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(Acts whose publication is not obligatory)

COMMISSION

COMMISSION DECISION

of 25 July 1995

establishing the ecological criteria for the award of the Community eco-label to laundry detergents

(95/365/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EEC) No 880/92 of 23 March 1992 on a Community eco-label award scheme⁽¹⁾, and in particular the second subparagraph of Article 5 (1) thereof,

Whereas the first subparagraph of Article 5 (1) of Regulation (EEC) No 880/92 provides that the conditions for the awards of the Community eco-label shall be defined by product group;

Whereas Article 10 (2) of Regulation (EEC) No 880/92 states that the environmental performance of a product shall be assessed by reference to the specific criteria for product groups;

Whereas Article 4 (2) (a) of Regulation (EEC) No 880/92 states that an eco-label shall not be awarded to products which are substances or preparations classified as dangerous in accordance with Council Directive 67/548/EEC⁽²⁾, as last amended by Commission Directive 94/69/EC⁽³⁾ and Council Directive 88/379/EEC⁽⁴⁾, as last amended by Commission Directive 93/18/EEC⁽⁵⁾, but it may be awarded to products containing such substances or preparations in so far as they meet the objectives of the Community eco-label award scheme;

Whereas laundry detergents contain substances or preparations classified as dangerous in accordance with the abovementioned Directives;

Whereas the ecological criteria established by this Decision include, in particular, hurdles and scores limiting to a minimum the content of substances and preparations classified as dangerous in the detergents which may be awarded an eco-label;

Whereas detergents complying with these criteria have therefore a reduced environmental impact and meet the objectives of the Community eco-label award scheme;

Whereas in accordance with Article 6 of Regulation (EEC) No 880/92 the Commission has consulted the principal interest groups within a consultation forum;

Whereas the measures provided for in this Decision are in accordance with the opinion of the committee set up under Article 7 of Regulation (EEC) No 880/92,

HAS ADOPTED THIS DECISION:

Article 1

The product group 'Laundry detergents' means all laundry detergents, in powder, liquid or any other form, for the washing of textiles, which are intended principally to be used in washing machines.

Article 2

The environmental performance and the fitness for use of the product group, as defined in Article 1, shall be assessed by reference to the specific ecological and performance criteria set out in the Annex.

⁽¹⁾ OJ No L 99, 11. 4. 1992, p. 1.

⁽²⁾ OJ No 196, 16. 8. 1967, p. 1.

⁽³⁾ OJ No L 381, 31. 12. 1994, p. 1.

⁽⁴⁾ OJ No L 187, 16. 7. 1988, p. 14.

⁽⁵⁾ OJ No L 104, 21. 4. 1993, p. 46.

Article 3

The product group definition and the criteria shall be valid for a period of three years from the date on which this Decision takes effect.

Article 4

For administrative purposes the product group code number assigned to this product group shall be: '006'.

Article 5

This Decision is addressed to the Member States.

Done at Brussels, 25 July 1995.

For the Commission

Ritt BJERREGAARD

Member of the Commission

ANNEX

ECOLOGICAL CRITERIA FOR LAUNDRY DETERGENTS

1. GENERAL

The general requirements established by Regulation (EEC) No 880/92 on a Community eco-label award scheme and the following specific criteria shall apply for the awarding of an eco-label to laundry detergents and must be complied with during the entire period covered by the contract concerning the terms of use of the label.

These specific criteria for laundry detergents include :

- specific ecological criteria on ingredients⁽¹⁾ and packaging,
- other general ecological criteria,
- fitness for use criteria.

The requirements on data and information to be requested by the competent body receiving an application from the applicant are described in Appendix III.

2. FIELD OF APPLICATION

These criteria may be applied to laundry detergents, in powder, liquid or any other form, for washing of textiles, which are intended principally to be used in washing machines.

3. FUNCTIONAL UNIT AND REFERENCE DOSAGE

Functional Unit

The functional unit is expressed in g/wash (grammes per wash). For heavy-duty detergents this is related to the dosage per 4,5 kg load (dry textiles) and for low-duty detergents to the dosage per 2,5 kg load (dry textiles) in the washing machine.

Reference dosage

The dosage recommended by the manufacturer to consumers for the water hardness (WH) of 2,5 m mol CaCO_3/l and 'normally soiled' textiles is taken as the reference dosage for :

- calculation of the ecological criteria,
- and
- test of washing performance.

If the WH of 2,5 m mol CaCO_3/l is not relevant in the Member States in which the detergent is marketed, the applicant shall specify the dosage to be used as reference.

4. ECOLOGICAL CRITERIA ON INGREDIENTS AND PACKAGING

4.1. Ecological criteria on ingredients

The following parameters are considered :

- total chemicals
- critical dilution volume — toxicity (CDV_{tox})
- phosphates⁽²⁾
- insoluble inorganics
- soluble inorganics
- non-biodegradable organics (aerobic)
- non-biodegradable organics (anaerobic)
- biological oxygen demand (BOD)

⁽¹⁾ 'Ingredients' means the chemicals included by the manufacturer in the formulation of a detergent product.

⁽²⁾ Inclusion of this provisional criterion is aimed at taking into account the potential of certain detergents to contribute to eutrophication. Consideration will be given to replace this parameter with an impact based criterion when revising this decision, in the light of future developments in scientific knowledge, availability of relevant data and the factual situation.

Appendix II presents the definition of parameters used in calculations. These parameters are calculated and expressed as g/wash or l/wash, as appropriate. They are aggregated and assessed as a whole, according to the approach presented in this document.

For each criterion an exclusion hurdle is defined, beyond which the product is not eligible for an eco-label.

Scoring/weighting factors

The following table summarizes the selected criteria, their exclusion hurdles, their weighting factors and the maximum achievable scoring result. The scoring system formulae to be used to calculate the score in respect of each criterion are presented in point 4.4.1.

Score	4	3	2	1	H _{EXCL}	W-Factor	Sum
Criterion							
Total chemicals	60	80	100	120	200	3	12
Critical dilution volume, tox	3 000	6 000	9 000	12 000	13 000	8	32
Phosphates (as STPP)	0	10	20	30	50	2	8
Insoluble inorganics	15	25	35	45	50	0,5	2
Soluble inorganics	20	40	60	80	140	0,5	2
Non-biodegradable organics (aerobic)	1	2	3	4	10	1	4
Non-biodegradable organics (anaerob)	6	8	10	12	20	1,5	6
BOD	30	60	90	120	140	2	8
Total							74

Notes:

All values are expressed in g/wash, except the CDV_{TOX} value which is expressed in l/wash. W-factor = weighting factor; H_{EXCL} = hurdle

4.2. Ecological criteria on product packaging

Only primary packaging is considered. The sum, for the primary packaging, of total packaging and virgin material may not exceed 9 g/wash. In the case of refill systems, it is assumed that the original package is used 20 times, in the case of metal or plastic material, or 10 times in the case of cardboard.

The scoring system for the packaging criterion is as follows:

Primary packaging weight (Total + virgin) g/wash	Score
Up to 5	4
From 5 to 9	9 - (packaging weight in g/wash)

4.3. Pass-/fail level for awarding an eco-label

The sum of the scores related to the 8 criteria concerning the ingredients and to the criterion concerning packaging shall be equal to or greater than 63.

Hurdle values should not be exceeded on any criterion. The product shall also be in compliance with the criteria set out in other parts of this Annex.

4.4. Calculations related to ecological criteria on ingredients and packaging

4.4.1. Calculations related to the criteria concerning ingredients

Detergent ingredients database (DID-list)

Appendix I.A presents the detergent Ingredient Database (DID-list) which shall be used for calculations concerning the ingredients criteria.

Data on loading factor, toxicity, non-biodegradability (aerobic), non-biodegradability (anaerobic), soluble/insoluble inorganics and biological oxygen demand (BOD), are listed for the major detergent ingredients in Appendix I.A and these data must be used for the calculations concerning these ingredients.

The criteria :

- total chemicals
- phosphates (as STPP)
- soluble/insoluble inorganics
- non-biodegradable (aerobic/anaerobic)
- BOD

are calculated for each ingredient by considering the dosage per wash, water content and mass percentage in the formulation and they are added up for each product formulation.

The criterion on critical dilution volume toxicity is calculated for each ingredient by the equation :

CDV-toxicity :

$$CDV_{TOX} = \frac{\text{dosage} \times \text{loading factor}}{\text{long-term effect}} \times 1\,000$$

Procedure for the calculation of criteria and scores :

For the calculation of scores, the following equations are used :

Total chemicals :

Exclusion : > 200 g/wash
 Scoring : $\leq 120 \text{ g/wash} = 7 - x/20$
 $> 120 \text{ g/wash} = 0$
 Maximum score = 4

Phosphates (as STPP) :

Exclusion : > 50 g/wash
 Scoring : $\leq 40 \text{ g/wash} = 4 - x/10$
 $> 40 \text{ g/wash} = 0$
 Maximum score = 4

Soluble inorganics :

Exclusion : > 140 g/wash
 Scoring : $\leq 80 \text{ g/wash} = 5 - x/20$
 $> 80 \text{ g/wash} = 0$
 Maximum score = 4

Anaerobic non-biodegradable organics :

Exclusion : > 20 g/wash
 Scoring : $\leq 12 \text{ g/wash} = 7 - x/2$
 $> 12 \text{ g/wash} = 0$
 Maximum score = 4

CDV_{tox} :

Exclusion : > 13 000 l/wash
 Scoring : $\leq 12\,000 \text{ l/wash} = 5 - x/3\,000$
 $> 12\,000 \text{ l/wash} = 0$
 Maximum score = 4

Insoluble inorganics :

Exclusion : > 50 g/wash
 Scoring : $\leq 45 \text{ g/wash} = 5,5 - x/10$
 $> 45 \text{ g/wash} = 0$
 Maximum score = 4

Non-biodegradable organics :

Exclusion : > 10 g/wash
 Scoring : $\leq 4 \text{ g/wash} = 5 - x/1$
 $> 4 \text{ g/wash} = 0$
 Maximum score = 4

BOD :

Exclusion : > 140 g/wash
 Scoring : $\leq 120 \text{ g/wash} = 5 - x/30$
 $> 120 \text{ g/wash} = 0$
 Maximum score = 4

New chemicals additional ingredients

- (a) In the case of new chemicals or additional ingredients which are not listed in the detergent ingredient database the approach described here and in Appendix I.B shall be followed.

Experimental data have to be submitted by the applicant to the competent body.

The data on soluble/insoluble inorganics, on anaerobic biodegradability (ECETOC test No 28, June 1988) and biological oxygen demand (BOD) have to be provided.

All the available documentation has to be provided concerning the data which are presented on biodegradation, removal, long-term effects (NOEC data) on fish, *daphnia magna*, algae.

The reference for the relevant tests shall be the appropriate Annexes of Council Directive 92/32/EEC⁽¹⁾.

The provisions of Appendix I.B shall apply, as appropriate.

In particular, if complete data concerning long-term effects (NOEC) are not available, the relevant simplified procedures described in Appendix I.B, may be applied.

- (b) A different approach may be followed if it is recognized by the Commission to be equivalent to the one referred to above, for the specific objective of assessing compliance with the relevant criteria, at the request of a competent body or an interest group represented in the eco-label Consultation Forum (Article 6 of Regulation (EEC) No 880/92).

4.4.2. Calculations related to the criterion concerning packaging

The weight of the primary packaging of the product is converted to g/wash (grammes per wash). The virgin material and the total material are counted separately and the total sum of both must not exceed the given pass-/fail level of 9 g/wash. This total sum shall be rated according to the scoring system for this criterion.

For refill systems, it is assumed that the permanent/multiple use container can be used 20 times (metal, plastic) or 10 times (cardboard).

If different packaging systems for the same detergent formulation are used :

- (a) either the applicant can provide evidence to the competent body receiving the application, that the product complies with the criteria on a country basis, on a weighted average basis, over the range of packaging systems used and the total quantity put on the market yearly through those systems ; in such cases the eco-label may appear on all the types of packaging used provided that a hurdle of 12 g/wash is not exceeded for any such package ;
- (b) or, only packaging types and sizes complying with the criteria can carry the label. In such cases, any advertising of the product which makes reference to the eco-label shall specify the limited scope of application of the eco-label.

Conditions under (a) and (b) above, shall be reflected in the contract covering the terms of use of the label.

5. OTHER ECOLOGICAL CRITERIA CONCERNING INGREDIENTS.

Certain specific ingredients shall not exceed a maximum content in the detergent formulation or are excluded, as specified below :

- (a) the total weight of ingredients which are more toxic than 1 mg/l acute toxicity to fish, *daphnia magna* or algae shall not be higher than 10 g/wash ;
- (b) the total weight of ingredients which are more toxic than 1 mg/l acute toxicity to fish, *daphnia magna* or algae and which are not 'ready biodegradable' or have a partition coefficient (n-octanol/water) such that $\log P_{ow}$ is greater than or equal to 3 (unless BCF is equal to or below 100) shall not be higher than 0,25 g/wash ;
- (c) phosphonates shall not exceed 1 g/wash ;
- (d) the surfactant alkylphenolethoxylate (APEO), the perfumes containing the aromatic nitro compounds referred to in Appendix II⁽²⁾ and the complex formation agent EDTA and ingredients which are classified as carcinogenic, toxic to reproduction and mutagenic are excluded.

⁽¹⁾ OJ No L 154, 5. 6. 1992, p. 1.

⁽²⁾ The scope of the exclusion of these aromatic nitro compounds will eventually be revised as appropriate in the light of future recommendations by the Scientific Committee on Cosmetology.

6. CONSUMER INFORMATION

The following information shall appear on the product :

'Low-temperature washing saves energy and low dosage of detergents reduces potential damage to the environment.'

'If in doubt, use the dosage for normally soiled textiles. This contributes towards reducing the impact on the environment.'

6.1. Dosage instructions

Dosage recommendations shall appear on the product packages.

The recommended dosages must be specified for 'normally' and 'heavily' soiled textiles and the various water hardness ranges relevant for the countries concerned and referred as appropriate to the weight of textile.

The washing efficiency shall be indicated and related to 'normally soiled' and the various WH ranges considered.

The dosage recommendations between water hardness range 1 (soft) — 'normally soiled' and highest water hardness range (3 or 4) — 'heavily soiled' may not differ by more than a factor of 2.

Additional dosage recommendations, e.g. related to pre-wash, main wash, etc., may be incorporated and related to 'normally'/'heavily soiled'.

The reference dosage used for the washing performance test and for the calculation of ecological criteria must obligatorily appear as the recommended dosage for 'normally soiled' and the water hardness range corresponding to 2,5 m mol CaCO₃/l, in the Member State in which the test has been performed. In any other Member State a higher dosage may be recommended only if it is demonstrated by the applicant to the competent body that that is the minimum dosage necessary to pass the test under the specific conditions of that Member State.

If only WH lower than 2,5 m mol CaCO₃/l are included in the recommendations, the maximum dosage recommended for 'normally soiled' must be lower than the reference dosage mentioned in the previous paragraph.

6.2. Exclusion of inappropriate information or inappropriate advertising claims

Product and advertising claims shall be in conformity with Council Directive 84/450/EEC⁽¹⁾ concerning misleading advertising. No form of advertising or product claim shall mislead the potential buyer of the product. The producer/importer or advertiser of the product shall be able to justify, by appropriate means, the validity and accuracy of any claims concerning the environmental characteristics of the product he makes in his advertisements relating to the product or on the product itself.

6.3. Information and labelling on ingredients

Commission recommendation 89/542/EEC of 13 September 1989 concerning the labelling of detergents and cleaning agents⁽²⁾ has to be applied :

The following groups of ingredients shall be labelled independently from their mass content :

Enzymes :	indication of type of enzymes (e.g. protease, lipase)
Preservation agents :	characterization and labelling according to IUPAC nomenclature
Disinfectants :	characterization and labelling according to IUPAC nomenclature

7. TEST ON PURITY OF ENZYMES TO VERIFY ABSENCE OF PRODUCTION ORGANISMS

A test on the purity of enzymes has to be performed on enzymes which are produced by biotechnological processes and used in laundry detergents applying for the eco-label. It is the aim of this test to assure that production organisms are not contained in the final enzyme preparation.

The growth of micro-organisms is tested together with specified antibiotics. The test procedure on the purity must ensure that no production organism is detected in a 20 ml standard test sample of the final enzyme product.

⁽¹⁾ OJ No L 250, 19. 9. 1984, p. 17.

⁽²⁾ OJ No L 291, 10. 10. 1989, p. 55.

8. FITNESS-FOR-USE CRITERIA

The product will be compared in its washing performance with reference detergents of the same type by using the wash-and-wear test. The product must fulfil the minimum requirements which are defined in Table 1.

The test is performed at the water hardness of 2,5 mmol CaCO₃/l and by using the dosage which is recommended for 'Normally Soiled' textiles at this range of water hardness.

The test may be performed by any of the institutions recognized for this purpose by a competent body, in any of the Community Member States, at the choice of the applicant.

The competent bodies shall notify in advance to the Commission a list of the institutions they intend to recognize and subsequent updates. The Commission will circulate these lists to the other competent bodies and the eco-label Consultation Forum and also to ensure consistency in the criteria used for the recognition.

The following standards, or any national or international standards recognized as equivalent to them, shall be followed :

— ISO 4319-1977	Surface active agents — Detergents for washing fabrics — Guide for comparative testing of performance
— DIN 44 983, Part 50	Electric appliances for laundry treatment; household washing machines; performance characteristics; comparative practice test of boiling wash programme with household laundry
— ISO 7724 (1984), Parts 1 + 2, ISO/DIS 10526 (1989), CIE 5001 (1986), ISO/CIE 10526 (1991)	Colorimetry; measuring conditions for object colours
— ISO 7724, Part 3 (1984)	Colorimetric evaluation of colour differences of surface colours according to the Cielab formula
— DIN 10 950, Part 2	Sensory analysis; basic principles
— ISO 8586 (1988)	Sensory testing methods, ranking method
— ISO 2267 (1986)	Test cotton fabrics for laundering process control, requirements Test cotton fabrics for laundering process control, test of laundering with control stripes
— DIN 66 050	Criteria for performance requirements, definition
— DIN 66 051	Testing of goods, general principles
— DIN 66 052	Comparative testing
— ISO/IEC Guide 46 (1985)	Comparative testing; technical principles
— Test procedure No 91144 T (Part 1 and 2) provided by Stiftung Warentest (1992).	

The following table identifies the essential test criteria and their detection :

Test criteria	Type of textile	Detection
soil removal	wear textile	visual assessment
degree of whiteness (Glanz) and colour shift number, basic degree of whiteness	wear and standard textile	physical measurement
stain removal	textile with naturally originated stains	visual assessment
fabric damage fabric incrustation	standard textile	physical measurement
colour retention dye transfer	test textiles	physical measurement

The minimum requirements on washing performance are summarized in the table reproduced below :

Table 1

EU-ecolabelling : minimum requirements for washing performance

Test criteria	Test textiles	Heavy duty detergent (containing FWA)		Colour detergent		Light duty detergent	
		Powder	Liquid	Powder	Liquid	Powder	Liquid
Cleaning efficiency (Visual assessment)	Wash-and-wear textiles (Sum of the rankings of all items)	No classification significantly worse than A ₃ or basic degree of whiteness of wear textiles $\bar{A} - P \leq 2,0$					
Test of significance							
Degree of white- ness	Wash-and-wear textiles (average over all items)	$\bar{A} - P \leq 10$		$\bar{A} - P \leq 10$		no requirements	
Degree of white- ness	Standard fabric	$\bar{A} - P \leq 15$		$\bar{A} - P \leq 15$			
Colour shift number	Standard fabric	Direction red-violet max. 1,0 ; direction blue-green max. 3,0					
Basic degree of whiteness	Wash-and-wear textiles (average over all items)	$\bar{A} - P \leq 2,5$		$\bar{A} - P \leq 2,5$		$\bar{A} - P \leq 2,5$	
Basic degree of whiteness	Standard fabric	$\bar{A} - P \leq 2,5$		$\bar{A} - P \leq 2,5$		$\bar{A} - P \leq 2,5$	
Stain removal (grade)	Stained fabric (average over all types of stains)	$\bar{A} - P \leq 0,4$		$\bar{A} - P \leq 0,4$		$\bar{A} - P \leq 0,4$	
Colour retention	Multi-wash- textiles (average over all textiles)	$\bar{A} - P \leq 0,5$		$\bar{A} - P \leq 0,5$		$\bar{A} - P \leq 0,5$	
Dye transfer	Colour acceptor (average over all textiles)	$\bar{A} - P \leq 0,5$		$\bar{A} - P \leq 0,5$		$\bar{A} - P \leq 0,5$	
Inorganic incrusta- tion in %	Standard fabric	max. 2,5					
Loss of tensile strength in %	Standard fabric	max. 12					

Definitions: $\bar{A}$ = average of the results (values, ranking) of the reference products.

A_3 = result of the third-placed reference product.

P = result of the test product.

Appendix I

DETERGENT INGREDIENT DATABASE AND APPROACH TO BE FOLLOWED FOR INGREDIENTS NOT LISTED IN THE DATABASE

A. The data given below on the most commonly used detergent ingredients are to be used for the calculation of the ecological criteria (see following table):

Y = Yes

CF = correction factor, to be applied
to the dosage expressed in g/wash

O = not to be used

DETERGENT INGREDIENTS DATABASE

	DID No	Toxicity		Loading factor	Anaerob non-biodegradable	Aerob non-biodegradable	Soluble inorganics	Insoluble inorganics	THOD
		NOEC measured	LTE						
INGREDIENTS									
Anionic surfactants									
C 10/13 LAS (Na ø 11,5-11,8, C 14 < 1 %)	1	0,3	0,3	0,05	Y, CF = 0,75	O	O	O	2,3
Other LAS (C 14 > 1 %)	2	0,12	0,12	0,05	Y, CF = 1,5	O	O	O	2,3
C 14/17 alk. sulfonate	3	LC50 = 4,2	0,2	0,03	Y, CF = 0,75	O	O	O	2,5
C 12/15 AS	4	0,1	0,1	0,02	O	O	O	O	2,2
C 12/18 AS	5	LC50 = 3	0,15	0,02	O	O	O	O	2,3
C 16/18 FAS	6	0,55	0,55	0,02	O	O	O	O	2,5
C 12/15 A 1-3 EO sulphate	7	0,15	0,15	0,03	O	O	O	O	2,1
C 16/18 A 3-4 EO sulphate	8	no valid data	0,1	0,03	O	O	O	O	2,2
Dialkylsulfosuccinate	9	LC50 = 7,5	0,4	0,5	Y, CF = 1,5	Y	O	O	0
C 12/14 sulpho-fat.-acid methylester	10	EC50 = 5	0,25	0,05	Y, CF = 0,75	O	O	O	2,1
C 16/18 sulpho-fat.-acid methylester	11	0,15	0,15	0,05	Y, CF = 0,75	O	O	O	2,3
C 14/16 alpha olefine sulphonate	12	LC50 = 2,5	0,13	0,05	Y, CF = 0,75	O	O	O	2,3
C 14/18 alpha olefine sulphonate	13	LC50 = 1,4	0,07	0,05	Y, CF = 2,0	O	O	O	2,4
Soaps	14	EC0 = 1,6	1,6	0,05	O	O	O	O	2,9
Nonionic surfactants									
C 9/11 A > 3-6 EO lin. and/or mono br.	15	EC50 = 3,3	0,7	0,03	O	O	O	O	2,4
C 9/11 A > 6-9 EO lin. and/or mono br.	16	EC50 = 5,4	1,1	0,03	O	O	O	O	2,2
C 12/15 A 2-6 EO lin. and/or mono br.	17	0,18	0,18	0,03	O	O	O	O	2,5
C 12/15 (Avg. C < 14) A > 6-9 EO lin. and/or mono br.	18	0,24	0,24	0,03	O	O	O	O	2,3
C 12/15 (Avg. C > 14) A > 6-9 EO lin. and/or mono br.	19	0,17	0,17	0,03	O	O	O	O	2,3
C 12/15 A > 9-12 EO lin. and/or mono br.	20	LC50 = 0,8	0,3	0,03	O	O	O	O	2,2
C 12/15 A 20-30 EO lin. and/or mono br.	21	EC50 = 13	0,65	0,05	O	O	O	O	2

	DID No	Toxicity		Loading factor	Anaerob non-biodegradable	Aerob non-biodegradable	Soluble inorganics	Insoluble inorganics	THOD
		NOEC measured	LTE						
C 12/15 A > 30 EO lin. and/or mono br.	22	LC50 = 130	6,5	0,75	O	Y	O	O	0
C 12/18 A 0-3 EO lin. and/or mono br.	23	no data	0,01	0,03	O	O	O	O	2,9
C 16/18 A 2-6 EO lin. and/or mono br.	24	0,03	0,03	0,03	O	O	O	O	2,6
C 16/18 A > 9-12 EO lin. and/or mono br.	25	LC50 = 0,5	0,05	0,03	O	O	O	O	2,3
C 16/18 A 20-30 EO lin. and/or mono br.	26	EC50 = 18	0,36	0,05	O	O	O	O	2,1
C 16/18 A > 30 EO lin. and/or mono br.	27	LC50 = 50	2,5	0,75	O	Y	O	O	0
Sud controllers									
Silicon	28	EC0 = 241	4,82	0,5	Y, CF = 0,75	Y	O	O	0
Paraffin	29	no data	100	0,5	O	Y	O	O	0
Fabric softening									
Glycerol	30	LC50 > 5-10gl	1 000	0,09	O	O	O	O	1,2
Builders									
Phosphate, as STPP	31		1 000	0,6	O	O	Y	O	0
Zeolite A	32	120	120	0,05	O	O	O	Y	0
Citrate	33	EC50 = 85	85	0,04	O	O	O	O	0,6
Polycarboxylates	34	124	124	0,5	Y, CF = 0,1	Y	O	O	0
Clay	35		1 000	0,05	O	O	O	Y	0
Carbonate/bicarbonate	36	LC50 = 250	250	0,8	O	O	Y	O	0
Fatty acid (C > = 14)	37	EC0 = 1,6	1,6	0,05	O	O	O	O	2,9
Silicate/disilicate	38	EC50 > 1 000	1 000	0,8	O	O	Y	O	0
NTA	39	19	19	0,09	O	O	O	O	0,6
Bleaching									
Perborate (as borate)	40	1-10	6	1	O	O	Y	O	0
Percarbonate (see carbonate)	41		250	0,8	O	O	Y	O	0
TAED	42	EC0 = 500	EC0 = 500	0,09	O	O	O	O	2
Solvents									
C 1-C 4 alcohols	43	LC50 = 8000	100	0,09	O	O	O	O	2,30
Mono-/Di-/Triethanolamin	44	0,78	0,78	0,09	O	O	O	O	2,7/2,3/2,0
Miscellaneous									
Polyvinylpyrrolidon (PVP)	45	EC50 > 100	100	0,75	Y, CF = 0,1	O	O	O	0
Phosphonates	46	7,4	7	0,5	Y, CF = 0,5	Y	O	O	0
EDTA	47	LOEC = 11	11	1	Y, CF = 0,1	Y	O	O	0

	DID No	Toxicity		Loading factor	Anaerob non-biodegradable	Aerob non-biodegradable	Soluble inorganics	Insoluble inorganics	THOD
		NOEC measured	LTE						
CMC	48	LC50 > 250	250	0,75	Y, CF = 0,1	Y	O	O	0
Na sulphate	49	EC50 = 2460	1 000	1	O	O	Y	O	0
Mg Sulphate	50	EC50 = 788	800	1	O	O	Y	O	0
Na chloride	51	EC50 = 650	650	1	O	O	Y	O	0
Corrosion inhibitor	52		100	0,75	O	O	O	O	0
Urea	53	LC50 > 10 000	100	0,09	O	O	O	O	2,1
Maleic/malic acid	54	LC50 = 106	2,1	0,09	O	O	O	O	0,8/0,6
Ca formate	55		100	0,09	O	O	O	O	2,0
Silica	56		100	0,05	O	O	O	Y	0
High MW polymers PEG > 4000	57		100	0,5	O	Y	O	O	0
Low MW polymers PEG < 4000	58		100	0,09	O	O	O	O	1,1
Cumene, xylene, toluene sulfonates	59	LC50 = 66	6,6	0,09	Y, CF = 0,25	O	O	O	1,7/1,6/1,4
Na-/Mg-/KOH	60		100	1	O	O	Y	O	0
Enzymes	61	LC50 = 25	25	0,09	O	O	O	O	2,0
Perfume mixtures as used	62	LC50 = 2,10	0,02	0,1	Y, CF = 3,0	Y	O	O	0
Dyes	63	LC50 = 10	0,1	0,5	Y, CF = 3,0	Y	O	O	0
Optical brighteners = FWA									
FWA 1 (*)	64	LC0 = 10	1,0	0,5	Y, CF = 1,5	Y	O	O	0
FWA 5 (*)	65	3,13	3,13	0,5	Y, CF = 0,5	Y	O	O	0
Additional ingredients									
Alkyl (C 12-15) dimethylbetaine	66	EC0 = 0,03	0,03	0,05	CF = 2,5	O	O	O	2,9
Alkyl (C 12-15) amidopropylbetaine	67	EC0 = 0,03	0,03	0,05	CF = 2,5	O	O	O	2,8
Aminoxides (C 12-18)	68	EC0 = 0,08	0,08	0,05	CF = 2,5	O	O	O	3,2
Alkyl C 8-C 10 Sulfate	69	EC50 = 2,9	0,15	0,02	CF = 0	O	O	O	1,9
Glycereth (6-17) cocoate	70	EC50 = 32	1,6	0,05	CF = 0	O	O	O	2,1
Phosphate esters (C 12-18)	71	EC50 = 38	1,9	0,05	CF = 0,25	O	O	O	2,3
Starch	72	no data	250	0,07	CF = 0	O	O	O	0,97
C 12/14 Glucose Amide	73	NOEC = 4,3	4,3	0,03	CF = 0	O	O	O	2,2
C 16/18 Glucose Amide	74	NOEC = 0,116	0,116	0,03	CF = 0	O	O	O	2,5
Polyester (SRP)	75	NOEC = 310	310	0,5	CF = 0,1	Y	O	O	0
PVNO/PVPVI	76	85	85	1	CF = 0,1	Y	O	O	0
Zn Phthalocyanine sulphonate	77	NOEC = 0,16	0,016	0,04	CF = 2,5	Y	O	O	0
C 12/14 Alkylpolylglucosides	78	NOEC = 1,0	1	0,03	CF = 0	O	O	O	2,3

(*) FWA1 = disodium 4,4'-bis(4-anilino-5-morpholino-1,3,5-triazin-2-yl)amino stilbene-2,2'-disulfonate.

(*) FWA5 = disodium 4,4'-bis(2-sulfostryl)biiphenyl.

B. The following approach applies, as appropriate, in the case of ingredients that are not listed in the DID

Aquatic toxicity

The lowest validated long-term effect (LTE) data on fish, *daphnia magna* or algae should be considered for the calculation of the critical dilution volume criterion.

In cases where data on homologues and/or QSARs (Quantitative Structure Activity Relationships) are used, a correction could be considered for the finally selected LTE data.

In the absence of LTE data the following procedure has to be applied in order to estimate the LTE data by using the specified uncertainty factors (UF) on the data of the most sensitive species :

Non-surfactants

DATA AVAILABLE	UF TO BE USED
At least 2 acute LC ₅₀ on fish or daphnia or algae	100
1 NOEC on fish or daphnia or algae	10
2 NOEC on fish or daphnia or algae	5
3 NOEC on fish, daphnia and algae	1
	Take lowest validated NOEC

Deviation from this rule may be admitted if evidence can be provided that lower factors or data can be scientifically justified.

Surfactants

DATA AVAILABLE	UF TO BE USED
At least 2 NOECs on fish or daphnia or algae	1 (lowest NOEC)
1 NOEC on fish or daphnia or algae	1 (NOEC — if species is most sensitive in acute toxicity) 10 (NOEC — if species is not the most sensitive in acute toxicity)
3 LC ₅₀ on fish, daphnia and algae	20 (lowest LC ₅₀)
At least 1 LC ₅₀ on fish or daphnia or algae	50 (lowest LC ₅₀) or 20 in specific cases (see below)

In the last case referred to above, an uncertainty factor of 20 may be used instead of 50 only if 1-2 L(E)C₅₀ (LC₅₀ in case of fish toxicity, EC₅₀ in case of daphnia or algal toxicity) data are available and if it can be concluded from information for other compounds that the most sensitive species have been tested. Such a rule can be applied only within a group of homologues. It should be emphasized that the LTEs (long-term effects) used must be consistent within a group of homologues with respect to the influence of e.g. length of the alkyl chain for LAS (linear alkybenzene sulphonate) or number of EO's (ethoxy groups) for alcohol-ethoxylate if such QSARs can be established.

Any deviation from the above described scheme has to be well-reasoned for the specific chemical.

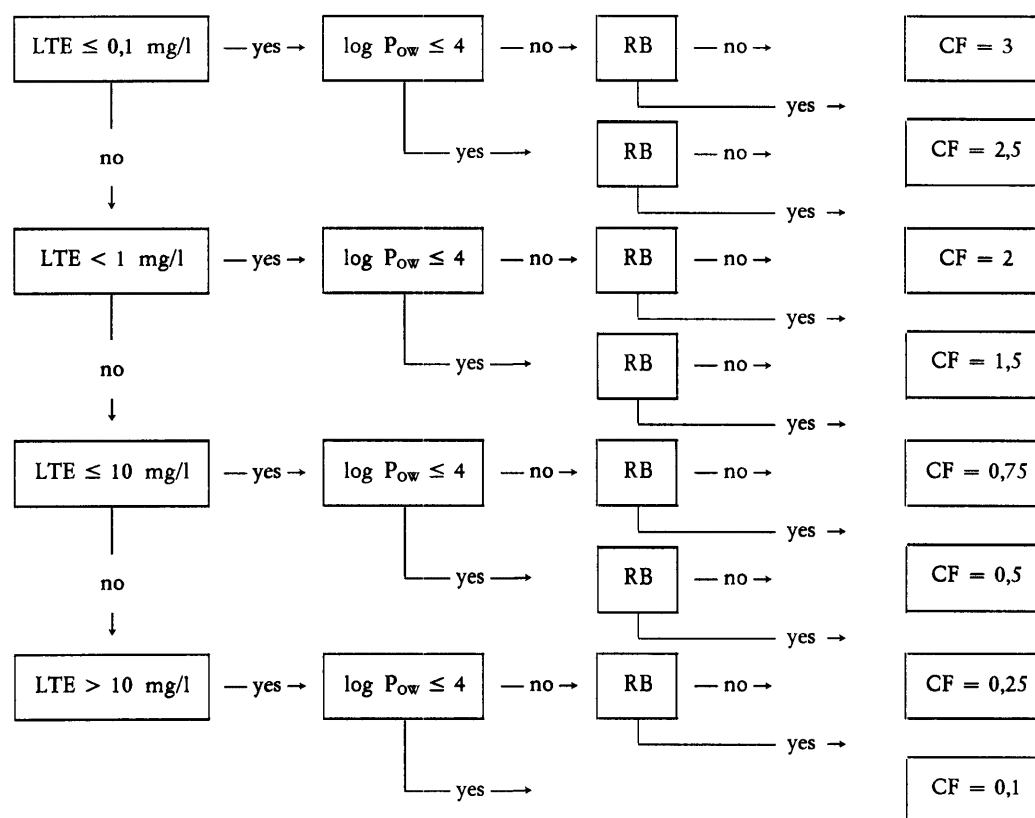
Loading factors

Loading factors shall be established according to Commission Directive 93/67/EEC⁽¹⁾ of 20 July 1993 laying down the principles for assessment of risk to man and the environment of substances notified in accordance with Council Directive 67/548/EEC and to Council Regulation (EEC) No 793/93⁽²⁾.

⁽¹⁾ OJ No L 227, 8. 9. 1993, p. 9.

⁽²⁾ OJ No L 84, 5. 4. 1993, p. 1.

Non-biodegradable organics (anaerobic): flow diagram to define correction factors (CF) ⁽¹⁾



RB: ready aerobic biodegradability.

LTE: long-term effect.

CF: correction factor.

⁽¹⁾ The correction factors are to be established on the basis of the ingredient properties and applied to the dosage expressed in g/wash.

Appendix II

DEFINITIONS RELATED TO THE ECOLOGICAL CRITERIA

1. Total Chemicals

Total chemicals is the dosage minus water content in g/wash.

2. Critical dilution volume — toxicity (CDV_{TOX})

The CDV_{TOX} is calculated for each ingredient *i* in the formulation according to the respective data for loading factors (LF) and long-term effects (LTE) in the DID list in l/wash :

$$\text{CDV}_{\text{TOX}} (\text{ingredient } i) = \frac{\text{weight/wash}(i) \times \text{LF}(i) \times 1\,000}{\text{LTE}(i)}$$

The CDV_{TOX} of the product is the sum of all ingredients CDV_{TOX} in l/wash.

3. Phosphates (as STPP)

Weight per wash of all the inorganic phosphates expressed as STPP, in g/wash.

4. Insoluble inorganics

Weight per wash of all ingredients which are insoluble inorganics (see DID list) in g/wash.

5. Soluble inorganics

Weight per wash of all ingredients which are soluble inorganics (see DID list) in g/wash.

6. Non-biodegradable organics (aerobic)

Weight per wash of all ingredients which are aerobically non-biodegradable organics (see DID list) in g/wash.

7. Non-biodegradable organics (anaerobic)

Weight per wash of all ingredients which are anaerobically non-biodegradable using respective correction factors (See DID list) in g/wash.

8. Biological oxygen demand (BOD)

The BOD of each ingredient *i* is calculated in gO/wash according to the respective data for THOD in the DID list :

$$\text{BOD ingredient } i = \text{weight/wash}(i) \times \text{BOD}(i), \text{ in gO/wash.}$$

The BOD of the product is the sum of all ingredients BOD in gO/wash.

THOD applies only to biodegradable compounds.

9. Heavy duty

Heavy duty detergents put emphasis on the washing performance (soil, stain removal). A detergent shall be considered as heavy duty unless the claims made by the manufacturer predominantly promote 'fabric care' (low temperature wash, delicate fibres and colours).

10. Nitro musk

Musk xylene : 5-tert-butyl-2,4,6-trinitro-m-xylene

Musk ambrette : 4-tert-butyl-3-methoxy-2,6-dinitrotoluene

Muskene : 1,1,3,3,5-pentamethyl-4,6-dinitroindan

Musk tibetine : 1-tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene

Musk ketone : 4'-tert-butyl-2',6'-dimethyl-3',5'-dinitroacetaphenone.

*Appendix III***Data and information to be required from the applicant by the competent body receiving the application for an eco-label****1.1. Declaration of product formulation and calculation of criteria**

The competent body shall require from the manufacturer applying for the eco-label submission of:

- the exact formulation of the product,
- the exact chemical description of the ingredients (e.g. identification according to IUPAC, CAS No, sum and structural formulae, purity, type and percentage of impurities, additives; for mixtures, e.g. surfactants: DID number, composition and spectrum of distribution homologues, isomers, and trade name); analytical evidence on the composition of surfactants,
- the exact tonnage of product which is put on the market (reporting on 1 March, related to the year before),
- the detailed calculation of the criteria,
- summary test report on the purity of enzymes according to point 7 of the Annex to this Decision and a certification on the non-content of production organisms has to be provided.

1.2. Declaration on washing performance

Submission of the results of the test on washing performance, a declaration on the accreditation of the testing institute and/or the confirmation by an accredited testing institute (in the case of testing by the manufacturer) shall be required by the competent body.

1.3. Dosage equipment, packaging and consumer information

In order to prove compliance with the abovementioned requirements, the packages of the product and dosage device shall be required by the competent body from the applicant for the product considered.

Submission of the detailed calculations on the packaging criteria shall be required by the competent body.

In case of differences with respect to different national markets, and different packaging sizes, all these data will be required.

1.4. Application for the eco-label on detergents

The national competent body may audit the applying company on site and visit the production and packaging facilities.

The competent body itself shall ensure that applications are presented according to the relevant requirements of Regulation (EEC) No 880/92 and the procedural requirements.

Appendix IV

TABLE OF ABBREVIATIONS

APEO :	Alkyl phenol ethoxylates
BCF :	Bio-concentration factors in fish
BOD :	Biological oxygen demand
CDV _{TOX} :	Critical dilution volume (toxicity)
CF :	Correction factor
DIN :	Deutsches Institut für Normung
DID :	Detergents ingredients database
EOs :	Ethoxy groups
EC ₅₀ :	Effect concentration (concentration at which 50 % of the organisms show an effect in defined time)
ECETOC :	European Centre for Ecotoxicology and Toxicology of Chemicals
EDTA :	Ethylene diamine tetra acetate
H _{EXCL} :	Hurdle
IUPAC :	International Union of Pure and Applied Chemistry
IEC :	International Electrotechnical Commission
ISO :	International Standards Organisation
LTE :	Long-term effect
LC ₅₀ :	Lethal concentration (concentration at which 50 % of test organisms show lethal effect in defined time)
NOEC :	No observed effect concentration (in a chronic test)
P _{OW} :	Partition coefficient octanol/water
QSARs :	Quantitative structure activity relationships
RB :	Ready biodegradability
THOD :	Theoretical oxygen demand
UF :	Uncertainty factor
WF :	Weighting factor
