{-1}$ to 44 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-529-00-4	309-876-1	101316-71-6	L
Lubricating oils (petroleum) C_{24-50}, solvent-extracted, dewaxed, hydrogenated; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{24} through C_{50} and produces a finished oil with a viscosity in the order of 16 10^{-6} $m^2.s^{-1}$ to 75 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-530-00-X	309-877-7	101316-72-7	L
Extracts (petroleum), heavy naphthenic distillate solvent, aromatic concentrate; Distillate aromatic extract (treated) (An aromatic concentrate produced by adding water to heavy naphthenic distillate solvent extract and extraction solvent.)	649-531-00-5	272-175-3	68783-00-6	L
Extracts (petroleum), solvent-refined heavy paraffinic distillate solvent; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from the re-extraction of solvent-refined heavy paraffinic distillate. It consists of saturated and aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-532-00-0	272-180-0	68783-04-0	L

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Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), heavy paraffinic distillates, solvent-deasphalted; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from a solvent extraction of heavy paraffinic distillate.)	649-533-00-6	272-342-0	68814-89-1	L
Extracts (petroleum), heavy naphthenic distillate solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by treating a heavy naphthenic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil of at least 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-534-00-1	292-631-5	90641-07-9	L
Extracts (petroleum), heavy paraffinic distillate solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons produced by treating a heavy paraffinic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{21} through C_{33} and boiling in the range of approximately 350 °C to 480 °C.)	649-535-00-7	292-632-0	90641-08-0	L
Extracts (petroleum), light paraffinic distillate solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons produced by treating a light paraffinic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{26} and boiling in the range of approximately 280 °C to 400 °C.)	649-536-00-2	292-633-6	90641-09-1	L

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Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), hydrotreated paraffinic light distillate solvent; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from solvent extraction of intermediate paraffinic top solvent distillate that is treated with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{36}.)	649-537-00-8	295-335-4	91995-73-2	L
Extracts (petroleum), light naphthenic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by treating the extract, obtained from a solvent extraction process, with hydrogen in the presence of a catalyst under conditions primarily to remove sulphur compounds. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}. This stream is likely to contain 5 % wt or more of four- to six-membered condensed ring aromatic hydrocarbons.)	649-538-00-3	295-338-0	91995-75-4	L
Extracts (petroleum), light paraffinic distillate solvent, acid-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as a fraction of the distillation of an extract from the solvent extraction of light paraffinic top petroleum distillates that is subjected to a sulphuric acid refining. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{32}.)	649-539-00-9	295-339-6	91995-76-5	L

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Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), light paraffinic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction of a light paraffin distillate and treated with hydrogen to convert the organic sulphur to hydrogen sulphide which is eliminated. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{40} and produces a finished oil having a viscosity of greater than 10^{-5} $m^2.s^{-1}$ at 40 °C.)	649-540-00-4	295-340-1	91995-77-6	L
Extracts (petroleum), light vacuum gas oil solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction from light vacuum petroleum gas oils and treated with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{30}.)	649-541-00-X	295-342-2	91995-79-8	L
Extracts (petroleum), heavy paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contact or percolation process to remove the trace amounts of polar compounds and impurities present. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}. This stream is likely to contain 5 % wt or more four- to six-membered ring aromatic hydrocarbons.)	649-542-00-5	296-437-1	92704-08-0	L

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Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), heavy naphthenic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{50} and produces a finished oil with a viscosity of greater than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-543-00-0	297-827-4	93763-10-1	L
Extracts (petroleum), solvent-dewaxed heavy paraffinic distillate solvent, hydrodesulphurised; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained from a solvent dewaxed petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{50} and produces a finished oil with a viscosity of greater than 19 10^{-6} $m^2.s^{-1}$ at 40 °C.)	649-544-00-6	297-829-5	93763-11-2	L
Extracts (petroleum), light paraffinic distillate solvent, carbon-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as a fraction from distillation of an extract recovered by solvent extraction of light paraffinic top petroleum distillate treated with activated charcoal to remove traces of polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{32}.)	649-545-00-1	309-672-2	100684-02-4	L

▼C1

Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), light paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as a fraction from distillation of an extract recovered by solvent extraction of light paraffinic top petroleum distillates treated with bleaching earth to remove traces of polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{32}.)	649-546-00-7	309-673-8	100684-03-5	L
Extracts (petroleum), light vacuum, gas oil solvent, carbon-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction of light vacuum petroleum gas oil treated with activated charcoal for the removal of trace polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{30}.)	649-547-00-2	309-674-3	100684-04-6	L
Extracts (petroleum), light vacuum, gas oil solvent, clay-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction of light vacuum petroleum gas oils treated with bleaching earth for removal of trace polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{30}.)	649-548-00-8	309-675-9	100684-05-7	L
Foots oil (petroleum); Foots oil (A complex combination of hydrocarbons obtained as the oil fraction from a solvent deoiling or a wax sweating process. It consists predominantly of branched chain hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-549-00-3	265-171-8	64742-67-2	L
Foots oil (petroleum), hydro-treated; Foots oil	649-550-00-9	295-394-6	92045-12-0	L

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M73 Refractory Ceramic Fibres, Special Purpose Fibres, except those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008; [Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide ($Na_2O+K_2O+CaO+MgO+BaO$) content less or equal to 18 % by weight]	650-017-00-8	—	—	A, R

▼C1

Appendix 3

▼M61

Entry 29 – Germ cell mutagens: Category 1 A

▼C1

Appendix 4

▼M61

Entry 29 – Germ cell mutagens: Category 1 B

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M14 O-isobutyl-N-ethoxy carbonyl-thiocarbamate	006-094-00-X	434-350-4	103122-66-3	
O-hexyl-N-ethoxycarbonylthioc-arbamate	006-102-00-1	432-750-3	—	
▼C1 Hexamethylphosphoric triamide; hexamethylphosphoramide	015-106-00-2	211-653-8	680-31-9	
▼M14 Mixture of: dimethyl(2-(hydroxy-methylcarbamoyl)ethyl)phos-phonate; Diethyl(2-(hydroxymethylcar-bamoyl)ethyl)phosphonate; Methyl ethyl(2-(hydroxymethylcar-bamoyl)ethyl)phosphonate	015-196-00-3	435-960-3	—	
▼M82 Dimethyl propylphosphonate	015-208-00-7	242-555-3	18755-43-6	
▼C1 Diethyl sulphate	016-027-00-6	200-589-6	64-67-5	
Chromium (VI) trioxide	024-001-00-0	215-607-8	1333-82-0	►M21 ——— ◄
Potassium dichromate	024-002-00-6	231-906-6	7778-50-9	►M21 ——— ◄
Ammonium dichromate	024-003-00-1	232-143-1	7789-09-5	►M21 ——— ◄
▼M14 Sodium dichromate	024-004-00-7	234-190-3	10588-01-9	
———				
▼C1 Chromyl dichloride; chromic oxychloride	024-005-00-2	239-056-8	14977-61-8	
Potassium chromate	024-006-00-8	232-140-5	7789-00-6	
Sodium chromate	024-018-00-3	231-889-5	7775-11-3	►M21 ——— ◄
Cadmium fluoride	048-006-00-2	232-222-0	7790-79-6	►M21 ——— ◄
Cadmium chloride	048-008-00-3	233-296-7	10108-64-2	►M21 ——— ◄
Cadmium sulphate	048-009-00-9	233-331-6	10124-36-4	►M21 ——— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M49				
Cadmium carbonate	048-012-00-5	208-168-9	513-78-0	
Cadmium hydroxide; cadmium dihydroxide	048-013-00-0	244-168-5	21041-95-2	
Cadmium nitrate; cadmium dinitrate	048-014-00-6	233-710-6	10325-94-7	
▼C1				
Butane [containing ≥ 0,1 % Butadiene (203-450-8)] [1]	601-004-01-8	203-448-7 [1]	106-97-8 [1]	C ►M21 ——— ◄
Isobutane [containing ≥ 0,1 % Butadiene (203-450-8)] [2]		20-857-2 [2]	75-28-5 [2]	
1,3-Butadiene buta-1,3-diene	601-013-00-X	203-450-8	106-99-0	D
Benzene	601-020-00-8	200-753-7	71-43-2	►M21 ——— ◄
Benzo[a]pyrene; benzo[d,e,f]chrysene	601-032-00-3	200-028-5	50-32-8	
1,2-Dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	
Ethylene oxide; oxirane	603-023-00-X	200-849-9	75-21-8	
Propylene oxide; 1,2-epoxypropane; Methyloxirane	603-055-00-4	200-879-2	75-56-9	►M21 ——— ◄
2,2'-Bioxirane; 1,2:3,4-diepoxybutane	603-060-00-1	215-979-1	1464-53-5	
▼M69				
2,2-bis(bromomethyl)propane-1,3-diol	603-240-00-X	221-967-7	3296-90-0	
▼M14				
2-Chloro-6-fluoro-phenol	604-082-00-4	433-890-8	2040-90-6	
▼C1				
Methyl acrylamidomethoxyacetate (containing ≥ 0,1 % acrylamide)	607-190-00-X	401-890-7	77402-03-0	
Methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide)	607-210-00-7	403-230-3	77402-05-2	
▼M45				
3,7-dimethylocta-2,6-dienenitrile	608-067-00-3	225-918-0	5146-66-7	
▼C1				
2-Nitrotoluene	609-065-00-5	201-853-3	88-72-2	►M21 ——— ◄
4,4'-oxydianiline [1] and its salts p-aminophenyl ether [1]	612-199-00-7	202-977-0 [1]	101-80-4 [1]	►M21 ——— ◄
▼M14				
(2-chloroethyl)(3-hydroxypropyl) ammonium chloride	612-246-00-1	429-740-6	40722-80-3	
▼C1				
Ethyleneimine; aziridine	613-001-00-1	205-793-9	151-56-4	
Carbendazim (ISO) methyl benzimidazol-2-ylcarbamate	613-048-00-8	234-232-0	10605-21-7	

▼C1

Substances	Index No	EC No	CAS No	Notes
Benomyl (ISO) methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate	613-049-00-3	241-775-7	17804-35-2	
▼M14 Colchicine	614-005-00-6	200-598-5	64-86-8	
▼C1 1,3,5,-Tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione; TGIC	615-021-00-6	219-514-3	2451-62-9	
Acrylamide	616-003-00-0	201-173-7	79-06-1	
1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	616-091-00-0	423-400-0	59653-74-6	►M21 ——— ◄
▼M14 N-[6,9-dihydro-9-[[2-hydroxy-1-(hydroxymethyl)ethoxy]methyl]-6-oxo-1H-purin-2-yl]acetamide	616-148-00-X	424-550-1	84245-12-5	
▼M69 *N*-(hydroxymethyl)acrylamide; methylolacrylamide; [NMA]	616-230-00-5	213-103-2	924-42-5	
▼M14 Tar oils, brown-coal; Light Oil; [The distillate from lignite tar boiling in the range of approximately 80 °C to 250 °C (176 °F to 482 °F). Composed primarily of aliphatic and aromatic hydrocarbons and monobasic phenols.]	648-002-00-6	302-674-4	94114-40-6	J
Benzol forerunnings (coal); Light Oil Redistillate, low boiling; [The distillate from coke oven light oil having an approximate distillation range below 100 °C (212 °F). Composed primarily of C_4 to C_6 aliphatic hydrocarbons.]	648-003-00-1	266-023-5	65996-88-5	J
Distillates (coal tar), benzole fraction, BTX-rich; Light Oil Redistillate, low boiling; [A residue from the distillation of crude benzole to remove benzole fronts. Composed primarily of benzene, toluene and xylenes boiling in the range of approximately 75 °C to 200 °C (167 °F to 392 °F).]	648-004-00-7	309-984-9	101896-26-8	J

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Aromatic hydrocarbons, C_{6-10}, C_8-rich; Light Oil Redistillate, low boiling	648-005-00-2	292-697-5	90989-41-6	J
Solvent naphtha (coal), light; Light Oil Redistillate, low boiling	648-006-00-8	287-498-5	85536-17-0	J
Solvent naphtha (coal), xylene-styrene cut; Light Oil Redistillate, intermediate boiling	648-007-00-3	287-502-5	85536-20-5	J
Solvent naphtha (coal), coumarone-styrene contg.; Light Oil Redistillate, intermediate boiling	648-008-00-9	287-500-4	85536-19-2	J
Naphtha (coal), distn. residues; Light Oil Redistillate, high boiling; [The residue remaining from the distillation of recovered naphtha. Composed primarily of naphthalene and condensation products of indene and styrene.]	648-009-00-4	292-636-2	90641-12-6	J
Aromatic hydrocarbons, C_8; Light Oil Redistillate, high boiling	648-010-00-X	292-694-9	90989-38-1	J
Aromatic hydrocarbons, C_{8-9}, hydrocarbon resin polymn. by-product; Light Oil Redistillate, high boiling; [A complex combination of hydrocarbons obtained from the evaporation of solvent under vacuum from polymerized hydrocarbon resin. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_9 and boiling in the range of approximately 120 °C to 215 °C (248 °F to 419 °F).]	648-012-00-0	295-281-1	91995-20-9	J
Aromatic hydrocarbons, C_{9-12}, benzene distn.; Light Oil Redistillate, high boiling	648-013-00-6	295-551-9	92062-36-7	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Extract residues (coal), benzole fraction alk., acid ext.; Light Oil Extract Residues, low boiling; [The redistillate from the distillate, freed of tar acids and tar bases, from bituminous coal high temperature tar boiling in the approximate range of 90 °C to 160 °C (194 °F to 320 °F). It consists predominantly of benzene, toluene and xylenes.]	648-014-00-1	295-323-9	91995-61-8	J
Extract residues (coal tar), benzole fraction alk., acid ext.; Light Oil Extract Residues, low boiling; [A complex combination of hydrocarbons obtained by the redistillation of the distillate of high temperature coal tar (tar acid and tar base free). It consists predominantly of unsubstituted and substituted mononuclear aromatic hydrocarbons boiling in the range of 85 °C to 195 °C (185 °F to 383 °F).]	648-015-00-7	309-868-8	101316-63-6	J
Extract residues (coal), benzole fraction acid; Light Oil Extract Residues, low boiling; [An acid sludge by-product of the sulfuric acid refining of crude high temperature coal. Composed primarily of sulfuric acid and organic compounds.]	648-016-00-2	298-725-2	93821-38-6	J
Extract residues (coal), light oil alk., distn. overheads; Light Oil Extract Residues, low boiling; [The first fraction from the distillation of aromatic hydrocarbons, coumarone, naphthalene and indene rich prefractionator bottoms or washed carbolic oil boiling substantially below 145 °C (293 °F). Composed primarily of C_7 and C_8 aliphatic and aromatic hydrocarbons.]	648-017-00-8	292-625-2	90641-02-4	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Extract residues (coal), light oil alk., acid ext., indene fraction; Light Oil Extract Residues, intermediate boiling	648-018-00-3	309-867-2	101316-62-5	J
Extract residues (coal), light oil alk., indene naphtha fraction; Light Oil Extract Residues, high boiling; [The distillate from aromatic hydrocarbons, coumarone, naphthalene and indene rich prefractionator bottoms or washed carbolic oils, having an approximate boiling range of 155 °C to 180 °C (311 °F to 356 °F). Composed primarily of indene, indan and trimethylbenzenes.]	648-019-00-9	292-626-8	90641-03-5	J
Solvent naphtha (coal); [The distillate from either high temperature coal tar, coke oven light oil, or coal tar oil alkaline extract residue having an approximate distillation range of 130 °C to 210 °C (266 °F to 410 °F). Composed primarily of indene and other polycyclic ring systems containing a single aromatic ring. May contain phenolic compounds and aromatic nitrogen bases.]; Light Oil Extract Residues, high boiling	648-020-00-4	266-013-0	65996-79-4	J
Distillates (coal tar), light oils, neutral fraction; Light Oil Extract Residues, high boiling; [A distillate from the fractional distillation of high temperature coal tar. Composed primarily of alkyl-substituted one ring aromatic hydrocarbons boiling in the range of approximately 135 °C to 210 °C (275 °F to 410 °F). May also include unsaturated hydrocarbons such as indene and coumarone.]	648-021-00-X	309-971-8	101794-90-5	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Distillates (coal tar), light oils, acid exts.; Light Oil Extract Residues, high boiling; [This oil is a complex mixture of aromatic hydrocarbons, primarily indene, naphthalene, coumarone, phenol, and o-, m- and p-cresol and boiling in the range of 140 °C to 215 °C (284 °F to 419 °F).]	648-022-00-5	292-609-5	90640-87-2	J
Distillates (coal tar), light oils; Carbolic Oil; [A complex combination of hydrocarbons obtained by distillation of coal tar. It consists of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills at the approximate range of 150 °C to 210 °C (302 °F to 410 °F).]	648-023-00-0	283-483-2	84650-03-3	J
Tar oils, coal; Carbolic Oil; [The distillate from high temperature coal tar having an approximate distillation range of 130 °C to 250 °C (266 °F to 410 °F). Composed primarily of naphthalene, alkylnaphthalenes, phenolic compounds, and aromatic nitrogen bases.]	648-024-00-6	266-016-7	65996-82-9	J
Extract residues (coal), light oil alk., acid ext.; Carbolic Oil Extract Residue; [The oil resulting from the acid washing of alkali-washed carbolic oil to remove the minor amounts of basic compounds (tar bases). Composed primarily of indene, indan and alkylbenzenes.]	648-026-00-7	292-624-7	90641-01-3	J
Extract residues (coal), tar oil alk.; Carbolic Oil Extract Residue; [The residue obtained from coal tar oil by an alkaline wash such as aqueous sodium hydroxide after the removal of crude coal tar acids. Composed primarily of naphthalenes and aromatic nitrogen bases.]	648-027-00-2	266-021-4	65996-87-4	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Extract oils (coal), light oil; Acid Extract; [The aqueous extract produced by an acidic wash of alkali-washed carbolic oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.]	648-028-00-8	292-622-6	90640-99-6	J
Pyridine, alkyl derivs.; Crude Tar Bases; [The complex combination of polyalkylated pyridines derived from coal tar distillation or as high-boiling distillates approximately above 150 °C (302 °F) from the reaction of ammonia with acetaldehyde, formaldehyde or paraformaldehyde.]	648-029-00-3	269-929-9	68391-11-7	J
Tar bases, coal, picoline fraction; Distillate Bases; [Pyridine bases boiling in the range of approximately 125 °C to 160 °C (257 °F to 320 °F) obtained by distillation of neutralized acid extract of the base-containing tar fraction obtained by the distillation of bituminous coal tars. Composed chiefly of lutidines and picolines.]	648-030-00-9	295-548-2	92062-33-4	J
Tar bases, coal, lutidine fraction; Distillate Bases	648-031-00-4	293-766-2	91082-52-9	J
Extract oils (coal), tar base, collidine fraction; Distillate Bases; [The extract produced by the acidic extraction of bases from crude coal tar aromatic oils, neutralization, and distillation of the bases. Composed primarily of collidines, aniline, toluidines, lutidines, xylidines.]	648-032-00-X	273-077-3	68937-63-3	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Tar bases, coal, collidine fraction; Distillate Bases; [The distillation fraction boiling in the range of approximately 181 °C to 186 °C (356 °F to 367 °F) from the crude bases obtained from the neutralized, acid-extracted base-containing tar fractions obtained by the distillation of bituminous coal tar. It contains chiefly aniline and collidines.]	648-033-00-5	295-543-5	92062-28-7	J
Tar bases, coal, aniline fraction; Distillate Bases; [The distillation fraction boiling in the range of approximately 180 °C to 200 °C (356 °F to 392 °F) from the crude bases obtained by dephenolating and debasing the carbolated oil from the distillation of coal tar. It contains chiefly aniline, collidines, lutidines and toluidines.]	648-034-00-0	295-541-4	92062-27-6	J
Tar bases, coal, toluidine fraction; Distillate Bases	648-035-00-6	293-767-8	91082-53-0	J
Distillates (petroleum), alkene-alkyne manuf. pyrolysis oil, mixed with high-temp. coal tar, indene fraction; Redistillates; [A complex combination of hydrocarbons obtained as a redistillate from the fractional distillation of bituminous coal high temperature tar and residual oils that are obtained by the pyrolytic production of alkenes and alkynes from petroleum products or natural gas. It consists predominantly of indene and boils in a range of approximately 160 °C to 190 °C (320 °F to 374 °F).]	648-036-00-1	295-292-1	91995-31-2	J

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Distillates (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates; [The redistillate obtained from the fractional distillation of bituminous coal high temperature tar and pyrolysis residual oils and boiling in the range of approximately 190 °C to 270 °C (374 °F to 518 °F). Composed primarily of substituted dinuclear aromatics.]	648-037-00-7	295-295-8	91995-35-6	J
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, redistillate; Redistillates; [The redistillate from the fractional distillation of dephenolated and debased methylnaphthalene oil obtained from bituminous coal high temperature tar and pyrolysis residual oils boiling in the approximate range of 220 °C to 230 °C (428 °F to 446 °F). It consists predominantly of unsubstituted and substituted dinuclear aromatic hydrocarbons.]	648-038-00-2	295-329-1	91995-66-3	J
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates; [A neutral oil obtained by debasing and dephenolating the oil obtained from the distillation of high temperature tar and pyrolysis residual oils which has a boiling range of 225 °C to 255 °C (437 °F to 491 °F). Composed primarily of substituted dinuclear aromatic hydrocarbons.]	648-039-00-8	310-170-0	122070-79-5	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Extract oils (coal), coal tar residual pyrolysis oils, naphthalene oil, distn. residues; Redistillates; [Residue from the distillation of dephenolated and debased methyl-naphthalene oil (from bituminous coal tar and pyrolysis residual oils) with a boiling range of 240 °C to 260 °C (464 °F to 500 °F). Composed primarily of substituted dinuclear aromatic and heterocyclic hydrocarbons.]	648-040-00-3	310-171-6	122070-80-8	J

▼M26

Pitch, coal tar, high-temp.; (The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30 °C to 180 °C (86 °F to 356 °F). Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.)	648-055-00-5	266-028-2	65996-93-2	

▼M14

Distillates (coal), coke-oven light oil, naphthalene cut; Naphthalene Oil; [The complex combination of hydrocarbons obtained from prefractionation (continuous distillation) of coke oven light oil. It consists predominantly of naphthalene, coumarone and indene and boils above 148 °C (298 °F).]	648-084-00-3	285-076-5	85029-51-2	J, M
Distillates (coal tar), naphthalene oils; Naphthalene Oil; [A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists primarily of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills in the approximate range of 200 °C to 250 °C (392 °F to 482 °F).]	648-085-00-9	283-484-8	84650-04-4	J, M
Distillates (coal tar), naphthalene oils, naphthalene-low; Naphthalene Oil Redistillate;	648-086-00-4	284-898-1	84989-09-3	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
[A complex combination of hydrocarbons obtained by crystallization of naphthalene oil.Composed primarily of naphthalene, alkyl naphthalenes and phenolic compounds.]				
Distillates (coal tar), naphthalene oil crystn. mother liquor; Naphthalene Oil Redistillate; [A complex combination of organic compounds obtained as a filtrate from the crystallization of the naphthalene fraction from coal tar and boiling in the range of approximately 200 °C to 230 °C (392 °F to 446 °F). Contains chiefly naphthalene, thionaphthene and alkylnaphthalenes.]	648-087-00-X	295-310-8	91995-49-2	J, M
Extract residues (coal), naphthalene oil, alk.; Naphthalene Oil Extract Residue; [A complex combination of hydrocarbons obtained from the alkali washing of naphthalene oil to remove phenolic compounds (tar acids). It is composed of naphthalene and alkyl naphthalenes.]	648-088-00-5	310-166-9	121620-47-1	J, M
Extract residues (coal), naphthalene oil, alk., naphthalene-low; Naphthalene Oil Extract Residue; [A complex combination of hydrocarbons remaining after the removal of naphthalene from alkali-washed naphthalene oil by a crystallization process. It is composed primarily of naphthalene and alkyl naphthalenes.]	648-089-00-0	310-167-4	121620-48-2	J, M
Distillates (coal tar), naphthalene oils, naphthalene-free, alk. exts.; Naphthalene Oil Extract Residue; [The oil remaining after the removal of phenolic compounds (tar acids) from drained naphthalene oil by an alkali wash. Composed primarily of naphthalene and alkyl naphthalenes.]	648-090-00-6	292-612-1	90640-90-7	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Extract residues (coal), naphthalene oil alk., distn. overheads; Naphthalene Oil Extract Residue; [The distillate from alkali-washed naphthalene oil having an approximate distillation range of 180 °C to 220 °C (356 °F to 428 °F). Composed primarily of naphthalene, alkylbenzenes, indene and indan.]	648-091-00-1	292-627-3	90641-04-6	J, M
Distillates (coal tar), naphthalene oils, methylnaphthalene fraction; Methylnaphthalene Oil; [A distillate from the fractional distillation of high temperature coal tar. Composed primarily of substituted two ring aromatic hydrocarbons and aromatic nitrogen bases boiling in the range of approximately 225 °C to 255 °C (437 °F to 491 °F).]	648-092-00-7	309-985-4	101896-27-9	J, M
Distillates (coal tar), naphthalene oils, indole-methylnaphthalene fraction; Methylnaphthalene Oil; [A distillate from the fractional distillation of high temperature coal tar. Composed primarily of indole and methylnaphthalene boiling in the range of approximately 235 °C to 255 °C (455 °F to 491 °F).]	648-093-00-2	309-972-3	101794-91-6	J, M
Distillates (coal tar), naphthalene oils, acid exts.; Methylnaphthalene Oil Extract Residue; [A complex combination of hydrocarbons obtained by debasing the methylnaphthalene fraction obtained by the distillation of coal tar and boiling in the range of approximately 230 °C to 255 °C (446 °F to 491 °F). Contains chiefly 1(2)-methylnaphthalene, naphthalene, dimethylnaphthalene and biphenyl.]	648-094-00-8	295-309-2	91995-48-1	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Extract residues (coal), naphthalene oil alk., distn. residues; Methylnaphthalene Oil Extract Residue; [The residue from the distillation of alkali-washed naphthalene oil having an approximate distillation range of 220 °C to 300 °C (428 °F to 572 °F). Composed primarily of naphthalene, alkylnaphthalenes and aromatic nitrogen bases.]	648-095-00-3	292-628-9	90641-05-7	J, M
Extract oils (coal), acidic, tar-base free; Methylnaphthalene Oil Extract Residue; [The extract oil boiling in the range of approximately 220 °C to 265 °C (428 °F to 509 °F) from coal tar alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove tar bases. Composed primarily of alkylnaphthalenes.]	648-096-00-9	284-901-6	84989-12-8	J, M
Distillates (coal tar), benzole fraction, distn. residues; Wash Oil; [A complex combination of hydrocarbons obtained from the distillation of crude benzole (high temperature coal tar). It may be a liquid with the approximate distillation range of 150 °C to 300 °C (302 °F to 572 °F) or a semi-solid or solid with a melting point up to 70 °C (158 °F). It is composed primarily of naphthalene and alkyl naphthalenes.]	648-097-00-4	310-165-3	121620-46-0	J, M
Anthracene oil, anthracene paste; Anthracene Oil Fraction; [The anthracene-rich solid obtained by the crystallization and centrifuging of anthracene oil. It is composed primarily of anthracene, carbazole and phenanthrene.]	648-103-00-5	292-603-2	90640-81-6	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Anthracene oil, anthracene-low; Anthracene Oil Fraction; [The oil remaining after the removal, by a crystallization process, of an anthracene-rich solid (anthracene paste) from anthracene oil. It is composed primarily of two, three and four membered aromatic compounds.]	648-104-00-0	292-604-8	90640-82-7	J, M
Residues (coal tar), anthracene oil distn.; Anthracene Oil Fraction; [The residue from the fraction distillation of crude anthracene boiling in the approximate range of 340 °C to 400 °C (644 °F to 752 °F). It consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.]	648-105-00-6	295-505-8	92061-92-2	J, M
Anthracene oil, anthracene paste, anthracene fraction; Anthracene Oil Fraction; [A complex combination of hydrocarbons from the distillation of anthracene obtained by the crystallization of anthracene oil from bituminous high temperature tar and boiling in the range of 330 °C to 350 °C (626 °F to 662 °F). It contains chiefly anthracene, carbazole and phenanthrene.]	648-106-00-1	295-275-9	91995-15-2	J, M
Anthracene oil, anthracene paste, carbazole fraction; Anthracene Oil Fraction; [A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallization of anthracene oil from bituminous coal high temperature tar and boiling in the approximate range of 350 °C to 360 °C (662 °F to 680 °F). It contains chiefly anthracene, carbazole and phenanthrene.]	648-107-00-7	295-276-4	91995-16-3	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Anthracene oil, anthracene paste, distn. lights; Anthracene Oil Fraction; [A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallization of anthracene oil from bituminous high temperature tar and boiling in the range of approximately 290 °C to 340 °C (554 °F to 644 °F). It contains chiefly trinuclear aromatics and their dihydro derivatives.]	648-108-00-2	295-278-5	91995-17-4	J, M
Tar oils, coal, low-temp.; Tar Oil, high boiling; [A distillate from low-temperature coal tar. Composed primarily of hydrocarbons, phenolic compounds and aromatic nitrogen bases boiling in the range of approximately 160 °C to 340 °C (320 °F to 644 °F).]	648-109-00-8	309-889-2	101316-87-4	J, M
Extract residues (coal), low temp. coal tar alk.; [The residue from low temperature coal tar oils after an alkaline wash, such as aqueous sodium hydroxide, to remove crude coal tar acids. Composed primarily of hydrocarbons and aromatic nitrogen bases.]	648-110-00-3	310-191-5	122384-78-5	J, M
Phenols, ammonia liquor ext.; Alkaline Extract; [The combination of phenols extracted, using isobutyl acetate, from the ammonia liquor condensed from the gas evolved in low-temperature (less than 700 °C (1 292 °F)) destructive distillation of coal. It consists predominantly of a mixture of monohydric and dihydric phenols.]	648-111-00-9	284-881-9	84988-93-2	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Distillates (coal tar), light oils, alk. exts.; Alkaline Extract; [The aqueous extract from carbolic oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.]	648-112-00-4	292-610-0	90640-88-3	J, M
Extracts, coal tar oil alk.; Alkaline Extract; [The extract from coal tar oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.]	648-113-00-X	266-017-2	65996-83-0	J, M
Distillates (coal tar), naphthalene oils, alk. exts.; Alkaline Extract; [The aqueous extract from naphthalene oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.]	648-114-00-5	292-611-6	90640-89-4	J, M
Extract residues (coal), tar oil alk., carbonated, limed; Crude Phenols; [The product obtained by treatment of coal tar oil alkaline extract with CO_2 and CaO. Composed primarily of $CaCO_3$, $Ca(OH)_2$, Na_2CO_3 and other organic and inorganic impurities.]	648-115-00-0	292-629-4	90641-06-8	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Tar acids, coal, crude; Crude Phenols; [The reaction product obtained by neutralizing coal tar oil alkaline extract with an acidic solution, such as aqueous sulfuric acid, or gaseous carbon dioxide, to obtain the free acids. Composed primarily of tar acids such as phenol, cresols, and xylenols.]	648-116-00-6	266-019-3	65996-85-2	J, M
Tar acids, brown-coal, crude; Crude Phenols; [An acidified alkaline extract of brown coal tar distillate. Composed primarily of phenol and phenol homologs.]	648-117-00-1	309-888-7	101316-86-3	J, M
Tar acids, brown-coal gasification; Crude Phenols; [A complex combination of organic compounds obtained from brown coal gasification. Composed primarily of C_{6-10} hydroxy aromatic phenols and their homologs.]	648-118-00-7	295-536-7	92062-22-1	J, M
Tar acids, distn. residues; Distillate Phenols; [A residue from the distillation of crude phenol from coal. It consists predominantly of phenols having carbon numbers in the range of C_8 through C_{10} with a softening point of 60 °C to 80 °C (140 °F to 176 °F).]	648-119-00-2	306-251-5	96690-55-0	J, M
Tar acids, methylphenol fraction; Distillate Phenols; [The fraction of tar acid rich in 3- and 4-methylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]	648-120-00-8	284-892-9	84989-04-8	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Tar acids, polyalkylphenol fraction; Distillate Phenols; [The fraction of tar acids, recovered by distillation of low-temperature coal tar crude tar acids, having an approximate boiling range of 225 °C to 320 °C (437 °F to 608 °F). Composed primarily of polyalkylphenols.]	648-121-00-3	284-893-4	84989-05-9	J, M
Tar acids, xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]	648-122-00-9	284-895-5	84989-06-0	J, M
Tar acids, ethylphenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 3- and 4-ethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.]	648-123-00-4	284-891-3	84989-03-7	J, M
Tar acids, 3,5-xylenol fraction; Distillate Phenols; [The fraction of tar acids, rich in 3,5-dimethylphenol, recovered by distillation of low-temperature coal tar acids.]	648-124-00-X	284-896-0	84989-07-1	J, M
Tar acids, residues, distillates, first-cut; Distillate Phenols; [The residue from the distillation in the range of 235 °C to 355 °C (481 °F to 697 °F) of light carbolic oil.]	648-125-00-5	270-713-1	68477-23-6	J, M
Tar acids, cresylic, residues; Distillate Phenols; [The residue from crude coal tar acids after removal of phenol, cresols, xylenols and any higher boiling phenols. A black solid with a melting point approximately 80 °C (176 °F). Composed primarily of polyalkylphenols, resin gums, and inorganic salts.]	648-126-00-0	271-418-0	68555-24-8	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Phenols, C_{9-11}; Distillate Phenols	648-127-00-6	293-435-2	91079-47-9	J, M
Tar acids, cresylic; Distillate Phenols; [A complex combination of organic compounds obtained from brown coal and boiling in the range of approximately 200 °C to 230 °C (392 °F to 446 °F). It contains chiefly phenols and pyridine bases.]	648-128-00-1	295-540-9	92062-26-5	J, M
Tar acids, brown-coal, C_2-alkylphenol fraction; Distillate Phenols; [The distillate from the acidification of alkaline washed lignite tar distillate boiling in the range of approximately 200 °C to 230 °C (392 °F to 446 °F). Composed primarily of m- and p-ethylphenol as well as cresols and xylenols.]	648-129-00-7	302-662-9	94114-29-1	J, M
Extract oils (coal), naphthalene oils; Acid Extract; [The aqueous extract produced by an acidic wash of alkali-washed naphthalene oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.]	648-130-00-2	292-623-1	90641-00-2	J, M
Tar bases, quinoline derivs.; Distillate Bases	648-131-00-8	271-020-7	68513-87-1	J, M
Tar bases, coal, quinoline derivs. fraction; Distillate Bases	648-132-00-3	274-560-1	70321-67-4	J, M
Tar bases, coal, distn. residues; Distillate Bases; [The distillation residue remaining after the distillation of the neutralized, acid-extracted base-containing tar fractions obtained by the distillation of coal tars. It contains chiefly aniline, collidines, quinoline and quinoline derivatives and toluidines.]	648-133-00-9	295-544-0	92062-29-8	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Hydrocarbon oils, arom., mixed with polyethylene and polypropylene, pyrolyzed, light oil fraction; Heat Treatment Products; [The oil obtained from the heat treatment of a polyethylene/polypropylene mixture with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 °C to 120 °C (158 °F to 248 °F).]	648-134-00-4	309-745-9	100801-63-6	J, M
Hydrocarbon oils, arom., mixed with polyethylene, pyrolyzed, light oil fraction; Heat Treatment Products; [The oil obtained from the heat treatment of polyethylene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of 70 °C to 120 °C (158 °F to 248 °F).]	648-135-00-X	309-748-5	100801-65-8	J, M
Hydrocarbon oils, arom., mixed with polystyrene, pyrolyzed, light oil fraction; Heat Treatment Products; [The oil obtained from the heat treatment of polystyrene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 °C to 210 °C (158 °F to 410 °F).]	648-136-00-5	309-749-0	100801-66-9	J, M
Extract residues (coal), tar oil alk., naphthalene distn. residues; Naphthalene Oil Extract Residue; [The residue obtained from chemical oil extracted after the removal of naphthalene by distillation composed primarily of two to four membered condensed ring aromatic hydrocarbons and aromatic nitrogen bases.]	648-137-00-0	277-567-8	73665-18-6	J, M

▼M14

Substances	Index No	EC No	CAS No	Notes
Tar acids, cresylic, sodium salts, caustic solns.; Alkaline Extract	648-139-00-1	272-361-4	68815-21-4	J, M
Extract oils (coal), tar base; Acid Extract; [The extract from coal tar oil alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove naphthalene. Composed primarily of the acid salts of various aromatic nitrogen bases including pyridine, quinoline, and their alkyl derivatives.]	648-140-00-7	266-020-9	65996-86-3	J, M
Tar bases, coal, crude; Crude Tar Bases; [The reaction product obtained by neutralizing coal tar base extract oil with an alkaline solution, such as aqueous sodium hydroxide, to obtain the free bases. Composed primarily of such organic bases as acridine, phenanthridine, pyridine, quinoline and their alkyl derivatives.]	648-141-00-2	266-018-8	65996-84-1	J, M
Light oil (coal), coke-oven; Crude benzole; [The volatile organic liquid extracted from the gas evolved in the high temperature (greater than 700 °C (1 292 °F)) destructive distillation of coal. Composed primarily of benzene, toluene, and xylenes. May contain other minor hydrocarbon constituents.]	648-147-00-5	266-012-5	65996-78-3	J
Distillates (coal), liq. solvent extn., primary; [The liquid product of condensation of vapors emitted during the digestion of coal in a liquid solvent and boiling in the range of approximately 30 °C to 300 °C (86 °F to 572 °F). Composed primarily of partly hydrogenated condensed-ring aromatic hydrocarbons, aromatic compounds containing nitrogen, oxygen and sulfur, and their alkyl derivatives having carbon numbers predominantly in the range of C_4 through C_{14}.]	648-148-00-0	302-688-0	94114-52-0	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Distillates (coal), solvent extn., hydrocracked; [Distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 °C to 300 °C (86 °F to 572 °F). Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of C_4 through C_{14}. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.]	648-149-00-6	302-689-6	94114-53-1	J
Naphtha (coal), solvent extn., hydrocracked; [Fraction of the distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 °C to 180 °C (86 °F to 356 °F). Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of C_4 to C_9. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.]	648-150-00-1	302-690-1	94114-54-2	J
Distillates (coal), solvent extn., hydrocracked middle; [Distillate obtained from the hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 °C to 300 °C (356 °F to 572 °F). Composed primarily of two-ring aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes having carbon numbers predominantly in the range of C_9 through C_{14}. Nitrogen, sulfur and oxygen-containing compounds are also present.]	648-152-00-2	302-692-2	94114-56-4	J

▼M14

Substances	Index No	EC No	CAS No	Notes
Distillates (coal), solvent extn., hydrocracked hydrogenated middle; [Distillate from the hydrogenation of hydrocracked middle distillate from coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 °C to 280 °C (356 °F to 536 °F). Composed primarily of hydrogenated two- ring carbon compounds and their alkyl derivatives having carbon numbers predominantly in the range of C_9 through C_{14}.]	648-153-00-8	302-693-8	94114-57-5	J
Light oil (coal), semi-coking process; Fresh oil; [The volatile organic liquid condensed from the gas evolved in the low-temperature (less than 700 °C (1 292 °F)) destructive distillation of coal. Composed primarily of C_{6-10} hydrocarbons.]	648-156-00-4	292-635-7	90641-11-5	J

▼C1

Gases (petroleum), catalytic cracked naphtha depropaniser overhead, C_3-rich acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of C_2 through C_4, predominantly C_3.)	649-062-00-6	270-755-0	68477-73-6	►M21 ——— ◄ K
Gases (petroleum), catalytic cracker; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-063-00-1	270-756-6	68477-74-7	►M21 ——— ◄ K
Gases (petroleum), catalytic cracker, C_{1-5}-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_6, predominantly C_1 through C_5.)	649-064-00-7	270-757-1	68477-75-8	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), catalytic polymd. naphtha stabiliser overhead, C_{2-4}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic polymerised naphtha. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_2 through C_6, predominantly C_2 through C_4.)	649-065-00-2	270-758-7	68477-76-9	►**M21** ——— ◄ K
Gases (petroleum), catalytic reformer, C_{1-4}-rich; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers in the range of C_1 through C_6, predominantly C_1 through C_4.)	649-066-00-8	270-760-8	68477-79-2	►**M21** ——— ◄ K
Gases (petroleum), C_{3-5} olefinic-paraffinic alkylation feed; Petroleum gas (A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of C_3 through C_5 which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.)	649-067-00-3	270-765-5	68477-83-8	►**M21** ——— ◄ K
Gases (petroleum), C_4-rich; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.)	649-068-00-9	270-767-6	68477-85-0	►**M21** ——— ◄ K
Gases (petroleum), deethaniser overheads; Petroleum gas (A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly ethane and ethylene.)	649-069-00-4	270-768-1	68477-86-1	►**M21** ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), deisobutaniser tower overheads; Petroleum gas (A complex combination of hydrocarbons produced by the atmospheric distillation of a butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-070-00-X	270-769-7	68477-87-2	►M21 ——— ◄ K
Gases (petroleum), depropaniser dry, propene-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists predominantly of propylene with some ethane and propane.)	649-071-00-5	270-772-3	68477-90-7	►M21 ——— ◄ K
Gases (petroleum), depropaniser overheads; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-072-00-0	270-773-9	68477-91-8	►M21 ——— ◄ K
Gases (petroleum), gas recovery plant depropaniser overheads; Petroleum gas (A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4, predominantly propane.)	649-073-00-6	270-777-0	68477-94-1	►M21 ——— ◄ K
Gases (petroleum), Girbatol unit feed; Petroleum gas (A complex combination of hydrocarbons that is used as the feed into the Girbatol unit to remove hydrogen sulfide. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-074-00-1	270-778-6	68477-95-2	►M21 ——— ◄ K
Gases (petroleum), isomerised naphtha fractionator, C_4-rich, hydrogen sulfide-free; Petroleum gas	649-075-00-7	270-782-8	68477-99-6	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), catalytic cracked clarified oil and thermal cracked vacuum residue fractionation reflux drum; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked clarified oil and thermal cracked vacuum residue. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-076-00-2	270-802-5	68478-21-7	►M21 ———— ◄ K
Tail gas (petroleum), catalytic cracked naphtha stabilisation absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-077-00-8	270-803-0	68478-22-8	►M21 ———— ◄ K
Tail gas (petroleum), catalytic cracker, catalytic reformer and hydrodesulphuriser combined fractionater; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of products from catalytic cracking, catalytic reforming and hydrodesulphurising processes treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-078-00-3	270-804-6	68478-24-0	►M21 ———— ◄ K
Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of catalytic reformed naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-079-00-9	270-806-7	68478-26-2	►M21 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), saturate gas plant mixed stream, C_4-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabiliser tail gas. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly butane and isobutane.)	649-080-00-4	270-813-5	68478-32-0	►M21 ——— ◄ K
Tail gas (petroleum), saturate gas recovery plant, C_{1-2}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of distillate tail gas, straight-run naphtha, catalytic reformed naphtha stabiliser tail gas. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_5, predominantly methane and ethane.)	649-081-00-X	270-814-0	68478-33-1	►M21 ——— ◄ K
Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas (A complex combination of hydrocarbons obtained from the thermal cracking of vacuum residues. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-082-00-5	270-815-6	68478-34-2	►M21 ——— ◄ K
Hydrocarbons, C_{3-4}-rich, petroleum distillate; Petroleum gas (A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_3 through C_4.)	649-083-00-0	270-990-9	68512-91-4	►M21 ——— ◄ K
Gases (petroleum), full-range straight-run naphtha dehexaniser off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of the full-range straight-run naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-084-00-6	271-000-8	68513-15-5	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), hydrocracking depropaniser off, hydrocarbon-rich; Petroleum gas (A complex combination of hydrocarbon produced by the distillation of products from a hydrocracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4. It may also contain small amounts of hydrogen and hydrogen sulfide.)	649-085-00-1	271-001-3	68513-16-6	►M21 ——— ◄ K
Gases (petroleum), light straight-run naphtha stabiliser off; Petroleum gas (A complex combination of hydrocarbons obtained by the stabilisation of light straight-run naphtha. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-086-00-7	271-002-9	68513-17-7	►M21 ——— ◄ K
Residues (petroleum), alkylation splitter, C_4-rich; Petroleum gas (A complex residuum from the distillation of streams from various refinery operations. It consists of hydrocarbons having carbon numbers in the range of C_4 through C_5, predominantly butane, and boiling in the range of approximately - 11,7 °C to 27,8 °C.)	649-087-00-2	271-010-2	68513-66-6	►M21 ——— ◄ K
Hydrocarbons, C_{1-4}; Petroleum gas (A complex combination of hydrocarbons provided by thermal cracking and absorber operations and by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately minus 164 °C to minus 0,5 °C.)	649-088-00-8	271-032-2	68514-31-8	►M21 ——— ◄ K

▼M14

Hydrocarbons, C_{1-4}, sweetened; Petroleum gas; [A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately – 164 °C to – 0,5 °C (– 263 °F to 31 °F).]	649-089-00-3	271-038-5	68514-36-3	K

▼C1

Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{1-3}; Petroleum gas (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3 and boiling in the range of approximately - 164 °C to - 42 °C.)	649-090-00-9	271-259-7	68527-16-2	►M21 ——— ◄ K
Hydrocarbons, C_{1-4}, debutaniser fraction; Petroleum gas	649-091-00-4	271-261-8	68527-19-5	►M21 ——— ◄ K
Gases (petroleum), C_{1-5}, wet; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of crude oil and/or the cracking of tower gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-092-00-X	271-624-0	68602-83-5	►M21 ——— ◄ K
Hydrocarbons, C_{2-4}; Petroleum gas	649-093-00-5	271-734-9	68606-25-7	►M21 ——— ◄ K
Hydrocarbons, C_3; Petroleum gas	649-094-00-0	271-735-4	68606-26-8	►M21 ——— ◄ K
Gases (petroleum), alkylation feed; Petroleum gas (A complex combination of hydrocarbons produced by the catalytic cracking of gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-095-00-6	271-737-5	68606-27-9	►M21 ——— ◄ K
Gases (petroleum), depropaniser bottoms fractionation off; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of depropaniser bottoms. It consists predominantly of butane, isobutane and butadiene.)	649-096-00-1	271-742-2	68606-34-8	►M21 ——— ◄ K
Gases (petroleum), refinery blend; Petroleum gas (A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-097-00-7	272-183-7	68783-07-3	►M21 ——— ◄ K
Gases (petroleum), catalytic cracking; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5.)	649-098-00-2	272-203-4	68783-64-2	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), C_{2-4}, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4 and boiling in the range of approximately - 51 °C to - 34 °C.)	649-099-00-8	272-205-5	68783-65-3	►M21 ——— ◄ K
Gases (petroleum), crude oil fractionation off; Petroleum gas (A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-100-00-1	272-871-7	68918-99-0	►M21 ——— ◄ K
Gases (petroleum), dehexaniser off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-101-00-7	272-872-2	68919-00-6	►M21 ——— ◄ K
Gases (petroleum), light straight run gasoline fractionation stabiliser off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-102-00-2	272-878-5	68919-05-1	►M21 ——— ◄ K
Gases (petroleum), naphtha unifiner desulphurisation stripper off; Petroleum gas (A complex combination of hydrocarbons produced by a naphtha unifiner desulphurisation process and stripped from the naphtha product. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-103-00-8	272-879-0	68919-06-2	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and fractionation of the total effluent. It consists of methane, ethane, and propane.)	649-104-00-3	272-882-7	68919-09-5	►M21 ——— ◄ K
Gases (petroleum), fluidised catalytic cracker splitter overheads; Petroleum gas (A complex combination of hydrocarbons produced by the fractionation of the charge to the C_3-C_4 splitter. It consists predominantly of C_3 hydrocarbons.)	649-105-00-9	272-893-7	68919-20-0	►M21 ——— ◄ K
Gases (petroleum), straight-run stabiliser off; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of the liquid from the first tower used in the distillation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-106-00-4	272-883-2	68919-10-8	►M21 ——— ◄ K
Gases (petroleum), catalytic cracked naphtha debutaniser; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-107-00-X	273-169-3	68952-76-1	►M21 ——— ◄ K
Tail gas (petroleum), catalytic cracked distillate and naphtha stabiliser; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of catalytic cracked naphtha and distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-108-00-5	273-170-9	68952-77-2	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the separation of thermal-cracked distillates, naphtha and gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-109-00-0	273-175-6	68952-81-8	►M21 ——— ◄ K
Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabiliser, petroleum coking; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation of thermal cracked hydrocarbons from a petroleum coking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-110-00-6	273-176-1	68952-82-9	►M21 ——— ◄ K
Gases (petroleum, light steam-cracked, butadiene concentrate; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists of hydrocarbons having a carbon number predominantly of C_4.)	649-111-00-1	273-265-5	68955-28-2	►M21 ——— ◄ K
Gases (petroleum), straight-run naphtha catalytic reformer stabiliser overhead; Petroleum gas (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-112-00-7	273-270-2	68955-34-0	►M21 ——— ◄ K
Hydrocarbons, C_4; Petroleum gas	649-113-00-2	289-339-5	87741-01-3	►M21 ——— ◄ K
Alkanes, C_{1-4}, C_3-rich; Petroleum gas	649-114-00-8	292-456-4	90622-55-2	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), steam-cracker C_3-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a steam cracking process. It consists predominantly of propylene with some propane and boils in the range of approximately - 70 °C to 0 °C.)	649-115-00-3	295-404-9	92045-22-2	►M21 ——— ◄ K
Hydrocarbons, C_4, steam-cracker distillate; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products of a steam cracking process. It consists predominantly of hydrocarbons having a carbon number of C_4, predominantly 1-butene and 2-butene, containing also butane and isobutene and boiling in the range of approximately - 12 °C to 5 °C.)	649-116-00-9	295-405-4	92045-23-3	►M21 ——— ◄ K
Petroleum gases, liquefied, sweetened, C_4 fraction; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting a liquified petroleum gas mix to a sweetening process to oxidise mercaptans or to remove acidic impurities. It consists predominantly of C_4 saturated and unsaturated hydrocarbons.)	649-117-00-4	295-463-0	92045-80-2	►M21 ——— ◄ K ►M21 ——— ◄

▼M14

Hydrocarbons, C_4, 1,3-butadiene- and isobutene-free; Petroleum gas	649-118-00-X	306-004-1	95465-89-7	K
Raffinates (petroleum), steam-cracked C_4 fraction cuprous ammonium acetate extn., C_{3-5} and C_{3-5} unsatd., butadiene-free; Petroleum gas	649-119-00-5	307-769-4	97722-19-5	K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), amine system feed; Refinery gas (The feed gas to the amine system for removal of hydrogen sulphide. It consists primarily of hydrogen. Carbon monoxide, carbon dioxide, hydrogen sulfide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5 may also be present.)	649-120-00-0	270-746-1	68477-65-6	►M21 ———— ◄ K
Gases (petroleum), benzene unit hydrodesulphuriser off; Refinery gas (Off gases produced by the benzene unit. It consists primarily of hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6, including benzene, may also be present.)	649-121-00-6	270-747-7	68477-66-7	►M21 ———— ◄ K
Gases (petroleum), benzene unit recycle, hydrogen-rich; Refinery gas (A complex combination of hydrocarbons obtained by recycling the gases of the benzene unit. It consists primarily of hydrogen with various small amounts of carbon monoxide and hydrocarbons having carbon numbers in the range of C_1 through C_6.)	649-122-00-1	270-748-2	68477-67-8	►M21 ———— ◄ K
Gases (petroleum), blend oil, hydrogen-nitrogen-rich; Refinery gas (A complex combination of hydrocarbons obtained by distillation of a blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide, and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-123-00-7	270-749-8	68477-68-9	►M21 ———— ◄ K
Gases (petroleum), catalytic reformed naphtha stripper overheads; Refinery gas (A complex combination of hydrocarbons obtained from stabilisation of catalytic reformed naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-124-00-2	270-759-2	68477-77-0	►M21 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), C_{6-8} catalytic reformer recycle; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of C_6-C_8 feed and recycled to conserve hydrogen. It consists primarily of hydrogen. It may also contain various small amounts of carbon monoxide, carbon dioxide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-125-00-8	270-761-3	68477-80-5	►M21 ——— ◄ K
Gases (petroleum), C_{6-8} catalytic reformer; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of C_6-C_8 feed. It consists of hydrocarbons having carbon numbers in the range of C_1 through C_5 and hydrogen.)	649-126-00-3	270-762-9	68477-81-6	►M21 ——— ◄ K
Gases (petroleum), C_{6-8} catalytic reformer recycle, hydrogen-rich; Refinery gas	649-127-00-9	270-763-4	68477-82-7	►M21 ——— ◄ K
Gases (petroleum), C_2-return stream; Refinery gas (A complex combination of hydrocarbons obtained by the extraction of hydrogen from a gas stream which consists primarily of hydrogen with small amounts of nitrogen, carbon monoxide, methane, ethane, and ethylene. It contains predominantly hydrocarbons such as methane, ethane, and ethylene with small amounts of hydrogen, nitrogen and carbon monoxide.)	649-128-00-4	270-766-0	68477-84-9	►M21 ——— ◄ K
Gases (petroleum), dry sour, gas-concentration-unit-off; Refinery gas (The complex combination of dry gases from a gas concentration unit. It consists of hydrogen, hydrogen sulphide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-129-00-X	270-774-4	68477-92-9	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), gas concentration reabsorber distillation; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from combined gas streams in a gas concentration reabsorber. It consists predominantly of hydrogen, carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide and hydrocarbons having carbon numbers in the range of C_1 through C_3.)	649-130-00-5	270-776-5	68477-93-0	►M21 ——— ◄ K
Gases (petroleum), hydrogen absorber off; Refinery gas (A complex combination obtained by absorbing hydrogen from a hydrogen rich stream. It consists of hydrogen, carbon monoxide, nitrogen, and methane with small amounts of C_2 hydrocarbons.)	649-131-00-0	270-779-1	68477-96-3	►M21 ——— ◄ K
Gases (petroleum), hydrogen-rich; Refinery gas (A complex combination separated as a gas from hydrocarbon gases by chilling. It consists primarily of hydrogen with various small amounts of carbon monoxide, nitrogen, methane, and C_2 hydrocarbons.)	649-132-00-6	270-780-7	68477-97-4	►M21 ——— ◄ K
Gases (petroleum), hydrotreater blend oil recycle, hydrogen-nitrogen-rich; Refinery gas (A complex combination obtained from recycled hydrotreated blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-133-00-1	270-781-2	68477-98-5	►M21 ——— ◄ K
Gases (petroleum), recycle, hydrogen-rich; Refinery gas (A complex combination obtained from recycled reactor gases. It consists primarily of hydrogen with various small amounts of carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_5.)	649-134-00-7	270-783-3	68478-00-2	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas (A complex combination obtained from the reformers. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-135-00-2	270-784-9	68478-01-3	►M21 ——— ◄ K
Gases (petroleum), reforming hydrotreater; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen, methane, and ethane with various small amounts of hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range C_3 through C_5.)	649-136-00-8	270-785-4	68478-02-4	►M21 ——— ◄ K
Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen and methane with various small amounts of carbon monoxide, carbon dioxide, nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_5.)	649-137-00-3	270-787-5	68478-03-5	►M21 ——— ◄ K
Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-138-00-9	270-788-0	68478-04-6	►M21 ——— ◄ K
Gases (petroleum), thermal cracking distillation; Refinery gas (A complex combination produced by distillation of products from a thermal cracking process. It consists of hydrogen, hydrogen sulphide, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-139-00-4	270-789-6	68478-05-7	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas (A complex combination of hydrocarbons obtained from refractionation of products from a catalytic cracking process. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-140-00-X	270-805-1	68478-25-1	►M21 ——— ◄ K
Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-141-00-5	270-807-2	68478-27-3	►M21 ——— ◄ K
Tail gas (petroleum), catalytic reformed naphtha stabiliser; Refinery gas (A complex combination of hydrocarbons obtained from the stabilisation of catalytic reformed naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-142-00-0	270-808-8	68478-28-4	►M21 ——— ◄ K
Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas (A complex combination of hydrocarbons obtained by treating cracked distillates with hydrogen in the presence of a catalyst. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-143-00-6	270-809-3	68478-29-5	►M21 ——— ◄ K
Tail gas (petroleum), hydrodesulphurised straight-run naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-144-00-1	270-810-9	68478-30-8	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), catalytic reformed straight-run naphtha stabiliser overheads; Refinery gas (A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha followed by fractionation of the total effluent. It consists of hydrogen, methane, ethane and propane.)	649-145-00-7	270-999-8	68513-14-4	►M21 ——— ◄ K
Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas (A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.)	649-146-00-2	271-003-4	68513-18-8	►M21 ——— ◄ K
Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas (A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.)	649-147-00-8	271-005-5	68513-19-9	►M21 ——— ◄ K
Gases (petroleum), oil refinery gas distillation off; Refinery gas (A complex combination separated by distillation of a gas stream containing hydrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers in the range of C_1 through C_6 or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_2, hydrogen, nitrogen, and carbon monoxide.)	649-148-00-3	271-258-1	68527-15-1	►M21 ——— ◄ K
Gases (petroleum), benzene unit hydrotreater depentaniser overheads; Refinery gas (A complex combination produced by treating the feed from the benzene unit with hydrogen in the presence of a catalyst followed by depentanising. It consists primarily of hydrogen, ethane and propane with various small amounts of nitrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6. It may contain trace amounts of benzene.)	649-149-00-9	271-623-5	68602-82-4	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), secondary absorber off, fluidised catalytic cracker overheads fractionator; Refinery gas (A complex combination produced by the fractionation of the overhead products from the catalytic cracking process in the fluidised catalytic cracker. It consists of hydrogen, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-150-00-4	271-625-6	68602-84-6	►M21 ——— ◄ K

▼M14

Petroleum products, refinery gases; Refinery gas; [A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane, and propane.]	649-151-00-X	271-750-6	68607-11-4	K

▼C1

Gases (petroleum), hydrocracking low-pressure separator; Refinery gas (A complex combination obtained by the liquid-vapour separation of the hydrocracking process reactor effluent. It consists predominantly of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-152-00-5	272-182-1	68783-06-2	►M21 ——— ◄ K
Gases (petroleum), refinery; Refinery gas (A complex combination obtained from various petroleum refining operations. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-153-00-0	272-338-9	68814-67-5	►M21 ——— ◄ K
Gases (petroleum), platformer products separator off; Refinery gas (A complex combination obtained from the chemical reforming of naphthenes to aromatics. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-154-00-6	272-343-6	68814-90-4	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), hydrotreated sour kerosine dependaniser stabiliser off; Refinery gas (The complex combination obtained from the dependaniser stabilisation of hydrotreated kerosine. It consists primarily of hydrogen, methane, ethane, and propane with various small amounts of nitrogen, hydrogen sulphide, carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of C_4 through C_5.)	649-155-00-1	272-775-5	68911-58-0	►M21 ——— ◄ K
Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas (A complex combination obtained from the flash drum of the unit treating sour kerosine with hydrogen in the presence of a catalyst. It consists primarily of hydrogen and methane with various small amounts of nitrogen, carbon monoxide, and hydro-carbons having carbon numbers predominantly in the range of C_2 through C_5.)	649-156-00-7	272-776-0	68911-59-1	►M21 ——— ◄ K
Gases (petroleum), distillate unifiner desulphurisation stripper off; Refinery gas (A complex combination stripped from the liquid product of the unifiner desulphurisation process. It consists of hydrogen sulphide, methane, ethane, and propane.)	649-157-00-2	272-873-8	68919-01-7	►M21 ——— ◄ K
Gases (petroleum), fluidised catalytic cracker fractionation off; Refinery gas (A complex combination produced by the fractionation of the overhead product of the fluidised catalytic cracking process. It consists of hydrogen, hydrogen sulphide, nitrogen, and hydro-carbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-158-00-8	272-874-3	68919-02-8	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), fluidised catalytic cracker scrubbing secondary absorber off; Refinery gas (A complex combination produced by scrubbing the overhead gas from the fluidised catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.)	649-159-00-3	272-875-9	68919-03-9	►M21 ——— ◄ K
Gases (petroleum), heavy distillate hydrotreater desulphurisation stripper off; Refinery gas (A complex combination stripped from the liquid product of the heavy distillate hydrotreater desulphurisation process. It consists of hydrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-160-00-9	272-876-4	68919-04-0	►M21 ——— ◄ K
Gases (petroleum), platformer stabiliser off, light ends fractionation; Refinery gas (A complex combination obtained by the fractionation of the light ends of the platinum reactors of the platformer unit. It consists of hydrogen, methane, ethane and propane.)	649-161-00-4	272-880-6	68919-07-3	►M21 ——— ◄ K
Gases (petroleum), preflash tower off, crude distillation; Refinery gas (A complex combination produced from the first tower used in the distillation of crude oil. It consists of nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-162-00-X	272-881-1	68919-08-4	►M21 ——— ◄ K
Gases (petroleum), tar stripper off; Refinery gas (A complex combination obtained by the fractionation of reduced crude oil. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-163-00-5	272-884-8	68919-11-9	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), unifiner stripper off; Refinery gas (A combination of hydrogen and methane obtained by fractionation of the products from the unifiner unit.)	649-164-00-0	272-885-3	68919-12-0	►M21 ——— ◄ K
Tail gas (petroleum), catalytic hydrodesulphurised naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from the hydrodesulphurisation of naphtha. It consists of hydrogen, methane, ethane, and propane.)	649-165-00-6	273-173-5	68952-79-4	►M21 ——— ◄ K
Tail gas (petroleum), straight-run naphtha hydrodesulphuriser; Refinery gas (A complex combination obtained from the hydrodesulphurisation of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-166-00-1	273-174-0	68952-80-7	►M21 ——— ◄ K
Gases (petroleum), sponge absorber off, fluidised catalytic cracker and gas oil desulphuriser overhead fractionation; Refinery gas (A complex combination obtained by the fractionation of products from the fluidised catalytic cracker and gas oil desulphuriser. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-167-00-7	273-269-7	68955-33-9	►M21 ——— ◄ K
Gases (petroleum), crude distillation and catalytic cracking; Refinery gas (A complex combination produced by crude distillation and catalytic cracking processes. It consists of hydrogen, hydrogen sulphide, nitrogen, carbon monoxide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-168-00-2	273-563-5	68989-88-8	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), gas oil diethanolamine scrubber off; Refinery gas (A complex combination produced by desulphurisation of gas oils with diethanolamine. It consists predominantly of hydrogen sulphide, hydrogen and aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_5.)	649-169-00-8	295-397-2	92045-15-3	►M21 ——— ◄ K
Gases (petroleum), gas oil hydrodesulphurisation effluent; Refinery gas (A complex combination obtained by separation of the liquid phase from the effluent from the hydrogenation reaction. It consists predominantly of hydrogen, hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-170-00-3	295-398-8	92045-16-4	►M21 ——— ◄ K
Gases (petroleum), gas oil hydrodesulphurisation purge; Refinery gas (A complex combination of gases obtained from the reformer and from the purges from the hydrogenation reactor. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-171-00-9	295-399-3	92045-17-5	►M21 ——— ◄ K
Gases (petroleum), hydrogenator effluent flash drum off; Refinery gas (A complex combination of gases obtained from flash of the effluents after the hydrogenation reaction. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-172-00-4	295-400-7	92045-18-6	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), naphtha steam cracking high-pressure residual; Refinery gas (A complex combination obtained as a mixture of the non-condensable portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent products. It consists predominantly of hydrogen and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5 with which natural gas may also be mixed.)	649-173-00-X	295-401-2	92045-19-7	►**M21** ———— ◄ K
Gases (petroleum), residue visbaking off; Refinery gas (A complex combination obtained from viscosity reduction of residues in a furnace. It consists predominantly of hydrogen sulphide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-174-00-5	295-402-8	92045-20-0	►**M21** ———— ◄ K
Gases (petroleum), C_{3-4}; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_4, predominantly of propane and propylene, and boiling in the range of approximately - 51 °C to - 1 °C.)	649-177-00-1	268-629-5	68131-75-9	►**M21** ———— ◄ K
Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber; Petroleum gas (The complex combination of hydrocarbons from the distillation of the products from catalytic cracked distillates and catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4.)	649-178-00-7	269-617-2	68307-98-2	►**M21** ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), catalytic polymerisation naphtha fractionation stabiliser; Petroleum gas (A complex combination of hydrocarbons from the fractionation stabilisation products from polymerisation of naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4.)	649-179-00-2	269-618-8	68307-99-3	►M21 ——— ◄ K
Tail gas (petroleum), catalytic reformed naphtha fractionation stabiliser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation stabilisation of catalytic reformed naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-180-00-8	269-619-3	68308-00-9	►M21 ——— ◄ K
Tail gas (petroleum), cracked distillate hydrotreater stripper; Petroleum gas (A complex combination of hydrocarbons obtained by treating thermal cracked distillates with hydrogen in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-181-00-3	269-620-9	68308-01-0	►M21 ——— ◄ K
Tail gas (petroleum), straight-run distillate hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of straight run distillates and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-182-00-9	269-630-3	68308-10-1	►M21 ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of products from the catalytic cracking of gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-183-00-4	269-623-5	68308-03-2	►M21 ———— ◄ K
Tail gas (petroleum), gas recovery plant; Petroleum gas (A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-184-00-X	269-624-0	68308-04-3	►M21 ———— ◄ K
Tail gas (petroleum), gas recovery plant deethaniser; Petroleum gas (A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of C_1 through C_4.)	649-185-00-5	269-625-6	68308-05-4	►M21 ———— ◄ K
Tail gas (petroleum), hydrodesulphurised distillate and hydrodesulphurised naphtha fractionator, acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of hydrodesulphurised naphtha and distillate hydrocarbon streams and treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-186-00-0	269-626-1	68308-06-5	►M21 ———— ◄ K
Tail gas (petroleum), hydrodesulphurised vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from stripping stabilisation of catalytic hydrodesulphurised vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-187-00-6	269-627-7	68308-07-6	►M21 ———— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Tail gas (petroleum), light straight-run naphtha stabiliser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation stabilisation of light straight-run naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-188-00-1	269-629-8	68308-09-8	►**M21** ——— ◄ K
Tail gas (petroleum), propane-propylene alkylation feed prep deethaniser; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of the reaction products of propane with propylene. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-189-00-7	269-631-9	68308-11-2	►**M21** ——— ◄ K
Tail gas (petroleum), vacuum gas oil hydrodesulphuriser, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from catalytic hydrodesulphurisation of vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-190-00-2	269-632-4	68308-12-3	►**M21** ——— ◄ K
Gases (petroleum), catalytic cracked overheads; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from the catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5 and boiling in the range of approximately - 48 °C to 32 °C.)	649-191-00-8	270-071-2	68409-99-4	►**M21** ——— ◄ K
Alkanes, C_{1-2}; Petroleum gas	649-193-00-9	270-651-5	68475-57-0	►**M21** ——— ◄ K
Alkanes, C_{2-3}; Petroleum gas	649-194-00-4	270-652-0	68475-58-1	►**M21** ——— ◄ K
Alkanes, C_{3-4}; Petroleum gas	649-195-00-X	270-653-6	68475-59-2	►**M21** ——— ◄ K
Alkanes, C_{4-5}; Petroleum gas	649-196-00-5	270-654-1	68475-60-5	►**M21** ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Fuel gases; Petroleum gas (A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight hydrocarbons.)	649-197-00-0	270-667-2	68476-26-6	►M21 ——— ◄ K
Fuel gases, crude oil of distillates; Petroleum gas (A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately - 217 °C to - 12 °C.)	649-198-00-6	270-670-9	68476-29-9	►M21 ——— ◄ K
Hydrocarbons, C_{3-4}; Petroleum gas	649-199-00-1	270-681-9	68476-40-4	►M21 ——— ◄ K
Hydrocarbons, C_{4-5}; Petroleum gas	649-200-00-5	270-682-4	68476-42-6	►M21 ——— ◄ K
Hydrocarbons, C_{2-4}, C_3-rich; Petroleum gas	649-201-00-0	270-689-2	68476-49-3	►M21 ——— ◄ K
Petroleum gases, liquefied; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_7 and boiling in the range of approximately -40 °C to 80 °C.)	649-202-00-6	270-704-2	68476-85-7	►M21 ——— ◄ K ►M21 ——— ◄
Petroleum gases, liquefied, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_7 and boiling in the range of approximately -40 °C to 80 °C.)	649-203-00-1	270-705-8	68476-86-8	►M21 ——— ◄ K ►M21 ——— ◄

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), C_{3-4}, isobutane-rich; Petroleum gas (A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from C_3 through C_6, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_4, predominantly isobutane.)	649-204-00-7	270-724-1	68477-33-8	►**M21** ——— ◄ K
Distillates (petroleum), C_{3-6}, piperylene-rich; Petroleum gas (A complex combination of hydrocarbons from the distillation of saturated and unsaturated aliphatic hydrocarbons usually ranging in the carbon numbers C_3 through C_6. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly piperylenes.)	649-205-00-2	270-726-2	68477-35-0	►**M21** ——— ◄ K
Gases (petroleum), butane splitter overheads; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of the butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-206-00-8	270-750-3	68477-69-0	►**M21** ——— ◄ K
Gases (petroleum), C_{2-3}; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a catalytic fractionation process. It contains predominantly ethane, ethylene, propane, and propylene.)	649-207-00-3	270-751-9	68477-70-3	►**M21** ——— ◄ K
Gases (petroleum), catalytic-cracked gas oil depropaniser bottoms, C_4-rich acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked gas oil hydrocarbon stream and treated to remove hydrogen sulphide and other acidic components. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.)	649-208-00-9	270-752-4	68477-71-4	►**M21** ——— ◄ K

▼C1

Substances	Index No	EC No	CAS No	Notes
Gases (petroleum), catalytic-cracked naphtha debutaniser bottoms, C_{3-5}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the stabilisation of catalytic cracked naphtha. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5.)	649-209-00-4	270-754-5	68477-72-5	►M21 ——— ◄ K
Tail gas (petroleum), isomerised naphtha fractionation stabiliser; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilisation products from isomerised naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-210-00-X	269-628-2	68308-08-7	►M21 ——— ◄ K

▼M14

Gasoline, natural; Low boiling point naphtha; [A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_8 and boiling in the range of approximately minus 20 °C to 120 °C (– 4 °F to 248 °F).]	649-261-00-8	232-349-1	8006-61-9	P
Naphtha; Low boiling point naphtha; [Refined, partly refined, or unrefined petroleum products produced by the distillation of natural gas. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_6 and boiling in the range of approximately 100 °C to 200 °C (212 °F to 392 °F).]	649-262-00-3	232-443-2	8030-30-6	P
Ligroine; Low boiling point naphtha; [A complex combination of hydrocarbons obtained by the fractional distillation of petroleum. This fraction boils in a range of approximately 20 °C to 135 °C (58 °F to 275 °F).]	649-263-00-9	232-453-7	8032-32-4	P

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), heavy straight-run; Low boiling point naphtha; [A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C (149 °F to 446 °F).]	649-264-00-4	265-041-0	64741-41-9	P
Naphtha (petroleum), full-range straight-run; Low boiling point naphtha; [A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately – 20 °C to 220 °C (– 4 °F to 428 °F).]	649-265-00-X	265-042-6	64741-42-0	P
Naphtha (petroleum), light straight-run; Low boiling point naphtha; [A complex combination of hydrocarbons produced by distillation of crude oil. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10} and boiling in the range of approximately – 20 °C to 180 °C (– 4 °F to 356 °F).]	649-266-00-5	265-046-8	64741-46-4	P
Solvent naphtha (petroleum), light aliph.; Low boiling point naphtha; [A complex combination of hydrocarbons obtained from the distillation of crude oil or natural gasoline. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 35 °C to 160 °C (95 °F to 320 °F).]	649-267-00-0	265-192-2	64742-89-8	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), straight-run light; Low boiling point naphtha; [A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_7 and boiling in the range of approximately – 88 °C to 99 °C (– 127 °F to 210 °F).]	649-268-00-6	270-077-5	68410-05-9	P
Gasoline, vapour-recovery; Low boiling point naphtha; [A complex combination of hydrocarbons separated from the gases from vapour recovery systems by cooling. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately – 20 °C to 196 °C(– 4 °F to 384 °F).]	649-269-00-1	271-025-4	68514-15-8	P
Gasoline, straight-run, topping-plant; Low boiling point naphtha; [A complex combination of hydrocarbons produced from the topping plant by the distillation of crude oil. It boils in the range of approximately 36,1 °C to 193,3 °C (97 °F to 380 °F).]	649-270-00-7	271-727-0	68606-11-1	P
Naphtha (petroleum), unsweetened; Low boiling point naphtha; [A complex combination of hydrocarbons produced from the distillation of naphtha streams from various refinery processes. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 0 °C to 230 °C (25 °F to 446 °F).]	649-271-00-2	272-186-3	68783-12-0	P
Distillates (petroleum), light straight-run gasoline fractionation stabilizer overheads; Low boiling point naphtha; [A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6.]	649-272-00-8	272-931-2	68921-08-4	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), heavy straight run, arom.-contg.; Low boiling point naphtha; [A complex combination of hydrocarbons obtained from a distillation process of crude petroleum. It consists predominantly of hydrocarbons having carbon numbers in the range of C_8 through C_{12} and boiling in the range of approximately 130 °C to 210 °C (266 °F to 410 °F).]	649-273-00-3	309-945-6	101631-20-3	P
Naphtha (petroleum), full-range alkylate; Low boiling point modified naphtha; [A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 220 °C (194 °F to 428 °F).]	649-274-00-9	265-066-7	64741-64-6	P
Naphtha (petroleum), heavy alkylate; Low boiling point modified naphtha; [A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 to C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{12} and boiling in the range of approximately 150 °C to 220 °C (302 °F to 428 °F).]	649-275-00-4	265-067-2	64741-65-7	P
Naphtha (petroleum), light alkylate; Low boiling point modified naphtha; [A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 90 °C to 160 °C (194 °F to 320 °F).]	649-276-00-X	265-068-8	64741-66-8	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), isomerization; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained from catalytic isomerization of straight chain paraffinic C_4 through C_6 hydrocarbons. It consists predominantly of saturated hydrocarbons such as isobutane, isopentane, 2,2-dimethylbutane, 2-methylpentane, and 3-methylpentane.]	649-277-00-5	265-073-5	64741-70-4	P
Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C (95 °F to 374 °F).]	649-278-00-0	265-086-6	64741-84-0	P
Naphtha (petroleum), solvent-refined heavy; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C (194 °F to 446 °F).]	649-279-00-6	265-095-5	64741-92-0	P
Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts.; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained as the raffinate from the UDEX extraction process on the catalytic reformer stream. It consists of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_9.]	649-280-00-1	270-088-5	68410-71-9	P

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Substances	Index No	EC No	CAS No	Notes
Raffinates (petroleum), reformer, Lurgi unit-sepd.; Low boiling point modified naphtha; [The complex combination of hydrocarbons obtained as a raffinate from a Lurgi separation unit. It consists predominantly of non-aromatic hydrocarbons with various small amounts of aromatic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8.]	649-281-00-7	270-349-3	68425-35-4	P
Naphtha (petroleum), full-range alkylate, butane-contg.; Low boiling point modified naphtha; [A complex combination of hydrocarbons produced by the distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} with some butanes and boiling in the range of approximately 35 °C to 200 °C (95 °F to 428 °F).]	649-282-00-2	271-267-0	68527-27-5	P
Distillates (petroleum), naphtha steam cracking-derived, solvent-refined light hydrotreated; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained as the raffinates from a solvent extraction process of hydrotreated light distillate from steam-cracked naphtha.]	649-283-00-8	295-315-5	91995-53-8	P
Naphtha (petroleum), C_{4-12} butane-alkylate, isooctane-rich; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained by alkylation of butanes. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12}, rich in isooctane, and boiling in the range of approximately 35 °C to 210 °C (95 °F to 410 °F).]	649-284-00-3	295-430-0	92045-49-3	P

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha; [A combination of hydrocarbons obtained from the distillation of hydrotreated naphtha followed by a solvent extraction and distillation process. It consists predominantly of saturated hydrocarbons boiling in the range of approximately 94 °C to 99 °C (201 °F to 210 °F).]	649-285-00-9	295-436-3	92045-55-1	P
Naphtha (petroleum), isomerization, C_6-fraction; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained by distillation of a gasoline which has been catalytically isomerized. It consists predominantly of hexane isomers boiling in the range of approximately 60 °C to 66 °C (140 °F to 151 °F).]	649-286-00-4	295-440-5	92045-58-4	P
Hydrocarbons, C_{6-7}, naphtha-cracking, solvent-refined; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained by the sorption of benzene from a catalytically fully hydrogenated benzene-rich hydrocarbon cut that was distillatively obtained from prehydrogenated cracked naphtha. It consists predominantly of paraffinic and naphthenic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_7 and boiling in the range of approximately 70 °C to 100 °C (158 °F to 212 °F).]	649-287-00-X	295-446-8	92045-64-2	P
Hydrocarbons, C_6-rich, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha; [A complex combination of hydrocarbons obtained by distillation of hydrotreated naphtha followed by solvent extraction. It consists predominantly of saturated hydrocarbons and boiling in the range of approximately 65 °C to 70 °C (149 °F to 158 °F).]	649-288-00-5	309-871-4	101316-67-0	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), heavy catalytic cracked; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons produced by a distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C (148 °F to 446 °F). It contains a relatively large proportion of unsaturated hydrocarbons.]	649-289-00-0	265-055-7	64741-54-4	P
Naphtha (petroleum), light catalytic cracked; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately – 20 °C to 190 °C (– 4 °F to 374 °F). It contains a relatively large proportion of unsaturated hydrocarbons.]	649-290-00-6	265-056-2	64741-55-5	P
Hydrocarbons, $C_{3\text{-}11}$, catalytic cracker distillates; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons produced by the distillations of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_{11} and boiling in a range approximately up to 204 °C (400 °F).]	649-291-00-1	270-686-6	68476-46-0	P
Naphtha (petroleum), catalytic cracked light distd.; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5]	649-292-00-7	272-185-8	68783-09-5	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), naphtha steam cracking-derived, hydrotreated light arom.; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons obtained by treating a light distillate from steam-cracked naphtha. It consists predominantly of aromatic hydrocarbons]	649-293-00-2	295-311-3	91995-50-5	P
Naphtha (petroleum), heavy catalytic cracked, sweetened; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons obtained by subjecting a catalytic cracked petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 60 °C to 200 °C (140 °F to 392 °F).]	649-294-00-8	295-431-6	92045-50-6	P
Naphtha (petroleum), light catalytic cracked sweetened; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons obtained by subjecting naphtha from a catalytic cracking process to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons boiling in a range of approximately 35 °C to 210 °C (95 °F to 410 °F).]	649-295-00-3	295-441-0	92045-59-5	P
Hydrocarbons, C_{8-12}, catalytic-cracking, chem. neutralized; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons produced by the distillation of a cut from the catalytic cracking process, having undergone an alkaline washing. It consists predominantly of hydrocarbons having carbon numbers in the range of C_8 through C_{12} and boiling in the range of approximately 130 °C to 210 °C (266 °F to 410 °F).]	649-296-00-9	295-794-0	92128-94-4	P

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{8-12}, catalytic cracker distillates; Low boiling point cat-cracked naphtha; [A complex combination of hydrocarbons obtained by distillation of products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{12} and boiling in the range of approximately 140 °C to 210 °C (284 °F to 410 °F).]	649-297-00-4	309-974-4	101794-97-2	P
Hydrocarbons, C_{8-12}, catalytic cracking, chem. neutralized, sweetened; Low boiling point cat-cracked naphtha	649-298-00-X	309-987-5	101896-28-0	P
Naphtha (petroleum), light catalytic reformed; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C (95 °F to 374 °F). It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 vol. % or more benzene.]	649-299-00-5	265-065-1	64741-63-5	P
Naphtha (petroleum), heavy catalytic reformed; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C (194 °F to 446 °F).]	649-300-00-9	265-070-9	64741-68-0	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), catalytic reformed depentanizer; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons from the distillation of products from a catalytic reforming process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately – 49 °C to 63 °C (– 57 °F to 145 °F).]	649-301-00-4	270-660-4	68475-79-6	P
Hydrocarbons, C_{2-6}, C_{6-8} catalytic reformer; Low boiling point cat-reformed naphtha;	649-302-00-X	270-687-1	68476-47-1	P
Residues (petroleum), C_{6-8} catalytic reformer; Low boiling point cat-reformed naphtha; [A complex residuum from the catalytic reforming of C_{6-8} feed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.]	649-303-00-5	270-794-3	68478-15-9	P
Naphtha (petroleum), light catalytic reformed, arom.-free; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons obtained from distillation of products from a catalytic reforming process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_8 and boiling in the range of approximately 35 °C to 120 °C (95 °F to 248 °F). It contains a relatively large proportion of branched chain hydrocarbons with the aromatic components removed.]	649-304-00-0	270-993-5	68513-03-1	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), catalytic reformed straight-run naphtha overheads; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha followed by the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.]	649-305-00-6	271-008-1	68513-63-3	P
Petroleum products, hydrofiner-powerformer reformates; Low boiling point cat-reformed naphtha; [The complex combination of hydrocarbons obtained in a hydrofiner-powerformer process and boiling in a range of approximately 27 °C to 210 °C (80 °F to 410 °F).]	649-306-00-1	271-058-4	68514-79-4	P
Naphtha (petroleum), full-range reformed; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons produced by the distillation of the products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 35 °C to 230 °C (95 °F to 446 °F).]	649-307-00-7	272-895-8	68919-37-9	P
Naphtha (petroleum), catalytic reformed; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons produced by the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 30 °C to 220 °C (90 °F to 430 °F). It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 vol. % or more benzene.]	649-308-00-2	273-271-8	68955-35-1	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), catalytic reformed hydrotreated light, C_{8-12} arom. fraction; Low boiling point cat-reformed naphtha; [A complex combination of alkylbenzenes obtained by the catalytic reforming of petroleum naphtha. It consists predominantly of alkylbenzenes having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 160 °C to 180 °C (320 °F to 356 °F).]	649-309-00-8	285-509-8	85116-58-1	P
Aromatic hydrocarbons, C_8, catalytic reforming-derived; Low boiling point cat-reformed naphtha	649-310-00-3	295-279-0	91995-18-5	P
Aromatic hydrocarbons, C_{7-12}, C_8-rich; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} (primarily C_8) and can contain nonaromatic hydrocarbons, both boiling in the range of approximately 130 °C to 200 °C (266 °F to 392 °F).]	649-311-00-9	297-401-8	93571-75-6	P
Gasoline, C_{5-11}, high-octane stabilized reformed; Low boiling point cat-reformed naphtha; [A complex high octane combination of hydrocarbons obtained by the catalytic dehydrogenation of a predominantly naphthenic naphtha. It consists predominantly of aromatics and non-aromatics having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 45 °C to 185 °C (113 °F to 365 °F).]	649-312-00-4	297-458-9	93572-29-3	P

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Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{7-12}, $C_{>9}$-arom.-rich, reforming heavy fraction; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 120 °C to 210 °C (248 °F to 380 °F) and C_9 and higher aromatic hydrocarbons.]	649-313-00-X	297-465-7	93572-35-1	P
Hydrocarbons, C_{5-11}, nonaroms.-rich, reforming light fraction; Low boiling point cat-reformed naphtha; [A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 125 °C (94 °F to 257 °F), benzene and toluene.]	649-314-00-5	297-466-2	93572-36-2	P
Naphtha (petroleum), light thermal cracked; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_8 and boiling in the range of approximately – 10 °C to 130 °C (14 °F to 266 °F).]	649-316-00-6	265-075-6	64741-74-8	P
Naphtha (petroleum), heavy thermal cracked; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons from distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 220 °C (148 °F to 428 °F).]	649-317-00-1	265-085-0	64741-83-9	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), heavy arom.; Low boiling point thermally cracked naphtha; [The complex combination of hydrocarbons from the distillation of the products from the thermal cracking of ethane and propane. This higher boiling fraction consists predominantly of C_{5-7} aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having carbon number predominantly of C_5. This stream may contain benzene.]	649-318-00-7	267-563-4	67891-79-6	P
Distillates (petroleum), light arom.; Low boiling point thermally cracked naphtha; [The complex combination of hydrocarbons from the distillation of the products from the thermal cracking of ethane and propane. This lower boiling fraction consists predominantly of C_{5-7} aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C_5. This stream may contain benzene.]	649-319-00-2	267-565-5	67891-80-9	P
Distillates (petroleum), naphtha-raffinate pyrolyzate-derived, gasoline-blending; Low boiling point thermally cracked naphtha; [The complex combination of hydrocarbons obtained by the pyrolysis fractionation at 816 °C (1 500 °F) of naphtha and raffinate. It consists predominantly of hydrocarbons having a carbon number of C_9 and boiling at approximately 204 °C (400 °F).]	649-320-00-8	270-344-6	68425-29-6	P
Aromatic hydrocarbons, C_{6-8}, naphtha-raffinate pyrolyzate-derived; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons obtained by the fractionation pyrolysis at 816 °C (1 500 °F) of naphtha and raffinate. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8, including benzene.]	649-321-00-3	270-658-3	68475-70-7	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), thermal cracked naphtha and gas oil; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons produced by distillation of thermally cracked naphtha and/or gas oil. It consists predominantly of olefinic hydrocarbons having a carbon number of C_5 and boiling in the range of approximately 33 °C to 60 °C (91 °F to 140 °F).]	649-322-00-9	271-631-9	68603-00-9	P
Distillates (petroleum), thermal cracked naphtha and gas oil, C_5-dimer-contg.; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists predominantly of hydrocarbons having a carbon number of C_5 with some dimerized C_5 olefins and boiling in the range of approximately 33 °C to 184 °C (91 °F to 363 °F).]	649-323-00-4	271-632-4	68603-01-0	P
Distillates (petroleum), thermal cracked naphtha and gas oil, extractive; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists of paraffinic and olefinic hydrocarbons, predominantly isoamylenes such as 2-methyl-1-butene and 2-methyl-2-butene and boiling in the range of approximately 31 °C to 40 °C (88 °F to 104 °F).]	649-324-00-X	271-634-5	68603-03-2	P
Distillates (petroleum), light thermal cracked, debutanized arom.; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists predominantly of aromatic hydrocarbons, primarily benzene.]	649-325-00-5	273-266-0	68955-29-3	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light thermal cracked, sweetened; Low boiling point thermally cracked naphtha; [A complex combination of hydrocarbons obtained by subjecting a petroleum distillate from the high temperature thermal cracking of heavy oil fractions to a sweetening process to convert mercaptans. It consists predominantly of aromatics, olefins and saturated hydrocarbons boiling in the range of approximately 20 °C to 100 °C (68 °F to 212 °F).]	649-326-00-0	295-447-3	92045-65-3	P
Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{13} and boiling in the range of approximately 65 °C to 230 °C (149 °F to 446 °F).]	649-327-00-6	265-150-3	64742-48-9	P
Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately minus 20 °C to 190 °C (– 4 °F to 374 °F).]	649-328-00-1	265-151-9	64742-49-0	P
Naphtha (petroleum), hydrodesulfurized light; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained from a catalytic hydrodesulfurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately – 20 °C to 190 °C (– 4 °F to 374 °F).]	649-329-00-7	265-178-6	64742-73-0	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), hydrodesulfurized heavy; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained from a catalytic hydrodesulfurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C (194 °F to 446 °F).]	649-330-00-2	265-185-4	64742-82-1	P
Distillates (petroleum), hydrotreated middle, intermediate boiling; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by the distillation of products from a middle distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 127 °C to 188 °C (262 °F to 370 °F).]	649-331-00-8	270-092-7	68410-96-8	P
Distillates (petroleum), light distillate hydrotreating process, low-boiling; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by the distillation of products from the light distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_9 and boiling in the range of approximately 3 °C to 194 °C (37 °F to 382 °F).]	649-332-00-3	270-093-2	68410-97-9	P
Distillates (petroleum), hydrotreated heavy naphtha, deisohexanizer overheads; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by distillation of the products from a heavy naphtha hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately – 49 °C to 68 °C (– 57 °F to 155 °F).]	649-333-00-9	270-094-8	68410-98-0	P

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Substances	Index No	EC No	CAS No	Notes
Solvent naphtha (petroleum), light arom., hydrotreated; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 135 °C to 210 °C (275 °F to 410 °F).]	649-334-00-4	270-988-8	68512-78-7	P
Naphtha (petroleum), hydrodesulfurized thermal cracked light; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by fractionation of hydrodesulfurized thermal cracker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 23 °C to 195 °C (73 °F to 383 °F).]	649-335-00-X	285-511-9	85116-60-5	P
Naphtha (petroleum), hydrotreated light, cycloalkane-contg.; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained from the distillation of a petroleum fraction. It consists predominantly of alkanes and cycloalkanes boiling in the range of approximately – 20 °C to 190 °C (– 4 °F to 374 °F).]	649-336-00-5	285-512-4	85116-61-6	P
Naphtha (petroleum), heavy steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha	649-337-00-0	295-432-1	92045-51-7	P
Naphtha (petroleum), hydrodesulfurized full-range; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained from a catalytic hydrodesulfurization process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately 30 °C to 250 °C (86 °F to 482 °F).]	649-338-00-6	295-433-7	92045-52-8	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), hydrotreated light steam-cracked; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by treating a petroleum fraction, derived from a pyrolysis process, with hydrogen in the presence of a catalyst. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C (95 °F to 374 °F).]	649-339-00-1	295-438-4	92045-57-3	P
Hydrocarbons, C_{4-12}, naphtha-cracking, hydrotreated; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by distillation from the product of a naphtha steam cracking process and subsequent catalytic selective hydrogenation of gum formers. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 30 °C to 230 °C (86 °F to 446 °F).]	649-340-00-7	295-443-1	92045-61-9	P
Solvent naphtha (petroleum), hydrotreated light naphthenic; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of cycloparaffinic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_7 and boiling in the range of approximately 73 °C to 85 °C (163 °F to 185 °F).]	649-341-00-2	295-529-9	92062-15-2	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons produced from the separation and subsequent hydrogenation of the products of a steam-cracking process to produce ethylene. It consists predominantly of saturated and unsaturated paraffins, cyclic paraffins and cyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10} and boiling in the range of approximately 50 °C to 200 °C (122 °F to 392 °F). The proportion of benzene hydrocarbons may vary up to 30 wt. % and the stream may also contain small amounts of sulfur and oxygenated compounds.]	649-342-00-8	296-942-7	93165-55-0	P
Hydrocarbons, C_{6-11}, hydrotreated, dearomatized; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.]	649-343-00-3	297-852-0	93763-33-8	P
Hydrocarbons, C_{9-12}, hydrotreated, dearomatized; Low boiling point hydrogen treated naphtha; [A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.]	649-344-00-9	297-853-6	93763-34-9	P
Stoddard solvent; Low boiling point naphtha - unspecified; [A colorless, refined petroleum distillate that is free from rancid or objectionable odors and that boils in a range of approximately 148,8 °C to 204,4 °C. (300 °F to 400 °F).]	649-345-00-4	232-489-3	8052-41-3	P

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Substances	Index No	EC No	CAS No	Notes
Natural gas condensates (petroleum); Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons separated as a liquid from natural gas in a surface separator by retrograde condensation. It consists mainly of hydrocarbons having carbon numbers predominantly in the range of C_2 to C_{20}. It is a liquid at atmospheric temperature and pressure.]	649-346-00-X	265-047-3	64741-47-5	P
Natural gas (petroleum), raw liq. mix; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons separated as a liquid from natural gas in a gas recycling plant by processes such as refrigeration or absorption. It consists mainly of saturated aliphatic hydrocarbons having carbon numbers in the range of C_2 through C_8.]	649-347-00-5	265-048-9	64741-48-6	P
Naphtha (petroleum), light hydrocracked; Low boiling naphtha - unspecified; [A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10}, and boiling in the range of approximately – 20 °C to 180 °C (– 4 °F to 356 °F).]	649-348-00-0	265-071-4	64741-69-1	P
Naphtha (petroleum), heavy hydrocracked; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12}, and boiling in the range of approximately 65 °C to 230 °C (148 °F to 446 °F).]	649-349-00-6	265-079-8	64741-78-2	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), sweetened; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately – 10 °C to 230 °C (14 °F to 446 °F).]	649-350-00-1	265-089-2	64741-87-3	P
Naphtha (petroleum), acid-treated; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C (194 °F to 446 °F).]	649-351-00-7	265-115-2	64742-15-0	P
Naphtha (petroleum), chemically neutralized heavy; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C (149 °F to 446 °F).]	649-352-00-2	265-122-0	64742-22-9	P
Naphtha (petroleum), chemically neutralized light; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately – 20 °C to 190 °C (– 4 °F to 374 °F).]	649-353-00-8	265-123-6	64742-23-0	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), catalytic dewaxed; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from the catalytic dewaxing of a petroleum fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 35 °C to 230 °C (95 °F to 446 °F).]	649-354-00-3	265-170-2	64742-66-1	P
Naphtha (petroleum), light steam-cracked; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the distillation of the products from a steam cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately minus 20 °C to 190 °C (– 4 °F to 374 °F). This stream is likely to contain 10 vol. % or more benzene.]	649-355-00-9	265-187-5	64742-83-2	P
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 135 °C to 210 °C (275 °F to 410 °F).]	649-356-00-4	265-199-0	64742-95-6	P
Aromatic hydrocarbons, C_{6-10}, acid-treated, neutralized; Low boiling point naphtha - unspecified	649-357-00-X	268-618-5	68131-49-7	P

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Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), C_{3-5}, 2-methyl-2-butene-rich; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons from the distillation of hydrocarbons usually ranging in carbon numbers from C_3 through C_5, predominantly isopentane and 3-methyl-1-butene. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly 2-methyl-2-butene.]	649-358-00-5	270-725-7	68477-34-9	P
Distillates (petroleum), polymd. steam-cracked petroleum distillates, C_{5-12} fraction; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from the distillation of polymerized steam-cracked petroleum distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12}.]	649-359-00-0	270-735-1	68477-50-9	P
Distillates (petroleum), steam-cracked, C_{5-12} fraction; Low boiling point naphtha - unspecified; [A complex combination of organic compounds obtained by the distillation of products from a steam cracking process. It consists of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12}.]	649-360-00-6	270-736-7	68477-53-2	P
Distillates (petroleum), steam-cracked, C_{5-10} fraction, mixed with light steam-cracked petroleum naphtha C_5 fraction; Low boiling point naphtha - unspecified	649-361-00-1	270-738-8	68477-55-4	P

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Substances	Index No	EC No	CAS No	Notes
Extracts (petroleum), cold-acid, C_{4-6}; Low boiling point naphtha - unspecified; [A complex combination of organic compounds produced by cold acid unit extraction of saturated and unsaturated aliphatic hydrocarbons usually ranging in carbon numbers from C_3 through C_6, predominantly pentanes and amylenes. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_4 through C_6, predominantly C_5.]	649-362-00-7	270-741-4	68477-61-2	P
Distillates (petroleum), depentanizer overheads; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from a catalytic cracked gas stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.]	649-363-00-2	270-771-8	68477-89-4	P
Residues (petroleum), butane splitter bottoms; Low boiling point naphtha - unspecified; [A complex residuum from the distillation of butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.]	649-364-00-8	270-791-7	68478-12-6	P
Residual oils (petroleum), deisobutanizer tower; Low boiling point naphtha - unspecified; [A complex residuum from the atmospheric distillation of the butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.]	649-365-00-3	270-795-9	68478-16-0	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), full-range coker; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by the distillation of products from a fluid coker. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{15} and boiling in the range of approximately 43 °C to 250 °C (110 °F-500 °F).]	649-366-00-9	270-991-4	68513-02-0	P
Naphtha (petroleum), steam-cracked middle arom.; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by the distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 130 °C to 220 °C (266 °F to 428 °F).]	649-367-00-4	271-138-9	68516-20-1	P
Naphtha (petroleum), clay-treated full-range straight-run; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons resulting from treatment of full-range straight-run naphtha with natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately – 20 °C to 220 °C (– 4 °F to 429 °F).]	649-368-00-X	271-262-3	68527-21-9	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), clay-treated light straight-run; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons resulting from treatment of light straight-run naphtha with a natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 93 °C to 180 °C (200 °F to 356 °F).]	649-369-00-5	271-263-9	68527-22-0	P
Naphtha (petroleum), light steam-cracked arom.; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_9 and boiling in the range of approximately 110 °C to 165 °C (230 °F to 329 °F).]	649-370-00-0	271-264-4	68527-23-1	P
Naphtha (petroleum), light steam-cracked, debenzenized; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 80 °C to 218 °C (176 °F to 424 °F).]	649-371-00-6	271-266-5	68527-26-4	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), arom.-contg.; Low boiling point naphtha - unspecified	649-372-00-1	271-635-0	68603-08-7	P
Gasoline, pyrolysis, debutanizer bottoms; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from the fractionation of depropanizer bottoms. It consists of hydrocarbons having carbon numbers predominantly greater than C_5.]	649-373-00-7	271-726-5	68606-10-0	P
Naphtha (petroleum), light, sweetened; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately – 20 °C to 100 °C (– 4 °F to 212 °F).]	649-374-00-2	272-206-0	68783-66-4	P
Natural gas condensates; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons separated and/or condensed from natural gas during transportation and collected at the wellhead and/or from the production, gathering, transmission, and distribution pipelines in deeps, scrubbers, etc. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_8.]	649-375-00-8	272-896-3	68919-39-1	J
Distillates (petroleum), naphtha unifiner stripper; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons produced by stripping the products from the naphtha unifiner. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.]	649-376-00-3	272-932-8	68921-09-5	P

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Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), catalytic reformed light, arom.-free fraction; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons remaining after removal of aromatic compounds from catalytic reformed light naphtha in a selective absorption process. It consists predominantly of paraffinic and cyclic compounds having carbon numbers predominantly in the range of C_5 to C_8 and boiling in the range of approximately 66 °C to 121 °C (151 °F to 250 °F).]	649-377-00-9	285-510-3	85116-59-2	P
Gasoline; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C_3 and boiling in the range of 30 °C to 260 °C (86 °F to 500 °F).]	649-378-00-4	289-220-8	86290-81-5	P
Aromatic hydrocarbons, C_{7-8}, dealkylation products, distn. residues; Low boiling point naphtha - unspecified	649-379-00-X	292-698-0	90989-42-7	P
Hydrocarbons, C_{4-6}, depentanizer lights, arom. hydrotreater; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained as first runnings from the depentanizer column before hydrotreatment of the aromatic charges. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6, predominantly pentanes and pentenes, and boiling in the range of approximately 25 °C to 40 °C (77 °F to 104 °F).]	649-380-00-5	295-298-4	91995-38-9	P

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Distillates (petroleum), heat-soaked steam-cracked naphtha, C_5-rich; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by distillation of heat-soaked steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_4 through C_6, predominantly C_5.]	649-381-00-0	295-302-4	91995-41-4	P
Extracts (petroleum), catalytic reformed light naphtha solvent; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained as the extract from the solvent extraction of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_8 and boiling in the range of approximately 100 °C to 200 °C (212 °F to 392 °F).]	649-382-00-6	295-331-2	91995-68-5	P
Naphtha (petroleum), hydrodesulfurized light, dearomatized; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by distillation of hydrodesulfurized and dearomatized light petroleum fractions. It consists predominantly of C_7 paraffins and cycloparaffins boiling in a range of approximately 90 °C to 100 °C (194 °F to 212 °F).]	649-383-00-1	295-434-2	92045-53-9	P
Naphtha (petroleum), light, C_5-rich, sweetened; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_5, predominantly C_5, and boiling in the range of approximately minus 10 °C to 35 °C (14 °F to 95 °F).]	649-384-00-7	295-442-6	92045-60-8	P

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Hydrocarbons, C_{8-11}, naphtha-cracking, toluene cut; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by distillation from prehydrogenated cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{11} and boiling in the range of approximately 130 °C to 205 °C (266 °F to 401 °F).]	649-385-00-2	295-444-7	92045-62-0	P
Hydrocarbons, C_{4-11}, naphtha-cracking, arom.-free; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from prehydrogenated cracked naphtha after distillative separation of benzene- and toluene-containing hydrocarbon cuts and a higher boiling fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately 30 °C to 205 °C (86 °F to 401 °F).]	649-386-00-8	295-445-2	92045-63-1	P
Naphtha (petroleum), light heat-soaked, steam-cracked; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the fractionation of steam cracked naphtha after recovery from a heat soaking process. It consists predominantly of hydrocarbons having a carbon number predominantly in the range of C_4 through C_6 and boiling in the range of approximately 0 °C to 80 °C (32 ° F to 176 °F).]	649-387-00-3	296-028-8	92201-97-3	P
Distillates (petroleum), C_6-rich; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained from the distillation of a petroleum feedstock. It consists predominantly of hydrocarbons having carbon numbers of C_5 through C_7, rich in C_6, and boiling in the range of approximately 60 °C to 70 °C (140 °F to 158 °F).]	649-388-00-9	296-903-4	93165-19-6	P

▼M14

Substances	Index No	EC No	CAS No	Notes
Gasoline, pyrolysis, hydrogenated; Low boiling point naphtha-unspecified; [A distillation fraction from the hydrogenation of pyrolysis gasoline boiling in the range of approximately 20 °C to 200 °C (68 °F to 392 °F).]	649-389-00-4	302-639-3	94114-03-1	P
Distillates (petroleum), steam-cracked, C_{8-12} fraction, polymd., distn. lights; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by distillation of the polymerized C_8 through C_{12} fraction from steam-cracked petroleum distillates. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{12}.]	649-390-00-X	305-750-5	95009-23-7	P
Extracts (petroleum) heavy naphtha solvent, clay-treated; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the treatment of heavy naphthic solvent petroleum extract with bleaching earth. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{10} and boiling in the range of approximately 80 °C to 180 °C (175 °F to 356 °F).]	649-391-00-5	308-261-5	97926-43-7	P
Naphtha (petroleum), light steam-cracked, debenzenized, thermally treated; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the treatment and distillation of debenzenized light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 95 °C to 200 °C (203 °F to 392 °F).]	649-392-00-0	308-713-1	98219-46-6	P

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), light steam-cracked, thermally treated; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the treatment and distillation of light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_6 and boiling in the range of approximately 35 °C to 80 °C (95 °F to 176 °F).]	649-393-00-6	308-714-7	98219-47-7	P
Distillates (petroleum), C_{7-9}, C_8-rich, hydrodesulfurized dearomatized; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the distillation of petroleum light fraction, hydrodesulfurized and dearomatized. It consists predominantly of hydrocarbons having carbon numbers in the range of C_7 through C_9, predominantly C_8 paraffins and cycloparaffins, boiling in the range of approximately 120 °C to 130 °C (248 °F to 266 °F).]	649-394-00-1	309-862-5	101316-56-7	P
Hydrocarbons, C_{6-8}, hydrogenated sorption-dearomatized, toluene raffination; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained during the sorptions of toluene from a hydrocarbon fraction from cracked gasoline treated with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8 and boiling in the range of approximately 80 °C to 135 °C (176 °F to 275 °F).]	649-395-00-7	309-870-9	101316-66-9	P

▼M14

Substances	Index No	EC No	CAS No	Notes
Naphtha (petroleum), hydrodesulfurised full-range coker; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by fractionation from hydrodesulfurised coker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 23 °C to 196 °C (73 °F to 385 °F).]	649-396-00-2	309-879-8	101316-76-1	P
Naphtha (petroleum), sweetened light; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_8 and boiling in the range of approximately 20 °C to 130 °C (68 °F to 266 °F).]	649-397-00-8	309-976-5	101795-01-1	P
Hydrocarbons, C_{3-6}, C_5-rich, steam-cracked naphtha; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by distillation of steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly C_5.]	649-398-00-3	310-012-0	102110-14-5	P
Hydrocarbons, C_5-rich, dicyclopentadiene-contg.; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by distillation of the products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers of C_5 and dicyclopentadiene and boiling in the range of approximately 30 °C to 170 °C (86 °F to 338 °F).]	649-399-00-9	310-013-6	102110-15-6	P

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Residues (petroleum), steam-cracked light, arom.; Low boiling point naphtha - unspecified; [A complex combination of hydrocarbons obtained by the distillation of the products of steam cracking or similar processes after taking off the very light products resulting in a residue starting with hydrocarbons having carbon numbers greater than C_5. It consists predominantly of aromatic hydrocarbons having carbon numbers greater than C_5 and boiling above approximately 40 °C (104 °F).]	649-400-00-2	310-057-6	102110-55-4	P
Hydrocarbons, $C_{\geq 5}$, C_{5-6}-rich; Low boiling point naphtha - unspecified	649-401-00-8	270-690-8	68476-50-6	P
Hydrocarbons, C_5-rich; Low boiling point naphtha - unspecified	649-402-00-3	270-695-5	68476-55-1	P
Aromatic hydrocarbons, C_{8-10}; Low boiling point naphtha - unspecified	649-403-00-9	292-695-4	90989-39-2	P

▼C1

Appendix 5

▼M61

Entry 30 – Reproductive toxicants: Category 1 A

▼C1

Substances	Index No	EC No	CAS No	Notes
Carbon monoxide	006-001-00-2	211-128-3	630-08-0	
Lead hexafluorosilicate	009-014-00-1	247-278-1	25808-74-6	
▼M14 Slimes and sludges, copper electrolyte refining, decopperised	028-015-00-8	305-433-1	94551-87-8	
Silicic acid, lead nickel salt	028-050-00-9	—	68130-19-8	
▼M61 Methylmercuric chloride	080-012-00-0	204-064-2	115-09-3	
▼M73 Lead compounds, except those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008	082-001-00-6	—	—	A
▼C1 Lead alkyls	082-002-00-1			A ►M5 ——— ◄
Lead azide	082-003-00-7	236-542-1	13424-46-9	
Lead chromate	082-004-00-2	231-846-0	7758-97-6	
Lead di(acetate)	082-005-00-8	206-104-4	301-04-2	
Trilead bis(orthophosphate)	082-006-00-3	231-205-5	7446-27-7	
Lead acetate	082-007-00-9	215-630-3	1335-32-6	
Lead(II) methanesulphonate	082-008-00-4	401-750-5	17570-76-2	
C.I. Pigment Yellow 34; (This substance is identified in the Colour Index by Colour Index Constitution No C.I. 77603.)	082-009-00-X	215-693-7	1344-37-2	
C.I. Pigment Red 104; (This substance is identified in the Colour Index by Colour Index Constitution No C.I. 77605.)	082-010-00-5	235-759-9	12656-85-8	
Lead hydrogen arsenate	082-011-00-0	232-064-2	7784-40-9	
▼M45 Lead powder; [particle diameter < 1 mm]	082-013-00-1	231-100-4	7439-92-1	
Lead massive: [particle diameter ≥ 1 mm]	082-014-00-7	231-100-4	7439-92-1	

▼C1

Substances	Index No	EC No	CAS No	Notes
1,2-Dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	
2-bromopropane	602-085-00-5	200-855-1	75-26-3	►M5 ——— ◄
▼M45 Warfarin (ISO); 4-hydroxy-3-(3-oxo-1-phenylbutyl)-2H-chromen-2-one; [1] (S)-4-hydroxy-3-(3-oxo-1-phenylbutyl)-2-benzopyrone; [2] (R)-4-hydroxy-3-(3-oxo-1-phenylbutyl)-2-benzopyrone [3]	607-056-00-0	201-377-6 [1] 226-907-3 [2] 226-908-9 [3]	81-81-2 [1] 5543-57-7 [2] 5543-58-8 [3]	
Brodifacoum (ISO); 4-hydroxy-3-(3-(4′-bromo-4-biphenylyl)-1,2,3,4-tetrahydro-1-naphthyl)coumarin	607-172-00-1	259-980-5	56073-10-0	
▼C1 Lead 2,4,6-trinitroresorcinoxide, lead styphnate	609-019-00-4	239-290-0	15245-44-0	

▼C1

Appendix 6

▼M61

Entry 30 – Reproductive toxicants: Category 1 B

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M14				
Dibutyltin hydrogen borate	005-006-00-7	401-040-5	75113-37-0	
Boric acid; [1]	005-007-00-2	233-139-2 [1]	10043-35-3 [1]	
Boric acid, crude natural, containing not more than 85 % of H_3BO_3 calculated on the dry weight; [2]		234-343-4 [2]	11113-50-1 [2]	
Diboron trioxide; Boric oxide	005-008-00-8	215-125-8	1303-86-2	
Disodium tetraborate, anhydrous;	005-011-00-4			
Boric acid, disodium salt; [1]		215-540-4 [1]	1330-43-4 [1]	
Tetraboron disodium heptaoxide, hydrate; [2]		235-541-3 [2]	12267-73-1 [2]	
Orthoboric acid, sodium salt; [3]		237-560-2 [3]	13840-56-7 [3]	
Disodium tetraborate decahydrate; Borax decahydrate	005-011-01-1	215-540-4	1303-96-4	
Disodium tetraborate pentahydrate; Borax pentahydrate	005-011-02-9	215-540-4	12179-04-3	
Sodium perborate; [1]	005-017-00-7	239-172-9 [1]	15120-21-5 [1]	
Sodium peroxometaborate; [2]		231-556-4 [2]	7632-04-4 [2]	
Sodium peroxoborate; [containing < 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 µm]				
Sodium perborate; [1]	005-017-01-4	239-172-9 [1]	15120-21-5 [1]	
Sodium peroxometaborate; [2]		231-556-4 [2]	7632-04-4 [2]	
Sodium peroxoborate; [containing ≥ 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 µm]				

▼M14

Substances	Index No	EC No	CAS No	Notes
Perboric acid ($H_3BO_2(O_2)$), monosodium salt trihydrate; [1]	005-018-00-2	239-172-9 [1]	13517-20-9 [1]	
Perboric acid, sodium salt, tetrahydrate; [2]		234-390-0 [2]	37244-98-7 [2]	
Perboric acid ($HBO(O_2)$), sodium salt, tetrahydrate; [3]		231-556-4 [3]	10486-00-7 [3]	
Sodium peroxoborate hexahydrate; [containing < 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 μm]				
Perboric acid ($H_3BO_2(O_2)$), monosodium salt, trihydrate; [1]	005-018-01-X	239-172-9 [1]	13517-20-9 [1]	
Perboric acid, sodium salt, tetrahydrate; [2]		234-390-0 [2]	37244-98-7 [2]	
Perboric acid ($HBO(O_2)$), sodium salt, tetrahydrate; [3]		231-556-4 [3]	10486-00-7 [3]	
Sodium peroxoborate hexahydrate; [containing ≥ 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 μm]				
Perboric acid, sodium salt; [1]	005-019-00-8	234-390-0 [1]	11138-47-9 [1]	
Perboric acid, sodium salt, monohydrate; [2]		234-390-0 [2]	12040-72-1 [2]	
Perboric acid ($H_3BO_2(O_2)$), monosodium salt, monohydrate; [3]		231-556-4 [3]	10332-33-9 [3]	
Sodium peroxoborate; [containing < 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 μm]				
Perboric acid, sodium salt; [1]	005-019-01-5	234-390-0 [1]	11138-47-9 [1]	
Perboric acid, sodium salt, monohydrate; [2]		234-390-0 [2]	12040-72-1 [2]	
Perboric acid ($H_3BO_2(O_2)$), monosodium salt, monohydrate; [3]		231-556-4 [3]	10332-33-9 [3]	
Sodium peroxoborate; [containing ≥ 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 μm]				

▼M45

Disodium octaborate anhydrous; [1]	005-020-00-3	234-541-0 [1]	12008-41-2 [1]	
Disodium octaborate tetrahydrate [2]		234-541-0 [2]	12280-03-4 [2]	

▼C1

Substances	Index No	EC No	CAS No	Notes
Linuron (ISO) 3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea	006-021-00-1	206-356-5	330-55-2	►M5 ——— ◄
▼M69 Mancozeb (ISO); manganese ethylenebis(dithiocarbamate) (polymeric) complex with zinc salt	006-076-00-1	-	8018-01-7	
▼C1 6-(2-Chloroethyl)-6(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane; etacelasil	014-014-00-X	253-704-7	37894-46-5	
Flusilazole (ISO); bis(4-fluorophenyl)-(methyl)-(1H-1,2,4-triazol-1-ylmethyl)-silane	014-017-00-6	—	85509-19-9	►M5 ——— ◄
A mixture of: 4-[[bis-(4-fluorophenyl)-methylsilyl]methyl]-4H-1,2,4-triazole; 1-[[bis-(4-fluorophenyl)methyl-silyl]methyl]-1H-1,2,4-triazole	014-019-00-7	403-250-2	—	►M5 ——— ◄
▼M14 (4-ethoxyphenyl)(3-(4-fluoro-3-phenoxyphenyl)propyl)dimethylsilane	014-036-00-X	405-020-7	105024-66-6	
▼M69 Tris(2-methoxyethoxy)vinylsilane; 6-(2-methoxyethoxy)-6-vinyl-2,5,7,10-tetraoxa-6-silaundecane	014-050-00-6	213-934-0	1067-53-4	
▼M14 Tris(2-chloroethyl)phosphate	015-102-00-0	204-118-5	115-96-8	
Glufosinate ammonium (ISO); Ammonium 2-amino-4-(hydroxymethylphosphinyl)butyrate	015-155-00-X	278-636-5	77182-82-2	
▼M26 Trixylyl phosphate	015-201-00-9	246-677-8	25155-23-1	
▼M82 Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide	015-203-00-X	278-355-8	75980-60-8	
Benzyl(diethylamino)diphenylphosphonium 4-[1,1,1,3,3,3-hexafluoro-2-(4-hydroxyphenyl)propan-2-yl] phenolate	015-204-00-5	479-100-5	577705-90-9	
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	015-205-00-0	278-305-5	75768-65-9	

▼**M82**

Substances	Index No	EC No	CAS No	Notes
Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol and benzyl (diethylamino)diphenylphosphonium 4-[1,1,1,3,3,3-hexafluoro-2-(4-hydroxyphenyl)propan-2-yl] phenolate (1:1)	015-206-00-6	-	-	
Reaction mass of 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol and benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol (1:1)	015-207-00-1	-	-	
dimethyl propylphosphonate	015-208-00-7	242-555-3	18755-43-6	

▼**C1**

Potassium dichromate	024-002-00-6	231-906-6	7778-50-9	►**M5** ——— ◄
Ammonium dichromate	024-003-00-1	232-143-1	7789-09-5	►**M5** ——— ◄

▼**M14**

Sodium dichromate	024-004-00-7	234-190-3	10588-01-9	
———				

▼**C1**

Sodium chromate	024-018-00-3	231-889-5	7775-11-3	►**M5** ——— ◄

▼**M61**

Cobalt	027-001-00-9	231-158-0	7440-48-4	

▼**M14**

Cobalt dichloride	027-004-00-5	231-589-4	7646-79-9	
Cobalt sulfate	027-005-00-0	233-334-2	10124-43-3	
Cobalt acetate	027-006-00-6	200-755-8	71-48-7	
Cobalt nitrate	027-009-00-2	233-402-1	10141-05-6	

▼M14

Substances	Index No	EC No	CAS No	Notes
Cobalt carbonate	027-010-00-8	208-169-4	513-79-1	
▼C1				
Nickel tetracarbonyl	028-001-00-1	236-669-2	13463-39-3	
▼M14				
Nickel dihydroxide; [1]	028-008-00-X	235-008-5 [1]	12054-48-7 [1]	
Nickel hydroxide; [2]		234-348-1 [2]	11113-74-9 [2]	
Nickel sulfate	028-009-00-5	232-104-9	7786-81-4	
Nickel carbonate;	028-010-00-0			
Basic nickel carbonate;				
Carbonic acid, nickel (2+) salt; [1]		222-068-2 [1]	3333-67-3 [1]	
Carbonic acid, nickel salt; [2]		240-408-8 [2]	16337-84-1 [2]	
[μ-[carbonato(2-)-O:O′]]dihydroxy trinickel; [3]		265-748-4 [3]	65405-96-1 [3]	
[carbonato(2-)]tetrahydroxytri-nickel; [4]		235-715-9 [4]	12607-70-4 [4]	
Nickel dichloride	028-011-00-6	231-743-0	7718-54-9	
Nickel dinitrate; [1]	028-012-00-1	236-068-5 [1]	13138-45-9 [1]	
Nitric acid, nickel salt; [2]		238-076-4 [2]	14216-75-2 [2]	
Slimes and sludges, copper electrolytic refining, decopperised, nickel sulfate	028-014-00-2	295-859-3	92129-57-2	
Nickel diperchlorate; Perchloric acid, nickel (II) salt	028-016-00-3	237-124-1	13637-71-3	
Nickel dipotassium bis(sulfate); [1]	028-017-00-9	237-563-9 [1]	13842-46-1 [1]	
Diammonium nickel bis(sulfate); [2]		239-793-2 [2]	15699-18-0 [2]	
Nickel bis(sulfamidate); Nickel sulfamate	028-018-00-4	237-396-1	13770-89-3	
Nickel bis(tetrafluoroborate)	028-019-00-X	238-753-4	14708-14-6	

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Nickel diformate; [1]	028-021-00-0	222-101-0 [1]	3349-06-2 [1]	
Formic acid, nickel salt; [2]		239-946-6 [2]	15843-02-4 [2]	
Formic acid, copper nickel salt; [3]		268-755-0 [3]	68134-59-8 [3]	
Nickel di(acetate); [1]	028-022-00-6	206-761-7 [1]	373-02-4 [1]	
Nickel acetate; [2]		239-086-1 [2]	14998-37-9 [2]	
Nickel dibenzoate	028-024-00-7	209-046-8	553-71-9	
Nickel bis(4-cyclohexylbutyrate)	028-025-00-2	223-463-2	3906-55-6	
Nickel (II) stearate; Nickel (II) octadecanoate	028-026-00-8	218-744-1	2223-95-2	
Nickel dilactate	028-027-00-3	—	16039-61-5	
Nickel (II) octanoate	028-028-00-9	225-656-7	4995-91-9	
Nickel difluoride; [1]	028-029-00-4	233-071-3 [1]	10028-18-9 [1]	
Nickel dibromide; [2]		236-665-0 [2]	13462-88-9 [2]	
Nickel diiodide; [3]		236-666-6 [3]	13462-90-3 [3]	
Nickel potassium fluoride; [4]		- [4]	11132-10-8 [4]	
Nickel hexafluorosilicate	028-030-00-X	247-430-7	26043-11-8	
Nickel selenate	028-031-00-5	239-125-2	15060-62-5	
Nickel dithiocyanate	028-046-00-7	237-205-1	13689-92-4	
Nickel dichromate	028-047-00-2	239-646-5	15586-38-6	
Nickel dichlorate; [1]	028-053-00-5	267-897-0 [1]	67952-43-6 [1]	
Nickel dibromate; [2]		238-596-1 [2]	14550-87-9 [2]	
Ethyl hydrogen sulfate, nickel (II) salt; [3]		275-897-7 [3]	71720-48-4 [3]	
Nickel (II) trifluoroacetate; [1]	028-054-00-0	240-235-8 [1]	16083-14-0 [1]	
Nickel (II) propionate; [2]		222-102-6 [2]	3349-08-4 [2]	
Nickel bis(benzenesulfonate); [3]		254-642-3 [3]	39819-65-3 [3]	
Nickel (II) hydrogen citrate; [4]		242-533-3 [4]	18721-51-2 [4]	
Citric acid, ammonium nickel salt; [5]		242-161-1 [5]	18283-82-4 [5]	

▼**M14**

Substances	Index No	EC No	CAS No	Notes
Citric acid, nickel salt; [6]		245-119-0 [6]	22605-92-1 [6]	
Nickel bis(2-ethylhexanoate); [7]		224-699-9 [7]	4454-16-4 [7]	
2-Ethylhexanoic acid, nickel salt; [8]		231-480-1 [8]	7580-31-6 [8]	
Dimethylhexanoic acid nickel salt; [9]		301-323-2 [9]	93983-68-7 [9]	
Nickel (II) isooctanoate; [10]		249-555-2 [10]	29317-63-3 [10]	
Nickel isooctanoate; [11]		248-585-3 [11]	27637-46-3 [11]	
Nickel bis(isononanoate); [12]		284-349-6 [12]	84852-37-9 [12]	
Nickel (II) neononanoate; [13]		300-094-6 [13]	93920-10-6 [13]	
Nickel (II) isodecanoate; [14]		287-468-1 [14]	85508-43-6 [14]	
Nickel (II) neodecanoate; [15]		287-469-7 [15]	85508-44-7 [15]	
Neodecanoic acid, nickel salt; [16]		257-447-1 [16]	51818-56-5 [16]	
Nickel (II) neoundecanoate; [17]		300-093-0 [17]	93920-09-3 [17]	
Bis(d-gluconato-O^1,O^2)nickel; [18]		276-205-6 [18]	71957-07-8 [18]	
Nickel 3,5-bis(tert-butyl)-4-hydroxybenzoate (1:2); [19]		258-051-1 [19]	52625-25-9 [19]	
Nickel (II) palmitate; [20]		237-138-8 [20]	13654-40-5 [20]	
(2-ethylhexanoato-O)(isononanoato-O)nickel; [21]		287-470-2 [21]	85508-45-8 [21]	
(isononanoato-O)(isooctanoato-O) nickel; [22]		287-471-8 [22]	85508-46-9 [22]	
(isooctanoato-O)(neodecanoato-O) nickel; [23]		284-347-5 [23]	84852-35-7 [23]	
(2-ethylhexanoato-O)(isodecanoato-O)nickel; [24]		284-351-7 [24]	84852-39-1 [24]	
(2-ethylhexanoato-O)(neodecanoato-O)nickel; [25]		285-698-7 [25]	85135-77-9 [25]	
(isodecanoato-O)(isooctanoato-O) nickel; [26]		285-909-2 [26]	85166-19-4 [26]	
(isodecanoato-O)(isononanoato-O) nickel; [27]		284-348-0 [27]	84852-36-8 [27]	
(isononanoato-O)(neodecanoato-O) nickel; [28]		287-592-6 [28]	85551-28-6 [28]	
Fatty acids, C_{6-19}-branched, nickel salts; [29]		294-302-1 [29]	91697-41-5 [29]	
Fatty acids, C_{8-18} and C_{18}-unsaturated, nickel salts; [30]		283-972-0 [30]	84776-45-4 [30]	
2,7-Naphthalenedisulfonic acid, nickel(II) salt; [31]		- [31]	72319-19-8 [31]	

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M45				
Gallium arsenide	031-001-00-4	215-114-8	1303-00-0	
▼M73				
Ammonium bromide	035-005-00-7	235-183-8	12124-97-9	
▼C1				
Cadmium fluoride	048-006-00-2	232-222-0	7790-79-6	►M5 ——— ◄
Cadmium chloride	048-008-00-3	233-296-7	10108-64-2	►M5 ——— ◄
Cadmium sulphate	048-009-00-9	233-331-6	10124-36-4	►M5 ——— ◄
▼M73				
Tributyltin compounds, except those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008	050-008-00-3	—	—	
▼M69				
Dichlorodioctylstannane	050-021-00-4	222-583-2	3542-36-7	
▼M14				
Dibutyltin dichloride; (DBTC)	050-022-00-X	211-670-0	683-18-1	
▼M26				
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate	050-027-00-7	239-622-4	15571-58-1	
▼M49				
Dibutyltin dilaurate; dibutyl[bis (dodecanoyloxy)]stannane	050-030-00-3	201-039-8	77-58-7	
▼M69				
Dioctyltin dilaurate; [1] stannane, dioctyl-, bis(coco acyloxy) derivs. [2]	050-031-00-9	222-883-3 [1] 293-901-5 [2]	3648-18-8 [1] 91648-39-4 [2]	
▼M73				
Dibutyltin bis(2-ethylhexanoate)	050-032-00-4	220-481-2	2781-10-4	
Dibutyltin di(acetate)	050-033-00-X	213-928-8	1067-33-0	
▼M82				
Dibutyltin maleate	050-034-00-5	201-077-5	78-04-6	
Dibutyltin oxide	050-035-00-0	212-449-1	818-08-6	
▼M73				
Tellurium	052-001-00-0	236-813-4	13494-80-9	
Tellurium dioxide	052-002-00-6	231-193-1	7446-07-3	
Barium diboron tetraoxide	056-005-00-3	237-222-4	13701-59-2	
▼M14				
Mercury	080-001-00-0	231-106-7	7439-97-6	
▼C1				
Benzo[a]pyrene; benzo[d,e,f] chrysene	601-032-00-3	200-028-5	50-32-8	
1-Bromopropane Propyl bromide n-Propyl bromide	602-019-00-5	203-445-0	106-94-5	
1,2,3-Trichloropropane	602-062-00-X	202-486-1	96-18-4	D

▼C1

Substances	Index No	EC No	CAS No	Notes
Diphenylether; octabromo derivate	602-094-00-4	251-087-9	32536-52-0	
2-Methoxyethanol; ethylene glycol monomethyl ether; methylglycol	603-011-00-4	203-713-7	109-86-4	
2-Ethoxyethanol; ethylene glycol monoethyl ether; ethylglycol	603-012-00-X	203-804-1	110-80-5	
▼M61 Ethylene oxide; oxirane	603-023-00-X	200-849-9	75-21-8	
▼C1 1,2-Dimethoxyethane ethylene glycol dimethyl ether EGDME	603-031-00-3	203-794-9	110-71-4	
▼M45 Tetrahydro-2-furyl-methanol; tetrahydrofurfuryl alcohol	603-061-00-7	202-625-6	97-99-4	
▼C1 2,3-Epoxypropan-1-ol; glycidol oxiranemethanol	603-063-00-8	209-128-3	556-52-5	►M5 ——— ◄
▼M69 7-Oxa-3-oxiranylbicyclo[4.1.0] heptane; 1,2-epoxy-4-epoxy-ethylcyclohexane; 4-vinylcyclo-hexene diepoxide	603-066-00-4	203-437-7	106-87-6	
▼C1 2-Methoxypropanol	603-106-00-0	216-455-5	1589-47-5	
▼M73 2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	603-107-00-6	203-906-6	111-77-3	
▼C1 Bis(2-methoxyethyl) ether	603-139-00-0	203-924-4	111-96-6	
R-2,3-epoxy-1-propanol	603-143-002	404-660-4	57044-25-4	►M5 ——— ◄
1,2-Bis(2-methoxyethoxy)ethane TEGDME; Triethylene glycol dimethyl ether; Triglyme	603-176-00-2	203-977-3	112-49-2	
▼M14 2-(2-aminoethylamino)ethanol (AEEA)	603-194-00-0	203-867-5	111-41-1	
1,2-Diethoxyethane	603-208-00-5	211-076-1	629-14-1	
▼M61 Ethanol, 2,2'-iminobis-, *N*-(C13-15 branched and linear alkyl) derivs.	603-236-00-8	308-208-6	97925-95-6	
▼M69 Ipconazole (ISO); (1*RS*,2*SR*,5*RS*;1*RS*,2*SR*,5*SR*)-2-(4-chlorobenzyl)-5-isopropyl-1-(1*H*-1,2,4-triazol-1-ylmethyl)cyclo-pentanol	603-237-00-3	-	125225-28-7 115850-69-6 115937-89-8	

	Substances	Index No	EC No	CAS No	Notes
	Bis(2-(2-methoxyethoxy)ethyl) ether; tetraglyme	603-238-00-9	205-594-7	143-24-8	
▼M82	Reaction mass of 1-(2,3-epoxypropoxy)-2,2-bis ((2,3-epoxypropoxy) methyl) butane and 1-(2,3-epoxypropoxy)-2-((2,3-epoxypropoxy) methyl)-2-hydroxymethyl butane	603-244-00-1	-	-	
▼C1	4,4'-isobutylethylidenediphenol; 2,2-bis (4'-hydroxyphenyl)-4-methylpentane	604-024-00-8	401-720-1	6807-17-6	
▼M45	Bisphenol A; 4,4′-isopropylidenediphenol	604-030-00-0	201-245-8	80-05-7	
▼M14	(E)-3-[1-[4-[2-(dimethylamino) ethoxy]phenyl]-2-phenylbut-1-enyl] phenol	604-073-00-5	428-010-4	82413-20-5	
▼M45	Phenol, dodecyl-, branched; [1]	604-092-00-9	310-154-3 [1]	121158-58-5 [1]	
	Phenol, 2-dodecyl-, branched; [2]		- [2]	- [2]	
	Phenol, 3-dodecyl-, branched; [3]		- [3]	- [3]	
	Phenol, 4-dodecyl-, branched; [4]		- [4]	210555-94-5 [4]	
	Phenol, (tetrapropenyl) derivatives [5]		- [5]	74499-35-7 [5]	
▼M69	6,6'-Di-*tert*-butyl-2,2'-methylenedi-*p*-cresol; [DBMC]	604-095-00-5	204-327-1	119-47-1	
▼M73	2,4,6-tri-tert-butylphenol	604-097-00-6	211-989-5	732-26-3	
	4,4'-sulphonyldiphenol; bisphenol S	604-098-00-1	201-250-5	80-09-1	
▼M82	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol; bisphenol AF	604-099-00-7	216-036-7	1478-61-1	
▼M69	2-(4-*tert*-butylbenzyl)propionaldehyde	605-041-00-3	201-289-8	80-54-6	
▼M45	Chlorophacinone (ISO);2-[(4-chlorophenyl)(phenyl)acetyl]-1H-indene-1,3(2H)-dione	606-014-00-9	223-003-0	3691-35-8	
▼M14	N-methyl-2-pyrrolidone; 1-Methyl-2-pyrrolidone	606-021-00-7	212-828-1	872-50-4	
▼M49	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	606-041-00-6	400-600-6	71868-10-5	
▼M61	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	606-047-00-9	404-360-3	119313-12-1	

▼C1

Substances	Index No	EC No	CAS No	Notes
Tetrahydrothiopyran-3-carboxaldehyde	606-062-00-0	407-330-8	61571-06-0	
▼M14 2-Butyryl-3-hydroxy-5-thiocyclohexan-3-yl-cyclohex-2-en-1-one	606-100-00-6	425-150-8	94723-86-1	
Cyclic 3-(1,2-ethanediylacetale)-estra-5(10),9(11)-diene-3,17-dione	606-131-00-5	427-230-8	5571-36-8	
▼C1 2-Methoxyethyl acetate; ethylene glycol monomethyl ether acetate; methylglycol acetate	607-036-00-1	203-772-9	110-49-6	
2-Ethoxyethyl acetate; ethylene glycol monoethyl ether acetate; ethylglycol acetate	607-037-00-7	203-839-2	111-15-9	
▼M45 Coumatetralyl (ISO); 4-hydroxy-3-(1,2,3,4-tetrahydro-1-naphthyl) coumarin	607-059-00-7	227-424-0	5836-29-3	
▼M49 2,3-epoxypropyl methacrylate; glycidyl methacrylate	607-123-00-4	203-441-9	106-91-2	
▼M45 Difenacoum (ISO); 3-(3-biphenyl-4-yl-1,2,3,4-tetrahydro-1-naphthyl)-4-hydroxycoumarin	607-157-00-X	259-978-4	56073-07-5	
▼C1 2-Ethylhexyl 3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl methyl thio acetate	607-203-00-9	279-452-8	80387-97-9	
Bis(2-Methoxyethyl) phthalate	607-228-00-5	204-212-6	117-82-8	
▼M73 2-ethylhexanoic acid and its salts, with the exception of those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008	607-230-00-6	—	—	
▼C1 2-Methoxypropyl acetate	607-251-00-0	274-724-2	70657-70-4	
Fluazifop-butyl (ISO); butyl (RS)-2-[4-(5-trifluoromethyl-2-pyridyloxy)phenoxy]propionate	607-304-00-8	274-125-6	69806-50-4	
Vinclozolin (ISO); N-3,5-Dichlorophenyl-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione	607-307-00-4	256-599-6	50471-44-8	
Methoxyacetic acid	607-312-00-1	210-894-6	625-45-6	►M5 ——— ◄
Bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP	607-317-00-9	204-211-0	117-81-7	

▼C1

Substances	Index No	EC No	CAS No	Notes
Dibutyl phthalate; DBP	607-318-00-4	201-557-4	84-74-2	
(+/-) tetrahydrofurfuryl (R)-2-[4-(6-chloroquinoxalin-2-yloxy) phenyloxy]propionate	607-373-00-4	414-200-4	119738-06-6	►M5 ——— ◄
▼M45 Flocoumafen (ISO); reaction mass of: cis-4-hydroxy-3-(1,2,3,4-tetrahydro-3-(4-(4-trifluoromethyl-benzyloxy)phenyl)-1-naphthyl) coumarin and trans-4-hydroxy-3-(1,2,3,4-tetrahydro-3-(4-(4-trifluor-omethylbenzyloxy)phenyl)-1-naphthyl)coumarin	607-375-00-5	421-960-0	90035-08-8	
▼M21 1,2-benzenedicarboxylic acid, dipentylester, branched and linear [1]	607-426-00-1	284-032-2 [1]	84777-06-0 [1]	
n-pentyl-isopentylphthalate [2]		[2]	[2]	
di-n-pentyl phthalate [3]		205-017-9 [3]	131-18-0 [3]	
Diisopentylphthalate [4]		210-088-4 [4]	605-50-5 [4]	
▼C1 Benzyl butyl phthalate BBP	607-430-00-3	201-622-7	85-68-7	
1,2-Benzenedicarboxylic acid di-C7-11-branched and linear alkyl-esters	607-480-00-6	271-084-6	68515-42-4	
▼M14 1,2-Benzenedicarboxylic acid; Di-C_{6-8}-branched alkylesters, C7-rich	607-483-00-2	276-158-1	71888-89-6	
▼C1 A mixture of: disodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycar-bonyl-5-hydroxy-1-(4-sulfonatop-henyl)pyrazol-4-yl)penta-2,4-dienylidene)-4,5-dihydro-5-oxopy-razol-1-yl)benzenesulfonate; trisodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycarbonyl-5-oxido-1-(4-sulfonatophenyl)pyrazol-4-yl) penta-2,4-dienylidene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesul-fonate	607-487-00-4	402-660-9	—	
▼M14 Diisobutyl phthalate	607-623-00-2	201-553-2	84-69-5	
Perfluorooctane sulfonic acid;	607-624-00-8			

▼M14

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▼M26				
4-*tert*-butylbenzoic acid	607-698-00-1	202-696-3	98-73-7	
▼M14				
Heptadecafluorooctane-1-sulfonic acid; [1]		217-179-8 [1]	1763-23-1 [1]	
Potassium perfluorooctanesulfonate;				
Potassium heptadecafluorooctane-1-sulfonate; [2]		220-527-1 [2]	2795-39-3 [2]	
Diethanolamine perfluorooctane sulfonate; [3]		274-460-8 [3]	70225-14-8 [3]	
Ammonium perfluorooctane sulfonate;				
Ammonium heptadecafluorooctanesulfonate; [4]		249-415-0 [4]	29081-56-9 [4]	
Lithium perfluorooctane sulfonate;				
Lithium heptadecafluorooctanesulfonate; [5]		249-644-6 [5]	29457-72-5 [5]	
▼M26				
Dihexyl phthalate	607-702-00-1	201-559-5	84-75-3	
Ammoniumpentadecafluorooctanoate	607-703-00-7	223-320-4	3825-26-1	
Perfluorooctanoic acid	607-704-00-2	206-397-9	335-67-1	
▼M45				
1,2-benzenedicarboxylic acid, dihexyl ester, branched and linear	607-710-00-5	271-093-5	68515-50-4	
Bromadiolone (ISO); 3-[3-(4′-bromobiphenyl-4-yl)-3-hydroxy-1-phenylpropyl]-4-hydroxy-2*H*-chromen-2-one	607-716-00-8	249-205-9	28772-56-7	
Difethialone (ISO);	607-717-00-3	—	104653-34-1	
3-[3-(4′-bromobiphenyl-4-yl)-1,2,3,4-tetrahydronaphthalen-1-yl]-4-hydroxy-2*H*-1-benzothiopyran-2-one				
Perfluorononan-1-oic acid [1]	607-718-00-9	206-801-3 [1]	375-95-1 [1]	
and its sodium [2]		- [2]	21049-39-8 [2]	
and ammonium [3] salts		- [3]	4149-60-4 [3]	
Dicyclohexyl phthalate	607-719-00-4	201-545-9	84-61-7	
▼M49				
Nonadecafluorodecanoic acid; [1]	607-720-00-X	206-400-3 [1]	335-76-2 [1]	
ammonium nonadecafluorodecanoate; [2]		221-470-5 [2]	3108-42-7 [2]	
sodium nonadecafluorodecanoate [3]		[3]	3830-45-3 [3]	

▼C1

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▼M73				
Pentapotassium 2,2',2",2"',2""-(ethane-1,2-diylnitrilo)pentaacetate	607-734-00-6	404-290-3	7216-95-7	
N-carboxymethyliminobis(ethylenenitrilo)tetra (acetic acid)	607-735-00-1	200-652-8	67-43-6	
Pentasodium(carboxylatomethyl) iminobis (ethylenenitrilo) tetraacetate	607-736-00-7	205-391-3	140-01-2	
▼M61				
Diisohexyl phthalate	607-737-00-2	276-090-2	71850-09-4	
▼M69				
Diisooctyl phthalate	607-740-00-9	248-523-5	27554-26-3	
2-methoxyethyl acrylate	607-744-00-0	221-499-3	3121-61-7	
▼M73				
Perfluoroheptanoic acid; tridecafluoroheptanoic acid	607-761-00-3	206-798-9	375-85-9	
6-[C12-18-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl] hexanoic acid, sodium and tris(2-hydroxyethyl)ammonium salts	607-763-00-4	—	—	
6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	607-764-00-X	—	2156592-54-8	
6-[C12-18-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl] hexanoic acid	607-765-00-5	—	—	
▼M26				
Nitrobenzene	609-003-00-7	202-716-0	98-95-3	
▼M14				
Dinocap (ISO); (RS)-2,6-dinitro-4-octylphenyl crotonates and (RS)-2,4-dinitro-6-octylphenyl crotonates in which 'octyl' is a reaction mass of 1-methylheptyl, 1-ethylhexyl and 1-propylpentyl groups	609-023-00-6	254-408-0	39300-45-3	
▼C1				
Binapacryl (ISO); 2-sec-butyl-4,6-dinitrophenyl-3-methylcrotonate	609-024-00-1	207-612-9	485-31-4	
Dinoseb; 6-sec-butyl-2,4-dinitrophenol	609-025-00-7	201-861-7	88-85-7	
▼M73				
Salts and esters of dinoseb, except those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008	609-026-00-2	—	—	

▼C1

Substances	Index No	EC No	CAS No	Notes
Dinoterb; 2-tert-butyl-4,6-dinitrophenol	609-030-00-4	215-813-8	1420-07-1	
Salts and esters of dinoterb	609-031-00-X			
Nitrofen (ISO); 2,4 dichlorophenyl 4-nitrophenyl ether	609-040-00-9	217-406-0	1836-75-5	
Methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate	611-004-00-2	209-765-7	592-62-1	
2-[2-hydroxy-3-(2-chlorophenyl) carbamoyl-1-naphthylazo]-7-[2-hydroxy-3-(3-methylphenyl) carbamoyl-1-naphthylazo]fluoren-9-one	611-131-00-3	420-580-2	—	
Azafenidin	611-140-00-2	—	68049-83-2	

▼M14

Chloro-N,N-dimethylformiminium chloride	612-250-00-3	425-970-6	3724-43-4	
7-Methoxy-6-(3-morpholin-4-yl-propoxy)-3H-quinazolin-4-one; [containing ≥ 0,5 % formamide (EC No 200-842-0)]	612-253-01-7	429-400-7	199327-61-2	

▼M45

Triflumizole (ISO); (1*E*)-*N*-[4-chloro-2-(trifluoromethyl)phenyl]-1-(1*H*-imidazol-1-yl)-2-propoxyethanimine	612-289-00-6	—	68694-11-1	

▼M82

1,4-Benzenediamine, *N,N*-mixed Ph and tolyl derivs.;	612-298-00-5	273-227-8	68953-84-4’	

▼C1

Tridemorph (ISO); 2,6-dimethyl-4-tridecylmorpholine	613-020-00-5	246-347-3	24602-86-6	
Ethylene thiourea; imidazolidine-2-thione; 2-imidazoline-2-thiol	613-039-00-9	202-506-9	96-45-7	
Carbendazim (ISO) methyl benzimidazol-2-ylcarbamate	613-048-00-8	234-232-0	10605-21-7	
Benomyl (ISO) methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate	613-049-00-3	241-775-7	17804-35-2	

▼M69

Dimethomorph (ISO); (*E*,*Z*)-4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine	613-102-00-0	404-200-2	110488-70-5	
1,2,4-Triazole	613-111-00-X	206-022-9	288-88-0	

▼C1

Cycloheximide	613-140-00-8	200-636-0	66-81-9	

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M45 Flumioxazin (ISO); 2-[7-fluoro-3-oxo-4- (prop-2-yn-1-yl)-3,4-dihydro-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3 (2H)-dione	613-166-00-X	—	103361-09-7	
▼C1 (2RS,3RS)-3-(2-Chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)-methyl]oxirane	613-175-00-9	406-850-2	106325-08-0	
▼M26 Epoxiconazole (ISO); (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1*H*-1,2,4-triazol-1-yl)methyl]oxirane	613-175-00-9	406-850-2	133855-98-8	
▼C1 3-Ethyl-2-methyl-2-(3-methyl-butyl)-1,3-oxazolidine	613-191-00-6	421-150-7	143860-04-2	
A mixture of: 1,3,5-tris(3-amino-methylphenyl)-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione; a mixture of oligomers of 3,5-bis (3-aminomethylphenyl)-1-poly[3,5-bis(3-aminomethylphenyl)-2,4,6-trioxo-1,3,5-(1H,3H,5H)-triazin-1-yl]-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione	613-199-00-X	421-550-1	—	
▼M61 propiconazole (ISO); (*2RS,4RS;2RS,4SR*)-1-{[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl}-1H-1,2,4-triazole	613-205-00-0	262-104-4	60207-90-1	
▼M14 Ketoconazole; 1-[4-[4-[[(2SR,4RS)-2-(2,4-dichlorophenyl)-2-(imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy] phenyl]piperazin-1-yl]ethanone	613-283-00-6	265-667-4	65277-42-1	
Potassium 1-methyl-3-morpholino-carbonyl-4-[3-(1-methyl-3-morpholinocarbonyl-5-oxo-2-pyrazolin-4-ylidene)-1-propenyl] pyrazole-5-olate; [containing ≥ 0,5 % N,N-dimethyl-formamide (EC No 200-679-5)]	613-286-01-X	418-260-2	183196-57-8	
▼M45 Imidazole	613-319-00-0	206-019-2	288-32-4	
▼M49 Triadimenol (ISO); (1RS,2RS;1RS,2SR)-1-(4-chlorophenoxy)-3,3-dimethyl-1-(1H-1,2,4-triazol-1-yl)butan-2-ol; α-tert-butyl-β-(4-chlorophenoxy)-1H-1,2,4-triazole-1-ethanol	613-322-00-7	259-537-6	55219-65-3	

▼**M49**

Substances	Index No	EC No	CAS No	Notes
Quinolin-8-ol; 8-hydroxyquinoline	613-324-00-8	205-711-1	148-24-3	
Thiacloprid (ISO); (Z)-3-(6-chloro-3-pyridylmethyl)-1,3-thiazolidin-2-ylidenecyanamide; {(2Z)-3-[(6-chloropyridin-3-yl) methyl]-1,3-thiazolidin-2-ylidene} cyanamide	613-325-00-3	—	111988-49-9	
▼**M61** 1-vinylimidazole	613-328-00-X	214-012-0	1072-63-5	
Halosulfuron-methyl (ISO); methyl 3-chloro-5-{[(4,6dimethoxypyrimidin-2yl)carbamoyl] sulfamoyl}-1-methyl1H-pyrazole-4-carboxylate	613-329-00-5	-	100784-20-1	
2-methylimidazole	613-330-00-0	211-765-7	693-98-1	
▼**M69** Pyrithione zinc; (*T*-4)-bis[1-(hydroxy-.kappa.*O*)pyridine-2(1*H*)-thionato-.kappa.*S*]zinc	613-333-00-7	236-671-3	13463-41-7	
Flurochloridone (ISO); 3-chloro-4-(chloromethyl)-1-[3-(trifluoromethyl)phenyl]pyrrolidin-2-one	613-334-00-2	262-661-3	61213-25-0	
3-Methylpyrazole	613-339-00-X	215-925-7	1453-58-3	
▼**M73** Theophylline; 1,3-dimethyl-3,7-dihydro-1*H*-purine-2,6-dione	613-342-00-6	200-385-7	58-55-9	
▼**M82** 4-methylimidazole	613-349-00-4	212-497-3	822-36-6	
▼**C1** N, N-dimethylformamide; dimethyl formamide	616-001-00-X	200-679-5	68-12-2	
N, N-Dimethylacetamide	616-011-00-4	204-826-4	127-19-5	►**M5** ——— ◄
Formamide	616-052-00-8	200-842-0	75-12-7	
N-methylacetamide	616-053-00-3	201-182-6	79-16-3	
N-methylformamide	616-056-00-X	204-624-6	123-39-7	►**M5** ——— ◄
▼**M14** N-[6,9-dihydro-9-[[2-hydroxy-1-(hydroxymethyl)ethoxy]methyl]-6-oxo-1H-purin-2-yl]acetamide	616-148-00-X	424-550-1	84245-12-5	
N,N-(dimethylamino)thioacetamide hydrochloride	616-180-00-4	435-470-1	27366-72-9	
▼**M26** N-ethyl-2-pyrrolidone; 1-ethylpyrrolidin-2-one	616-208-00-5	220-250-6	2687-91-4	

▼C1

Substances	Index No	EC No	CAS No	Notes
▼M49 Carbetamide (ISO); (R)-1-(ethylcarbamoyl)ethyl carbanilate; (2R)-1-(ethylamino)-1-oxopropan-2-yl phenylcarbamate	616-223-00-7	240-286-6	16118-49-3	
▼M73 *N*-(2-nitrophenyl)phosphoric triamide	616-238-00-9	477-690-9	874819-71-3	
Reaction mass of 3-(difluoromethyl)-1-methyl-*N*-[(1*RS*,4*SR*,9*RS*)-1,2,3,4-tetrahydro-9-isopropyl-1,4-methanonaphthalen-5-yl]pyrazole-4-carboxamide and 3-(difluoromethyl)-1-methyl-*N*-[(1*RS*,4*SR*,9*SR*)-1,2,3,4-tetrahydro-9-isopropyl-1,4-methanonaphthalen-5-yl]pyrazole-4-carboxamide [> 78 % syn isomers < 15 % anti isomers relative content]; isopyrazam	616-240-00-X	—	881685-58-1	
▼M69 Bis(α,α-dimethylbenzyl) peroxide	617-006-00-X	201-279-3	80-43-3	
▼M26 Pitch, coal tar, high-temp.; (The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30 °C to 180 °C (86 °F to 356 °F). Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.)	648-055-00-5	266-028-2	65996-93-2	
▼M49 Cyproconazole (ISO); (2RS,3RS;2RS,3SR)-2-(4-chlorophenyl)-3-cyclopropyl-1-(1H-1,2,4-triazol-1-yl)butan-2-ol	650-032-00-X	—	94361-06-5	
▼M61 Dibutylbis(pentane-2,4-dionato-O,O')tin	650-056-00-0	245-152-0	22673-19-4	

▼C1

Appendix 7

Special provisions on the labelling of articles containing asbestos

1. All articles containing asbestos or the packaging thereof must bear the label defined as follows:

   (a) the label conforming to the specimen below shall be at least 5 cm high (H) and 2,5 cm wide;

   (b) it shall consist of two parts:

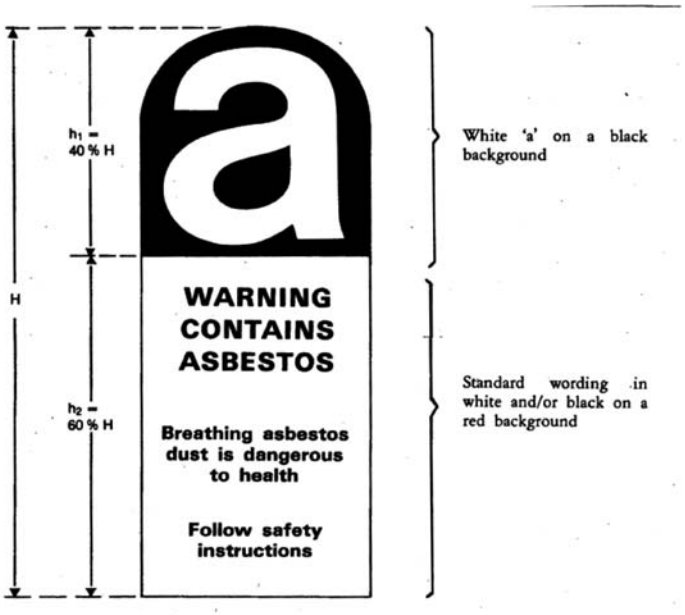
   — the top part (h_1 = 40 % H) shall include the letter ‘a’ in white, on a black background,

   — the bottom part (h_2= 60 % H) shall include the standard wording in white and/or black, on a red background, and shall be clearly legible;

   (c) if the article contains crocidolite, the words ‘contains asbestos’ used in the standard wording shall be replaced by ‘contains crocidolite/blue asbestos’.

   Member States may exclude from the provision of the first subparagraph articles intended to be placed on the market in their territory. The labelling of these articles must however bear the wording ‘contains asbestos’;

   (d) if labelling takes the form of direct printing on the articles, a single colour contrasting with the background colour is sufficient.



2. The label mentioned in this Appendix shall be affixed in accordance with the following rules:

   (a) on each of the smallest units supplied;

▼C1

(b) if an article has asbestos-based components, it is sufficient for these components only to bear the label. The labelling may be dispensed with if smallness of size or unsuitability of packaging make it impossible for a label to be affixed to the component.

3. Labelling of packaged articles containing asbestos

3.1. The following particulars shall appear on clearly legible and indelible labelling on the packaging of packaged articles containing asbestos:

(a) the symbol and relevant indications of danger in accordance with this Annex;

(b) safety instructions which must be selected in accordance with the particulars in this Annex, inasmuch as they are relevant for the particular article.

Where additional safety information is provided on the packaging, this shall not weaken or contradict the particulars given in accordance with points (a) and (b).

3.2. Labelling in accordance with 3.1 shall be effected by means of:

— a label firmly affixed to the packaging, or

— a (tie-on) label securely attached to the package, or

— direct printing of the packaging.

3.3. Articles containing asbestos and which are packaged only in loose plastic wrapping or the like shall be regarded as packaged articles and shall be labelled in accordance with 3.2. If articles are separated from such packages and placed on the market unpackaged, each of the smallest units supplied shall be accompanied by labelling particulars in accordance with 3.1.

4. Labelling of unpackaged articles containing asbestos

For unpackaged articles containing asbestos, labelling in accordance with 3.1 shall be effected by means of:

— a label firmly affixed to the article containing asbestos,

— a (tie-on) label securely attached to such an article,

— direct printing on the articles,

or, if the abovementioned is not reasonably practicable as in the case of, for example, smallness of size of the article, the unsuitable nature of the article's properties or certain technical difficulties by means of a hand-out with labelling in accordance with 3.1.

5. Without prejudice to Community provisions on safety and hygiene at work, the label affixed to the article which may, in the context of its use, be processed or finished, shall be accompanied by any safety instructions which may be appropriate for the article concerned, and in particular by the following:

— operate if possible out of doors or in a well-ventilated place,

— preferably use hand tools or low-speed tools equipped, if necessary, with an appropriate dust-extraction facility. If high-speed tools are used, they should always be equipped with such a facility,

▼C1

— if possible, dampen before cutting or drilling,

— dampen dust and place it in a properly closed receptacle and dispose of it safely.

6. The labelling of any article intended for domestic use which is not covered by Section 5 and which is likely, during use, to release asbestos fibres shall, if necessary, contain the following safety instruction: ‘replace when worn’.

7. The labelling of articles containing asbestos shall be in the official language or languages of the Member State(s) where the article is placed on the market.

▼C1

Appendix 8

▼M5

Entry 43 — Azocolourants — List of aromatic amines

▼C1

List of aromatic amines

	CAS No	Index No	EC No	Substances
1.	92-67-1	612-072-00-6	202-177-1	biphenyl-4-ylamine 4-aminobiphenyl xenylamine
2.	92-87-5	612-042-00-2	202-199-1	benzidine
3.	95-69-2		202-441-6	4-chloro-o-toluidine
4.	91-59-8	612-022-00-3	202-080-4	2-naphthylamine
5.	97-56-3	611-006-00-3	202-591-2	o-aminoazotoluene 4-amino-2',3-dimethylazobenzene 4-o-tolylazo-o-toluidine
6.	99-55-8		202-765-8	5-nitro-o-toluidine
7.	106-47-8	612-137-00-9	203-401-0	4-chloroaniline
8.	615-05-4		210-406-1	4-methoxy-m-phenylenediamine
9.	101-77-9	612-051-00-1	202-974-4	4,4'-methylenedianiline 4,4'-diaminodiphenylmethane
10.	91-94-1	612-068-00-4	202-109-0	3,3'-dichlorobenzidine 3,3'-dichlorobiphenyl-4,4'-ylenediamine
11.	119-90-4	612-036-00-X	204-355-4	3,3'-dimethoxybenzidine o-dianisidine
12.	119-93-7	612-041-00-7	204-358-0	3,3'-dimethylbenzidine 4,4'-bi-o-toluidine
13.	838-88-0	612-085-00-7	212-658-8	4,4'-methylenedi-o-toluidine
14.	120-71-8		204-419-1	6-methoxy-m-toluidine p-cresidine
15.	101-14-4	612-078-00-9	202-918-9	4,4'-methylene-bis-(2-chloro-aniline) 2,2'-dichloro-4,4'-methylene-dianiline
16.	101-80-4		202-977-0	4,4'-oxydianiline
17.	139-65-1		205-370-9	4,4'-thiodianiline
18.	95-53-4	612-091-00-X	202-429-0	o-toluidine 2-aminotoluene
19.	95-80-7	612-099-00-3	202-453-1	4-methyl-m-phenylenediamine
20.	137-17-7		205-282-0	2,4,5-trimethylaniline
21.	90-04-0	612-035-00-4	201-963-1	o-anisidine 2-methoxyaniline
22.	60-09-3	611-008-00-4	200-453-6	4-amino azobenzene

▼C1

Appendix 9

▼M5

Entry 43 — Azocolourants — List of azodyes

▼C1

List of azodyes

	CAS No	Index No	EC No	Substances
1.	Not allocated Component 1: CAS-No: 118685-33-9 $C_{39}H_{23}ClCrN_7O_{12}S.2Na$ Component 2: $C_{46}H_{30}CrN_{10}O_{20}S_2.3Na$	611-070-00-2	405-665-4	A mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate (1-)

▼M21

Appendix 10

Entry 43 — Azocolourants — List of testing methods

List of testing methods

▼M61

European standardisation organisation	Reference and title of the harmonised standard	Reference of the superseded standard
CEN	**EN ISO 17234-1:2015** Leather – Chemical tests for the determination of certain azo colorants in dyed leathers – Part 1: Determination of certain aromatic amines derived from azo colorants	EN ISO 17234-1:2010
CEN	**EN ISO 17234-2:2011** Leather – Chemical tests for the determination of certain azo colorants in dyed leathers – Part 2: Determination of 4-aminoazobenzene	CEN ISO/TS 17234:2003
CEN	**EN ISO 14362-1:2017** Textiles – Methods for determination of certain aromatic amines derived from azo colorants – Part 1: Detection of the use of certain azo colorants accessible with and without extracting the fibres	EN 14362-1:2012
CEN	**EN ISO 14362-3:2017** Textiles – Methods for determination of certain aromatic amines derived from azo colorants – Part 3: Detection of the use of certain azo colorants, which may release 4-aminoazobenzene	EN 14362-3:2012

▼M14

Appendix 11

Entries 28 to 30 — Derogations for specific substances

Substances	Derogations
1. (a) Sodium perborate; perboric acid, sodium salt; perboric acid, sodium salt, monohydrate; sodium peroxometaborate; perboric acid ($HBO(O_2)$), sodium salt, monohydrate; sodium peroxoborate CAS No 15120-21-5; 11138-47-9; 12040-72-1; 7632-04-4; 10332-33-9 EC No 239-172-9; 234-390-0; 231-556-4 (b) Perboric acid ($H_3BO_2(O_2)$), monosodium salt trihydrate; perboric acid, sodium salt, tetrahydrate; perboric acid ($HBO(O_2)$), sodium salt, tetrahydrate; sodium peroxoborate hexahydrate CAS No 13517-20-9; 37244-98-7; 10486-00-7 EC No 239-172-9; 234-390-0; 231-556-4	Detergents as defined by Regulation (EC) No 648/2004 of the European Parliament and of the Council [1]. The derogation shall apply until 1 June 2013.
▼M82 2. Cumene CAS No 98-82-8 EC No 202-704-5	As a substance on its own or as a constituent of other substances in either of the following: (a) kerosene used as aviation fuel conforming to DEF STAN 91-091, ASTM specification D1655 or equivalent recognised standards and marketed under descriptions such as Jet-A, Jet-A1 or JP-(*x*); (b) gasoline used as aviation fuel conforming to DEF STAN 91-090, ASTM D910, ASTM D7547 or equivalent recognised standards.

▼M14

[1] OJ L 104, 8.4.2004, p. 1.

▼**M50**

Appendix 12

Entry 72 — restricted substances and maximum concentration limits by weight in homogeneous materials:

Substances	Index- No	CAS No	EC No	Concentration limit by weight
Cadmium and its compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	—	—	—	1 mg/kg after extraction (expressed as Cd metal that can be extracted from the material)
Chromium VI compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	—	—	—	1 mg/kg after extraction (expressed as Cr VI that can be extracted from the material)
Arsenic compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	—	—	—	1 mg/kg after extraction (expressed as As metal that can be extracted from the material)
Lead and its compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	—	—	—	1 mg/kg after extraction (expressed as Pb metal that can be extracted from the material)
Benzene	601-020-00-8	71-43-2	200-753-7	5 mg/kg
Benz[*a*]anthracene	601-033-00-9	56-55-3	200-280-6	1 mg/kg
Benz[*e*]acephenanthrylene	601-034-00-4	205-99-2	205-911-9	1 mg/kg
benzo[*a*]pyrene; benzo[*def*]chrysene	601-032-00-3	50-32-8	200-028-5	1 mg/kg
Benzo[*e*]pyrene	601-049-00-6	192-97-2	205-892-7	1 mg/kg
Benzo[*j*]fluoranthene	601-035-00-X	205-82-3	205-910-3	1 mg/kg
Benzo[*k*]fluoranthene	601-036-00-5	207-08-9	205-916-6	1 mg/kg
Chrysene	601-048-00-0	218-01-9	205-923-4	1 mg/kg
Dibenz[*a,h*]anthracene	601-041-00-2	53-70-3	200-181-8	1 mg/kg
α, α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride	602-093-00-9	5216-25-1	226-009-1	1 mg/kg
α, α,α-trichlorotoluene; benzotrichloride	602-038-00-9	98-07-7	202-634-5	1 mg/kg
α-chlorotoluene; benzyl chloride	602-037-00-3	100-44-7	202-853-6	1 mg/kg
Formaldehyde	605-001-00-5	50-00-0	200-001-8	75 mg/kg

▼**M50**

Substances	Index- No	CAS No	EC No	Concentration limit by weight
1,2-benzenedicarboxylic acid; di-C 6-8-branched alkylesters, C 7-rich	607-483-00-2	71888-89-6	276-158-1	1 000 mg/kg (individually or in combination with other phthalates in this entry or in other entries of Annex XVII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B
Bis(2-methoxyethyl) phthalate	607-228-00-5	117-82-8	204-212-6	1 000 mg/kg (individually or in combination with other phthalates in this entry or in other entries of Annex XVII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B
Diisopentylphthalate	607-426-00-1	605-50-5	210-088-4	1 000 mg/kg (individually or in combination with other phthalates in this entry or in other entries of Annex XVII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B
Di-*n*-pentyl phthalate (DPP)	607-426-00-1	131-18-0	205-017-9	1 000 mg/kg (individually or in combination with other phthalates in this entry or in other entries of Annex XVII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B
Di-*n*-hexyl phthalate (DnHP)	607-702-00-1	84-75-3	201-559-5	1 000 mg/kg (individually or in combination with other phthalates in this entry or in other entries of Annex XVII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B

▼**M50**

Substances	Index- No	CAS No	EC No	Concentration limit by weight
N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone (NMP)	606-021-00-7	872-50-4	212-828-1	3 000 mg/kg
N,N-dimethylacetamide (DMAC)	616-011-00-4	127-19-5	204-826-4	3 000 mg/kg
N,N-dimethylformamide; dimethyl formamide (DMF)	616-001-00-X	68-12-2	200-679-5	3 000 mg/kg
1,4,5,8-tetraaminoanthraquinone; C.I. Disperse Blue 1	611-032-00-5	2475-45-8	219-603-7	50 mg/kg
Benzenamine, 4,4′-(4-imino-cyclohexa-2,5- dienyliden-emethylene)dianiline hydro-chloride; C.I. Basic Red 9	611-031-00-X	569-61-9	209-321-2	50 mg/kg
[4-[4,4′-bis(dimethylamino)benz-hydrylidene]cyclohex*a*-2,5-dien-1-ylidene]dimethylammonium chloride; C.I. Basic Violet 3 with ≥ 0,1 % of Michler's ketone (EC no. 202-027-5)	612-205-00-8	548-62-9	208-953-6	50 mg/kg
4-chloro-*o*-toluidinium chloride	612-196-00-0	3165-93-3	221-627-8	30 mg/kg
2-Naphthylammoniumacetate	612-071-00-0	553-00-4	209-030-0	30 mg/kg
4-methoxy-*m*-phenylene diam-monium sulphate; 2,4-diami-noanisole sulphate	612-200-00-0	39156-41-7	254-323-9	30 mg/kg
2,4,5-trimethylaniline hydro-chloride	612-197-00-6	21436-97-5	—	30 mg/kg
Quinoline	613-281-00-5	91-22-5	202-051-6	50 mg/kg

▼**M60**

Appendix 13

Entry 75- List of substances with specific concentration limits:

Substance name	EC No	CAS No	Concentration limit (by weight)
Mercury	231-106-7	7439-97-6	0,00005 %
Nickel	231-111-4	7440-02-0	0,0005 %
Organometallic tin	231-141-8	7440-31-5	0,00005 %
Antimony	231-146-5	7440-36-0	0,00005 %
Arsenic	231-148-6	7440-38-2	0,00005 %
Barium (**)	231-149-1	7440-39-3	0,05 %
Cadmium	231-152-8	7440-43-9	0,00005 %
Chromium‡	231-157-5	7440-47-3	0,00005 %
Cobalt	231-158-0	7440-48-4	0,00005 %
Copper (**)	231-159-6	7440-50-8	0,025 %
Zinc (**)	231-175-3	7440-66-6	0,2 %
Lead	231-100-4	7439-92-1	0,00007 %
Selenium	231-957-4	7782-49-2	0,0002 %
Benzo[a]pyrene	200-028-5	50-32-8, 63466-71-7	0,0000005 %
Polycyclic-aromatic Hydrocarbons (PAH), classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen or germ cell mutagen category 1A, 1B or 2			0,00005 % (individual concentrations)
Methanol	200-659-6	67-56-1	11 %
o-Anisidine (**)	201-963-1	90-04-0	0,0005 %
o-toluidine (**)	202-429-0	95-53-4	0,0005 %
3,3'-dichlorobenzidine (**)	202-109-0	91-94-1	0,0005 %
4-methyl-m- phenylene-diamine (**)	202-453-1	95-80-7	0,0005 %
4-chloroaniline (**)	203-401-0	106-47-8	0,0005 %
5-nitro-o-toluidine (**)	202-765-8	99-55-8	0,0005 %

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Substance name	EC No	CAS No	Concentration limit (by weight)
3,3'-dimethoxybenzidine (**)	204-355-4	119-90-4	0,0005 %
4,4'-bi-o-toluidine (**)	204-358-0	119-93-7	0,0005 %
4,4'-Thiodianiline (**)	205-370-9	139-65-1	0,0005 %
4-chloro-o-toluidine (**)	202-441-6	95-69-2	0,0005 %
2-naphthylamine (**)	202-080-4	91-59-8	0,0005 %
Aniline (**)	200-539-3	62-53-3	0,0005 %
Benzidine (**)	202-199-1	92-87-5	0,0005 %
p-toluidine (**)	203-403-1	106-49-0	0,0005 %
2-methyl-p-phenylene-diamine (**)	202-442-1	95-70-5	0,0005 %
Biphenyl-4-ylamine (**)	202-177-1	92-67-1	0,0005 %
4-o-tolylazo-o-toluidine (**)	202-591-2	97-56-3	0,0005 %
4-methoxy-m- phenylene-diamine (**)	210-406-1	615-05-4	0,0005 %
4,4'-methylenedianiline (**)	202-974-4	101-77-9	0,0005 %
4,4'-methylenedi-o-toluidine (**)	212-658-8	838-88-0	0,0005 %
6-methoxy-m-toluidine (**)	204-419-1	120-71-8	0,0005 %
4,4'- methylene-bis-[2-chloro aniline] (**)	202-918-9	101-14-4	0,0005 %
4,4'-oxydianiline (**)	202-977-0	101-80-4	0,0005 %
2,4,5-trimethylaniline (**)	205-282-0	137-17-7	0,0005 %
4-Aminoazobenzene (**)	200-453-6	60-09-3	0,0005 %
p-Phenylenediamine (**)	203-404-7	106-50-3	0,0005 %
Sulphanilic acid (**)	204-482-5	121-57-3	0,0005 %

▼**M60**

Substance name	EC No	CAS No	Concentration limit (by weight)
4-amino-3-fluorophenol (**)	402-230-0	399-95-1	0,0005 %
2,6-xylidine	201-758-7	87-62-7	0,0005 %
6-amino-2-ethoxynaphthaline		293733-21-8	0,0005 %
2,4-xylidine	202-440-0	95-68-1	0,0005 %
Pigment Red 7 (PR7)/CI 12420	229-315-3	6471-51-8	0,1 %
Pigment Red 9(PR9)/CI 12460	229-104-6	6410-38-4	0,1 %
Pigment Red 15 (PR15)/CI 12465	229-105-1	6410-39-5	0,1 %
Pigment Red 210(PR210)/CI 12477	612-766-9	61932-63-6	0,1 %
Pigment Orange 74 (PO74)		85776-14-3	0,1 %
Pigment Yellow 65 (PY65)/CI 11740	229-419-9	6528-34-3	0,1 %
Pigment Yellow 74 (PY74)/CI 11741	228-768-4	6358-31-2	0,1 %
Pigment Red 12 (PR12)/CI 12385	229-102-5	6410-32-8	0,1 %
Pigment Red 14 (PR14)/CI 12380	229-314-8	6471-50-7	0,1 %
Pigment Red 17 (PR17)/CI 12390	229-681-4	6655-84-1	0,1 %
Pigment Red 112 (PR112)/CI 12370	229-440-3	6535-46-2	0,1 %
Pigment Yellow 14 (PY14)/CI 21095	226-789-3	5468-75-7	0,1 %
Pigment Yellow 55 (PY55)/CI 21096	226-789-3	6358-37-8	0,1 %
Pigment Red 2 (PR2)/CI 12310	227-930-1	6041-94-7	0,1 %
Pigment Red 22 (PR22)/CI 12315	229-245-3	6448-95-9	0,1 %
Pigment Red 146 (PR146)/CI 12485	226-103-2	5280-68-2	0,1 %
Pigment Red 269 (PR269)/CI 12466	268-028-8	67990-05-0	0,1 %
Pigment Orange16 (PO16)/CI 21160	229-388-1	6505-28-8	0,1 %
Pigment Yellow 1 (PY1)/CI 11680	219-730-8	2512-29-0	0,1 %
Pigment Yellow 12 (PY12)/CI 21090	228-787-8	6358-85-6	0,1 %
Pigment Yellow 87 (PY87)/CI 21107:1	239-160-3	15110-84-6, 14110-84-6	0,1 %

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Substance name	EC No	CAS No	Concentration limit (by weight)
Pigment Yellow 97 (PY97)/CI 11767	235-427-3	12225-18-2	0,1 %
Pigment Orange 13 (PO13)/CI 21110	222-530-3	3520-72-7	0,1 %
Pigment Orange 34 (PO34)/CI 21115	239-898-6	15793-73-4	0,1 %
Pigment Yellow 83 (PY83)/CI 21108	226-939-8	5567-15-7	0,1 %
Solvent Red 1 (SR1)/CI 12150	214-968-9	1229-55-6	0,1 %
Acid Orange 24 (AO24)/CI 20170	215-296-9	1320-07-6	0,1 %
Solvent Red 23 (SR23)/CI 26100	201-638-4	85-86-9	0,1 %
Acid Red 73 (AR73)/CI 27290	226-502-1	5413-75-2	0,1 %
Disperse Yellow 3/CI 11855	220-600-8	2832-40-8	0,1 %
Acid Green 16	603-214-8	12768-78-4	0,1 %
Acid Red 26	223-178-3	3761-53-3	0,1 %
Acid Violet 17	223-942-6	4129-84-4	0,1 %
Basic Red 1	213-584-9	989-38-8	0,1 %
Disperse Blue 106	602-285-2	12223-01-7	0,1 %
Disperse Blue 124	612-788-9	61951-51-7	0,1 %
Disperse Blue 35	602-260-6	12222-75-2	0,1 %
Disperse Orange 37	602-312-8	12223-33-5	0,1 %
Disperse Red 1	220-704-3	2872-52-8	0,1 %
Disperse Red 17	221-665-5	3179-89-3	0,1 %
Disperse Yellow 9	228-919-4	6373-73-5	0,1 %
Pigment Violet 3	603-635-7	1325-82-2	0,1 %
Pigment Violet 39	264-654-0	64070-98-0	0,1 %
Solvent Yellow 2	200-455-7	60-11-7	0,1 %

(**) Soluble. ‡Chromium VI.

▼M74

Appendix 14

1. **Measurement of formaldehyde released to indoor air from articles referred to in paragraph 1, first subparagraph, of entry 77**

The formaldehyde released from articles referred to in paragraph 1, first subparagraph of entry 77 shall be measured in the air of a test chamber under the following cumulative reference conditions:

(a) the temperature in the test chamber shall be (23 ± 0,5) ^{0}C;

(b) the relative humidity in the test chamber shall be (45 ± 3) %;

(c) the loading factor, expressed as the ratio of the total surface area of the test piece to the volume of the test chamber, shall be (1 ± 0,02) m^2/m^3. This loading factor corresponds to the testing of wood-based panels; for other material or products, if such a loading factor is clearly not realistic under foreseeable conditions of use, loading factors in accordance with Section 4.2.2 of EN 16516 ([1]) may be used;

(d) the air exchange rate in the test chamber shall be (1 ± 0,05) h^{-1};

(e) an appropriate analytical procedure for measuring the formaldehyde concentration in the test chamber shall be used;

(f) an appropriate method for sampling of the test pieces shall be used;

(g) the formaldehyde concentration in the air of the test chamber shall be measured at least twice per day throughout the test with a time interval between two consecutive samplings of 3 hours at a minimum; the measurement shall be repeated until sufficient data are available to determine the steady state concentration;

(h) the duration of the test shall be sufficiently long to allow the determination of the steady state concentration and shall not exceed 28 days;

(i) the steady state concentration of formaldehyde measured in the test chamber shall be used to verify the compliance with the limit value of formaldehyde released from articles referred to in paragraph 1, first subparagraph, of entry 77.

If data from a test method using the reference conditions specified above are not available or suitable for the measurement of the formaldehyde released from a specific article, data obtained from a test method using non-reference conditions may be used, where there is a scientifically valid correlation between the results of the test method used and the reference conditions.

([1]) EN 16516: Construction products – Assessment of release of dangerous substances – Determination of emissions into indoor air.

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2. **Measurement of formaldehyde concentration in the interior of vehicles referred to in paragraph 2, first subparagraph, of entry 77**

For road vehicles, including trucks and buses, the formaldehyde concentration shall be measured in ambient mode in accordance with the conditions specified in ISO 12219-1 ([2]) or ISO 12219-10 ([3]), and the concentration measured shall be used to verify the compliance with the limit value referred to in paragraph 2, first subparagraph, of entry 77.

([2]) ISO 12219-1: Interior air of road vehicles – Part 1: Whole vehicle test chamber – Specification and method for the determination of volatile organic compounds in cabin interiors.

([3]) ISO 12219-10: Interior air of road vehicles – Part 10: Whole vehicle test chamber – Specification and methods for the determination of volatile organic compounds in cabin interiors – Trucks and buses.

▼M75

Appendix 15

Entry 78 – Rules on proving degradability

This appendix lays down the rules for proving degradability of polymers for the purposes of entry 78, namely the permitted test methods and the pass criteria for those methods. The test methods were designed to measure biotic degradation, although it cannot be excluded that some abiotic degradation takes place during the test and contributes to the test results.

The tests shall be conducted by laboratories complying with the principles of good laboratory practice provided for in Directive 2004/10/EC or other international standards recognised as being equivalent by the Commission or the Agency or accredited to ISO 17025.

1. **Test methods**

The permitted test methods are organised into five groups, on the basis of their design and underlying rationale. Meeting the pass criteria in any of the permitted test methods in groups 1 to 3 is sufficient to demonstrate that the polymer or polymers contained in the tested material and subject to the test are degradable and are therefore excluded from the scope of entry 78. Where group 4 or group 5 tests are used to demonstrate degradability of polymers for uses other than agricultural and horticultural uses, the pass criteria shall be met in three environmental compartments chosen as follows:

Compartment 1: fresh, estuarine or marine water;

Compartment 2:

(a) fresh, estuarine or marine sediment; or

(b) fresh, estuarine or marine water/sediment interface

Compartment 3: soil.

1.1. *Group 1. Screening test methods and pass criteria to demonstrate ready biodegradation*

1.1.1. Permitted test methods in group 1:

T1. ‘Ready Biodegradability’ (OECD TG 301 B, C, D, F)

T2. ‘Ready Biodegradability – CO_2 in sealed vessels (Headspace Test)’ (OECD TG 310).

1.1.2. Pass criteria: 60 % mineralisation measured, over 28 days, as evolved CO_2 or consumed O_2. The 10-day window requirement mentioned in the T1 and T2 test guidelines does not need to be fulfilled.

1.2. *Group 2. Modified and enhanced screening test methods and pass criteria to demonstrate ready biodegradation*

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1.2.1. Permitted test methods in group 2:

T1. ‘Ready Biodegradability’ (OECD TG 301 B, C, D, F);

T2. ‘Ready Biodegradability – CO_2 in sealed vessels (Headspace Test)’ (OECD TG 310);

T3. ‘Biodegradability in Seawater’ (OECD TG 306).

1.2.2. For group 2 test methods, the test duration can be extended to up to 60 days and larger test vessels used.

1.2.3. Pass criteria: 60 % mineralisation measured, over 60 days, as consumed O_2 (allowed for T1 and T2 tests only) or evolved CO_2. The 10-day window requirement mentioned in the T1 and T2 test guidelines does not need to be fulfilled.

1.3. *Group 3. Screening test method and pass criteria to demonstrate inherent degradation*

1.3.1. Permitted test method in group 3:

T4. ‘Inherent Biodegradability: modified MITI Test (II)’ (OECD 302C).

1.3.2. The pre-adaptation of the inoculum mentioned in the T4 test guideline shall not be allowed.

1.3.3. Pass criteria: $\geq$ 70 % mineralisation measured as consumed O_2 or evolved CO_2 within 14 days.

1.4. *Group 4. Screening test methods and pass criteria to demonstrate degradation relative to a reference material*

1.4.1. Permitted test methods in group 4:

T5. ‘Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium – Method by analysis of evolved carbon dioxide.’ (EN ISO 14852:2021);

T6. ‘Determination of the ultimate aerobic biodegradability of plastic materials in an aqueous medium – Method by measuring the oxygen demand in a closed respirometer.’ (EN ISO 14851:2019);

T7. ‘Plastics – Determination of aerobic biodegradation of non-floating plastic materials in seawater/sediment interface – Method by analysis of evolved carbon dioxide’ (EN ISO 19679:2020);

T8. ‘Plastics – Determination of aerobic biodegradation of non-floating plastic materials in seawater/sandy sediment interface – Method by measuring the oxygen demand in closed respirometer’ (EN ISO 18830:2016);

T9. ‘Plastics – Determination of the ultimate aerobic biodegradability of plastic materials in soil by measuring the oxygen demand in a respirometer or the amount of carbon dioxide evolved’ (EN ISO 17556:2019);

T10. ‘Plastics – Determination of the aerobic biodegradation of non-floating materials exposed to marine sediment – Method by analysis of evolved carbon dioxide’ (ISO 22404:2019).

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1.4.2. The specifications laid down in ISO 22403:2020 ‘Plastics – Assessment of the intrinsic biodegradability of materials exposed to marine inocula under mesophilic aerobic laboratory conditions – Test methods and requirements’ shall be taken into account when applying T7 and T8.

1.4.3. For group 4 test methods, the pre-adaptation of the inoculum shall not be allowed. The result shall be reported as the maximum level of degradation determined from the plateau phase of the degradation curve, or as the highest value if the plateau has not been reached. The form, size and surface area of the reference material shall be comparable to that of the test material. The following materials may be used as reference materials:

— positive controls: biodegradable materials such as micro-crystalline cellulose powder, ashless cellulose filters or poly-β-hydroxybutyrate.

— negative controls: non-biodegradable polymers such as polyethylene or polystyrene.

1.4.4. Pass criteria: ultimate degradation of ≥ 90 % relative to the degradation of the reference material within:

— 6 months in aquatic tests, or,

— 24 months in soil, sediment or water/sediment interface tests.

1.5. *Group 5. Simulation test methods and pass criteria to demonstrate degradation under relevant environmental conditions*

1.5.1. Permitted test methods in group 5:

T11. ‘Aerobic and Anaerobic Transformation in Soil’ (OECD TG 307);

T12. ‘Aerobic and Anaerobic Transformation in Aquatic Sediment Systems’ (OECD TG 308);

T13. ‘Aerobic Mineralisation in Surface Water – Simulation Biodegradation Test’ (OECD TG 309)

1.5.2. The required test temperatures shall be 12 °C for fresh/estuarine water, fresh/estuarine water sediment and soil, and 9 °C for marine water and marine sediment because these are the average temperatures for those compartments in the Union.

1.5.3. Pass criteria:

— the degradation half-life in marine, fresh or estuarine water is less than 60 days;

— the degradation half-life in marine, fresh or estuarine sediment is less than 180 days;

— the degradation half-life in soil is less than 180 days.

2. **Specific requirements for demonstrating the degradability of polymers in products for agricultural and horticultural applications**

2.1. *Fertilising products containing polymers which are coating agents or increase the water retention capacity or the wettability of the product*

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The degradability of polymers which are coating agents or increase the water retention capacity or the wettability in fertilising products, as defined in Article 2, point (1), of Regulation (EU) 2019/1009, which do not fall within the scope of that Regulation shall be demonstrated in accordance with the delegated acts referred to in Article 42(6) of that Regulation. In the case of absence of such delegated acts, such polymers shall not be placed on the market in fertilising products which do not fall within the scope of Regulation (EU) 2019/1009 after 17 October 2028.

2.2. *Agricultural and horticultural products other than fertilising products referred to in paragraph 2.1*

Where group 4 or group 5 test methods are used, the degradability of polymers in products for agricultural or horticultural applications other than fertilising products referred to in point 2.1 shall be demonstrated in at least two environmental compartments chosen as follows:

Compartment 1: fresh, estuarine or marine water;

Compartment 2: soil.

To be considered degradable for the scope of entry 78, a polymer in a product for agricultural or horticultural applications other than a fertilising product referred to in point 2.1 shall achieve 90 % degradation in:

(a) soil within 48 months after the end of that product functionality period; the functionality period is the time following the product application during which the product exerts its function.

(b) water within:

(i) 12 months plus the product functionality period, where group 4 test methods are used; or

(ii) 16 months plus the product functionality period, where group 5 test methods are used.

To this end, the pass criteria for group 4 and 5 test methods shall be modified to indicate the percentage of degradation (for group 4) or the half-life (for group 5) that needs to be observed at the end of the standard test duration in order to achieve the conditions laid down in the previous paragraph.

The modified pass criteria of group 4 and 5 test methods are set in Tables A and B, respectively.

Table A

Group 4 pass criteria for polymers in products for agricultural or horticultural applications, listed by duration of the functionality period (FP) and type of test

Test method	Criterion assessed	Pass criterion (FP = 0)	Pass criterion (1 month FP)	Pass criterion (2 month FP)	Pass criterion (3 month FP)	Pass criterion (6 month FP)	Pass criterion (9 month FP)
T9 (soil)	Target degradation after 24 months	≥ 68,4 %	≥ 67,6 %	≥ 66,9 %	≥ 66,2 %	≥ 64,1 %	≥ 62,1 %
T5 and T6 (surface water)	Target degradation after 6 months	≥ 68,4 %	≥ 65,4 %	≥ 62,7 %	≥ 60,2 %	≥ 53,6 %	≥ 48,2 %

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Table B

Group 5 pass criteria for polymers in products for agricultural or horticultural applications, listed by duration of the functionality period (FP) and type of test

Test method	Criterion assessed	Pass criterion (FP = 0)	Pass criterion (1 month FP)	Pass criterion (2 month FP)	Pass criterion (3 month FP)	Pass criterion (6 month FP)	Pass criterion (9 month FP)
T11 (soil, 48 months+FP)-	Degradation half-life (DegT50)	DegT50 ≤ 440 days	DegT50 ≤ 449 days	DegT50 ≤ 458 days	DegT50 ≤ 467 days	DegT50 ≤ 495 days	DegT50 ≤ 522 days
T13 (surface water, 16 months+FP)-	Degradation half-life (DegT50)	DegT50 ≤ 147 days	DegT50 ≤ 156 days	DegT50 ≤ 165 days	DegT50 ≤ 174 days	DegT50 ≤ 202 days	DegT50 ≤ 229 days

For functionality periods not covered in Tables A or B, the pass criteria shall be calculated using the exponential decay formulas indicated below.

Group 4, T9 (soil):

The target degradation over 24 months (TD_{24m}) shall be calculated as follows:

$$TD_{24m} = 1 - \exp(-\lambda \times c \times 24)$$

Group 4, T5 and T6 (surface water)

The target degradation over 6 months (TD_{6m}) shall be calculated as follows:

$$TD_{6m} = 1 - \exp(-\lambda \times c \times 6)$$

Group 5, T11 (soil) and T13 (surface water):

The degradation half-life (DegT50) observed at the end of the group 5 test duration shall be calculated as follows:

$$DegT50 = \ln(2)/\lambda$$

where:

c is the average number of days per month, calculated as:

$c = 365{,}25/12$

λ is the degradation rate, calculated as:

for T9 and T11: $\lambda_{T9/T11} = \ln(0{,}1)/-t_{90,T9/T11}$

for T5 and T6: $\lambda_{T5/T6} = \ln(0{,}1)/-t_{90,T5/T6}$

for T13: $\lambda_{T13} = \ln(0{,}1)/-t_{90,T13}$

t_{90} is the time- to- 90 %-degradation, calculated as:

for T9 and T11: $t_{90,T9/T11} = c \times (48 + FP)$

for T5 and T6: $t_{90,T5/T6} = c \times (12 + FP)$

for T13: $t_{90,T13} = c \times (16 + FP)$

FP is the functionality period, expressed in months.

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3. **Specific requirements for the test material to be used in degradation tests**

The test shall be performed on a test material consisting of a polymer or polymers contained in or building a continuous coating on particles (‘polymer particles’) comparable in terms of composition, form, size and surface area to the polymer particles present in the product or, if not technically feasible, to the polymer particles that are disposed of or released to the environment.

By way of derogation from the first paragraph, polymers used for encapsulation may be tested in any of the following forms:

— in the form placed on the market;

— in the form of isolated coating;

— in the form placed on the market where the organic core of the material is replaced by an inert material such as glass.

The test material shall be of comparable thickness to the solid polymer coating of the particle placed on the market. When the degradation is assessed in relation to a reference material, as referred to in point 1.4.3, the form, size and surface area of the reference material shall be comparable to that of the test material.

Where the test material contains more than one polymer and test methods from groups 1, 2 or 3 are used to prove degradation, the degradation of each of the polymers shall be demonstrated in either of the following ways:

— separately testing the degradation of the test material and of each polymer in the test material using the permitted test methods and pass criteria set out in this Appendix,

— testing the degradation of the test material using the permitted test methods and pass criteria set out in this Appendix and, during testing, demonstrating, by any appropriate means, that all polymers in the test material contribute to the degradation observed during testing and that each polymer meets the pass criteria in the relevant permitted test method set out in this Appendix.

Where the test material is composed of a single polymer but contains other non-polymeric organic substances in concentration higher than 10 % by weight of the test material, and test methods from groups 1, 2 or 3 are used to prove degradation, either of the following conditions shall apply:

— the degradation of the test material and of the polymer in the test material shall be tested separately using the permitted test methods and pass criteria set out in this Appendix;

— the degradation of the test material shall be tested using the permitted test methods and pass criteria set out in this Appendix and, during testing, it shall be demonstrated, by any appropriate means, that the polymer contributes to the degradation of the test material observed during testing and meets the pass criteria in the relevant permitted test method set out in this Appendix.

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Appendix 16

Entry 78 – Rules on proving solubility

This appendix lays down the permitted test methods and the test conditions to prove that a polymer is soluble for the purposes of entry 78. The tests shall be conducted by laboratories complying with the principles of good laboratory practice provided for in Directive 2004/10/EC or other international standards recognised as being equivalent by the Commission or the Agency or accredited to ISO 17025.

Permitted test methods:

1. OECD Guideline 120

2. OECD Guideline 105

The test shall be performed on a test material consisting of a polymer or polymers contained in or building a continuous coating on particles (‘polymer particles’) comparable in terms of composition, form, size and surface area to the polymer particles present in the product or, if not technically feasible, to the polymer particles that are disposed of or released to the environment.

By way of derogation from the third paragraph, for polymer particles that have all dimensions greater than 0,25 mm or have a length to diameter ratio greater than 3 and are longer than 0,25 mm, the size of the polymer particles to be tested shall be reduced in accordance with OECD guideline 120, so that at least one dimension of the polymer particle or, for polymer particles that have a length to diameter ratio greater than 3 the length of the polymer particle, is between 0,125 mm and 0,25 mm. For polymer particles containing inorganic substances in addition to a polymer or polymers, such as polymer particles encapsulated with inorganic substances or polymer particles where a polymer is grafted onto an inorganic carrier, it shall be sufficient to demonstrate that the polymer meets the pass criterion. To this end, it is allowed to test the solubility of the polymer or the polymers prior to the formation of the polymer particles.

The conditions for the solubility test shall be the following:

— Temperature 20 °C

— pH 7

— Loading: 10 g/1 000 mL

— Test time: 24 h

Pass criterion: solubility > 2 g/L.