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COMMISSION DECISION (EU) 2016/1332

of 28 July 2016

establishing the ecological criteria for the award of the EU Ecolabel for furniture

(notified under document C(2016) 4778)

(Text with EEA relevance)

(OJ L 210, 4.8.2016, p. 100)

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COMMISSION DECISION (EU) 2016/1332

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establishing the ecological criteria for the award of the EU Ecolabel for furniture

(notified under document C(2016) 4778)

(Text with EEA relevance)

Article 1

1. The product group ‘furniture’ shall comprise free-standing or built-in units whose primary function is to be used for the storage, placement or hanging of items and/or to provide surfaces where users can rest, sit, eat, study or work, whether for indoor or outdoor use. The scope extends to domestic furniture and contract furniture items for use in domestic or non-domestic environments. Bed frames, legs, bases and headboards are included in the scope.

2. The product group shall not comprise the following products:

(a) Bed mattresses, which are covered by the criteria set out in Commission Decision 2014/391/EU ([1]),

(b) Products whose primary function is not to be used as per paragraph 1, including streetlights, railings and fences, ladders, clocks, play-ground equipment, stand-alone or wall-hung mirrors, electrical conduits, road bollards and building products such as steps, doors, windows, floor coverings and cladding.

(c) Second-hand, refinished, refurbished or remanufactured furniture products.

(d) Furniture fitted in vehicles used for public or private transit.

(e) Furniture products which consist of more than 5 % (weight by weight) of materials not included in the following list: solid wood, wood-based panels, cork, bamboo, rattan, plastics, metals, leather, coated fabrics, textiles, glass and padding/filling materials.

Article 2

For the purpose of this Decision, the following definitions shall apply:

(a) ‘Aniline leather’ means leather whose natural grain is clearly and completely visible and where any surface coating with a non-pigmented finish is less than or equal to 0,01 mm, as defined in EN 15987;

([1]) Commission Decision 2014/391/EU of 23 June 2014 establishing the ecological criteria for the award of the EU Ecolabel for bed mattresses (OJ L 184, 25.6.2014, p. 18).

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(b) ‘Semi-aniline leather’ means leather that has been coated with a finish containing a small amount of pigment, so that the natural grain is clearly visible, as defined in EN 15987;

(c) ‘Pigmented and pigmented split leather’ means leather or split leather whose natural grain or surface is completely concealed with a finish containing pigments, as defined in EN 15987;

(d) ‘Patent and patent split leather’ means leather or split leather with generally a mirror-like effect, obtained by application of a layer of pigmented or non-pigmented varnishes, or synthetic resins, whose thickness does not exceed one third of the total thickness of the product, as defined in EN 15987;

(e) ‘Coated and coated split leather’ means leather or split leather where the surface coating, applied to the outer side, does not exceed one third of the total thickness of the product but is in excess of 0,15 mm, as defined in EN 15987;

(f) ‘Volatile organic compound’ (VOC) means any organic compound having an initial boiling point of less than or equal to 250 °C measured at a standard pressure of 101,3 kPa as defined in Directive 2004/42/EC of the European Parliament and of the Council [1] and which, in a capillary column, are eluting up to and including tetradecane ($C_{14}H_{30}$);

(g) ‘Semi volatile organic compound’ (SVOC) means any organic compound having a boiling point of greater than 250 °C and less than 370 °C measured at a standard pressure of 101,3 kPa and which, in a capillary column are eluting with a retention range after n-tetradecane ($C_{14}H_{30}$) and including n-Docosane ($C_{22}H_{46}$);

(h) ‘Recycled content’ means the proportion, by mass, of recycled material in a product or packaging; only pre-consumer and post-consumer materials are considered as recycled content, as defined in ISO 14021;

(i) ‘Pre-consumer material’ means material diverted from the waste stream during a manufacturing process but excluding the reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it as defined in ISO 14021 and also excludes waste wood, chips and fibres from logging and sawmilling operations;

[1] Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC (OJ L 143, 30.4.2004, p. 87).

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(j) ‘Post-consumer material’ means material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose, including returns of material from the distribution chain, as defined in ISO 14021;

(k) ‘Recovered/reclaimed material’ means material that would have otherwise been disposed of as waste or used for energy recovery, but has instead been collected and recovered/reclaimed as a material input, in lieu of new primary material, for a recycling or a manufacturing process, as defined in ISO 14021;

(l) ‘Recycled material’ means material that has been reprocessed from recovered/reclaimed material by means of a manufacturing process and made into a final product or into a component for incorporation into a product as defined in ISO 14021, but excludes waste wood, chips and fibres from logging and sawmilling operations;

(m) ‘Wood-based panels’ means panels fabricated from wood fibres by one of several different processes that may involve the use of elevated temperatures, pressures and binding resins or adhesives;

(n) ‘Oriented Strand Board’ means multi-layered board mainly made from strands of wood together with a binder, as defined in EN 300. The strands in the external layer are aligned and parallel to the board length or width. The strands in the internal layer or layers can be randomly orientated or aligned, generally at right angles to the strands in the external layers;

(o) ‘Particleboard’ means a panel material manufactured under pressure and heat from particles of wood (wood flakes, chips, shavings, saw-dust and similar) and/or other lignocellulosic material in particle form (flax shives, hemp shives, bagasse fragments and similar), with the addition of an adhesive, as defined in EN 309;

(p) ‘Plywood’ means wood-based panels consisting of an assembly of layers glued together with the direction of the grain in adjacent layers usually at right angles, as defined in EN 313. Many different sub-categories of plywood can be referred to based on how the plywood is structured (such as, veneer plywood, core plywood, balanced plywood) or its predominant end use (for instance, marine plywood);

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(q) ‘Fibreboards’ means a broad set of panel types which are defined in EN 316 and EN 622 and which can be split into the sub-categories of hardboards, medium boards, soft-boards and dry-process boards based on their physical properties and production process;

(r) ‘Readily biodegradable substance’ means a substance that shows 70 % degradation of dissolved organic carbon within 28 days or 60 % of theoretical maximum oxygen depletion or carbon dioxide generation within 28 days using one of the following test methods: OECD 301 A, ISO 7827, OECD 301 B, ISO 9439, OECD 301 C, OECD 301 D, ISO 10708, OECD 301 E, OECD 301 F, ISO 9408;

(s) ‘Inherently biodegradable substance’ means a substance that shows 70 % degradation of dissolved organic carbon within 28 days or 60 % of theoretical maximum oxygen depletion or carbon dioxide generation within 28 days using one of the following test methods: ISO 14593, OECD 302 A, ISO 9887, OECD 302 B, ISO 9888, OECD 302 C;

(t) ‘Finishing operations’ means methods where an over-layer or coating is applied to the surface of a material. Methods may include the application of paints, prints, varnishes, veneers, laminates, impregnated papers and finishing foils;

(u) ‘Biocidal product’ as defined in Regulation (EU) No 528/2012 of the European Parliament and of the Council [1] means:

— any substance or mixture, in the form in which it is supplied to the user, consisting of, containing or generating one or more active substances, with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical action,

— any substance or mixture generated from substances or mixtures which do not themselves fall under the preceding paragraph, to be used with the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by any means other than mere physical or mechanical means, and

— a treated article that has a primary biocidal function;

[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).

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(v) ‘Wood preservatives’ means biocidal products which are applied by surface treatment (e.g. spraying, brushing) or deep penetrating processes (e.g. vacuum-pressure, double vacuum) to wood (i.e., logs received at the sawmill for commercial use and for all subsequent uses of the wood and wood-based products) or wood-based products themselves, or which are applied to non-wood substrates (e.g. masonry and building foundations) solely for the purpose of protecting adjacent wood or wood-based products from attack by wood-destroying organisms (e.g. dry rot and termites) according to the definition agreed upon by the European Committee for Standardisation (source CEN/TC 38 ‘Durability of wood and wood-based products’);

(w) ‘E1’ means a classification for formaldehyde-containing wood-based panels adopted across EU Member States based on formaldehyde emissions. According to the definition provided in Annex B to EN 13986, a wood-based panel shall be classified as E1 if emissions are equivalent to steady state concentrations of less than or equal to 0,1 ppm (0,124 mg/m^3) of formaldehyde after 28 days of a chamber test carried out according to EN 717-1 or that the formaldehyde content is determined to be less than or equal to 8 mg/100 g oven dry board when measured according to EN 120 or that formaldehyde emission rates are less than or equal to 3,5 $mg/m^2.h$ according to EN 717-2 or less than or equal to 5,0 $mg/m^2.h$ according to the same method but within 3 days after production;

(x) ‘Coated fabrics’ means fabrics with an adherent, discrete continuous layer of rubber and/or plastic based material on one or both surfaces, as defined in EN 13360, including upholstery materials commonly referred to as ‘faux leather’;

(y) ‘Textiles’ mean natural fibres, synthetic fibres and man-made cellulose fibres;

(z) ‘Natural fibres’ means cotton and other natural cellulosic seed fibres, flax and other bast fibres, wool and other keratin fibres;

(aa) ‘Synthetic fibres’ means acrylic, elastane, polyamide, polyester and polypropylene fibres;

(bb) ‘Man-made cellulose fibres’ means lyocell, modal and viscose fibres;

(cc) ‘Upholstery’ means the materials used in the craft of covering, padding and stuffing of seating, bedding or other furniture products and may include covering materials such as leather, coated fabrics and textiles as well as padding materials such as flexible cellular polymeric materials based on rubber latex and polyurethane;

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(dd) ‘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, as defined in Article 3(1) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council ([1]);

(ee) ‘Mixture’ means a mixture or solution composed of two or more substances as defined in Article 3(2) of Regulation (EC) No 1907/2006;

(ff) ‘Component part’ means rigid and discrete units whose shape and form does not need to be altered prior to assembly of the final product in its fully functional form, although its position may change during use of the final product and includes hinges, screws, frames, drawers, wheels and shelves;

(gg) ‘Component materials’ means materials whose shape and form may change prior to furniture assembly or during use of the furniture product, and includes textiles, leather, coated fabrics and polyurethane foams used in upholstery. Supplied timber may be considered as a component material but be later sawn and treated to be converted into a component part.

Article 3

In order to be awarded the EU Ecolabel under Regulation (EC) No 66/2010, a product shall fall within the product group ‘furniture’ as defined in Article 1 of this Decision and shall comply with the ecological criteria as well as the related assessment and verification requirements set out in the Annex to this Decision.

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Article 4

The EU Ecolabel criteria for the product group ‘furniture’ and the related assessment and verification requirements shall be valid until 31 December 2029.

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Article 5

For administrative purposes, the code number assigned to the product group ‘furniture’ shall be ‘049’.

([1]) 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 (OJ L 396, 30.12.2006, p. 1).

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Article 6

Decision 2009/894/EC is repealed.

Article 7

1. By derogation from Article 6, applications for the EU Ecolabel for products falling within the product group ‘wooden furniture’ submitted before the date of adoption of this Decision shall be evaluated in accordance with the conditions laid down in Decision 2009/894/EC.

2. Applications for the EU Ecolabel for products falling within the product group ‘wooden furniture’ submitted within two months from the date of adoption of this Decision may be based either on the criteria set out in Decision 2009/894/EC or on the criteria set out in this Decision.

Applications shall be evaluated in accordance with the criteria on which they are based.

3. EU Ecolabel licences awarded in accordance with the criteria set out in Decision 2009/894/EC may be used for 12 months from the date of adoption of this Decision.

Article 8

This Decision is addressed to the Member States.

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ANNEX

FRAMEWORK

EU ECOLABEL CRITERIA

Criteria for awarding the EU Ecolabel to furniture products:

1. Product description

2. General requirements for hazardous substances and mixtures

3. Wood, cork, bamboo and rattan

4. Plastics

5. Metals

6. Upholstery covering materials

7. Upholstery padding materials

8. Glass: use of heavy metals

9. Final product requirements

10. Consumer information

11. Information appearing on the EU Ecolabel

ASSESSMENT AND VERIFICATION REQUIREMENTS

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, these may originate from the applicant and/or his supplier(s) and/or their suppliers, etc., as appropriate.

Competent bodies shall preferentially recognise attestations which are issued by bodies accredited according to the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited according to the relevant harmonised standard for bodies certifying products, processes and services.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

As a pre-requisite, the product must meet all respective legal requirements of the country (countries) in which the product is intended to be placed on the market. The applicant shall declare the product's compliance with this requirement.

The EU Ecolabel criteria reflect the best environmental performing products on the furniture market. The criteria are focused on a ‘per material’ basis for ease of assessment given that many furniture products will only contain one or two of the above listed materials.

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Whilst the use of chemicals and release of pollutants is part of the production process, the use of hazardous substances are excluded whenever possible or limited to the minimum necessary to provide an adequate function and at the same time strict quality and safety standards for furniture products. For this purpose, derogation conditions for specific substances/groups of substances are granted in exceptional circumstances, in order not to shift the environmental burden to other life cycle phases or impacts and only when there are no viable alternatives existing on the market.

Criterion 1 — Product Description

Technical drawings that illustrate the assembly of component parts/materials and sub-component parts/materials that form the final furniture product and its dimensions shall be provided to the competent body along with a bill of materials for the product that shall state the total weight of the product itself and how this is split between the following different materials: solid wood, wood-based panels, cork, bamboo, rattan, plastics, metals, leather, coated fabrics, textiles, glass and padding/filling materials.

Any remaining materials that do not fall within the categories above shall be listed as ‘other’ materials.

The total quantity of ‘other’ materials shall not exceed 5 % of the total product weight.

Assessment and verification: The applicant shall provide documentation to the competent body containing:

(i) Technical drawings that illustrate the different component parts/materials and sub-component parts/materials used in the assembly of the furniture product;

(ii) An overall bill of materials stating the total weight of the product unit and how the weight is split amongst solid wood, wood-based panels, cork, bamboo, rattan, plastics, metals, leather, textiles, coated fabrics, glass, padding/filling and ‘other’ materials. Weights of different materials shall be expressed as grams or kilograms and as a percentage of the total product unit weight.

Criterion 2 — General requirements for hazardous substances and mixtures

The presence in the product and any component parts/materials thereof, of substances that are identified according to Article 59(1) of Regulation (EC) No 1907/2006 as substances of very high concern (SVHCs) or substances and mixtures that meet the criteria for Classification, Labelling and Packaging (CLP) according to Regulation (EC) No 1272/2008 of the European Parliament and of the Council ([1]) for the hazards listed in Table 1, shall be restricted in accordance with criteria 2.1, 2.2(a) and 2.2(b).

For the purpose of this criterion Candidate List SVHCs and CLP hazard classifications are grouped in Table 1 according to their hazardous properties.

([1]) Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 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 (OJ L 353, 31.12.2008, p. 1).

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Table 1

Grouping of restricted hazards

Group 1 hazards — SVHCs and CLP
Hazards that identify a substance or mixture as being within Group 1:
Substances that appear on the Candidate List for SVHCs
Carcinogenic, Mutagenic and/or Toxic for Reproduction (CMR) Category 1A or 1B: H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df
Group 2 hazards — CLP
Hazards that identify a substance or mixture as being within Group 2:
Category 2 CMR: H341, H351, H361f, H361d, H361fd, H362
Category 1 aquatic toxicity: H400, H410
Category 1 and 2 acute toxicity: H300, H310, H330
Category 1 aspiration toxicity: H304
Category 1 Specific Target Organ Toxicity (STOT): H370, H372
Category 1 Skin Sensitiser H317
Group 3 hazards — CLP
Hazards that identify a substance or mixture as being within Group 3:
Category 2, 3 and 4 aquatic toxicity: H411, H412, H413
Category 3 acute toxicity: H301, H311, H331, EUH070
Category 2 STOT: H371, H373

2.1. *Restriction of SVHCs*

The product and any component parts/materials thereof, shall not contain SVHCs, at concentrations greater than 0,10 % (weight by weight).

No derogation from this requirement shall be given to Candidate List SVHCs present in the product or any component parts/materials thereof at concentrations greater than 0,10 % (weight by weight).

Textiles that have been awarded the EU Ecolabel based on the ecological criteria established in Commission Decision 2014/350/EU [1] are considered to comply with criterion 2.1.

[1] Commission Decision 2014/350/EU of 5 June 2014 establishing the ecological criteria for the award of the EU Ecolabel for textile products (OJ L 174, 13.6.2014, p. 45).

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Assessment and verification: The applicant shall compile declarations of the absence of SVHCs at or above the specified concentration limit for the product and any component parts/materials used in the assembly of the product. Declarations shall be with reference to the latest version of the Candidate List published by ECHA ([1]).

For textiles that have been awarded the EU Ecolabel in accordance with Decision 2014/350/EU, a copy of the EU Ecolabel certificate must be provided as a proof of compliance.

2.2. *Restriction of CLP classified substances and mixtures used in the furniture product*

The requirements are split into two parts, based on the production stage of the furniture product. Part a) refers to substances and mixtures used during any finishing or assembly operations carried out directly by the furniture manufacturer. Part b) refers to substances and mixtures used during the production of supplied component parts/materials.

Textiles that have been awarded the EU Ecolabel based on the ecological criteria established in Decision 2014/350/EU are considered to comply with criteria 2.2(a) and 2.2(b).

2.2(a) Substances and mixtures used by the furniture manufacturer

None of the adhesives, varnishes, paints, primers, wood stains, biocidal products (such as wood preservatives), flame retardants, fillers, waxes, oils, joint fillers, sealants, dyestuff, resins or lubricating oils directly used by the furniture manufacturer shall be classified with any of the CLP hazards listed in Table 1, unless their use is specifically derogated in Table 2.

2.2(b) Substances and mixtures used by suppliers of defined component parts/materials

This criterion shall not apply to individual component parts/materials from suppliers that: (i) weigh less than 25 g and that (ii) do not come into direct contact with users during normal use.

None of the substances or mixtures used by suppliers that fall within the scope defined below shall be classified with any of the CLP hazards listed in Table 1, unless their use is specifically derogated in Table 2:

— Solid wood and wood-based panels: adhesives, varnishes, paints, wood stains, biocidal products (such as wood preservatives), primers, flame retardants fillers, waxes, oils, joint fillers, sealants and resins used.

— Plastics: pigments, plasticisers, biocidal products and flame retardants used as additives.

([1]) ECHA, Candidate List of substances of very high concern for Authorisation, http://www.echa.europa.eu/candidate-list-table.

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— Metals: paints, primers or varnishes applied to the metal surface.

— Textiles, leather and coated fabric upholstery: dyestuff, varnishes, optical brighteners, stabilisers, auxiliary compounds, flame retardants, plasticisers, biocidal products or water/dirt/stain repellents used.

— Upholstery padding materials: biocidal products, flame retardants or plasticisers applied to the material.

Table 2

Derogations to the hazard restrictions in Table 1 and applicable conditions

Substance/mixture type	Applicability	Derogated classification(s)	Derogation conditions
(a) Biocidal products (such as wood preservatives)	Treatment of furniture component parts and/or upholstery materials to be used in the final product	All group 2 and 3 hazards listed in Table 1 except for CMR hazards	Only if the active substance contained in the biocidal product is approved, or under examination pending a decision on approval, under Regulation (EU) No 528/2012 or included in Annex I of that Regulation, and in the following circumstances, as appropriate: i. For in-can preservatives present in coating formulations applied to indoor or outdoor furniture component parts/materials. ii. For dry-film preservatives present in coatings applied to outdoor furniture only. iii. For preservation treatment of wood to be used in outdoor furniture but only if the original wood does not meet the requirements for Durability class 1 or 2 as per EN 350. iv. For textile fabrics or coated fabrics used in outdoor furniture products. Verification: The applicant shall declare which, if any, active substances contained in the biocidal product have been used in the manufacture of different furniture component parts/materials, supported by declarations from suppliers, relevant SDSs, CAS numbers and results from EN 350 testing, as appropriate.

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Substance/mixture type	Applicability	Derogated classification(s)	Derogation conditions
(b) Flame retardants	Textiles, leather, coated fabrics in furniture upholstery covering materials and also padding materials	H317, H373, H411, H412, H413	The product must be intended to be used in applications in which it is required to meet fire protection requirements for ISO, EN, Member State or public sector procurement standards and regulations.
(c) Flame retardants/ Antimony Trioxide (ATO)		H351	ATO is only permitted when all of the following conditions are met: i. The product must be intended to be used in applications in which it is required to meet fire protection requirements in ISO, EN, Member State or public sector procurement standards and regulations. ii. It is used as a synergist with textiles or coated fabrics. iii. Emissions to air in the workplace where the flame retardant is applied to the textile product shall meet an eight hour occupational exposure limit value of 0,50 mg/m^3.
(d) Nickel	Metal component parts	H317, H351, H372	Only permitted when used in stainless steel or nickel-plated component parts and when the nickel release rate is less than 0,5 $\mu g/cm^2$/week according to EN 1811.
(e) Chromium compounds		H317, H411	Derogation only applies to chromium III compounds used in electroplating operations (e.g., chromium III chloride).
(f) Zinc compounds		H300, H310, H330, H400, H410	Derogation only applies to zinc compounds used in electroplating or hot-dip galvanisation operations (such as, zinc oxide, zinc chloride and zinc cyanide).

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Substance/mixture type	Applicability	Derogated classification(s)	Derogation conditions
(g) Dyestuff for dyeing and non-pigment printing	Textiles, leather and coated fabrics in furniture upholstery covering materials	H301, H311, H317, H331	When dust free dye formulations or automatic dosing and dispensing of dyes are used by dye houses and printers to minimise worker exposure.
		H411, H412, H413	Dyeing processes using reactive, direct, vat or sulphur dyes with these classifications shall meet a minimum of one of the following conditions: i. Use of high affinity dyes; ii. Achievement of a reject rate of less than 3,0 %; iii. Use of colour matching instrumentation; iv. Implementation of standard operating procedures for the dyeing process; v. Use of colour removal to treat wastewater (*). The use of solution dyeing and/or digital printing is exempted from these conditions.
(h) Optical brighteners	Textiles, leather and coated fabrics in furniture upholstery covering materials	H411, H412, H413	Optical brighteners may only be applied in the following cases: i. In white coloured printing; ii. As additives during the production of acrylic, polyamide or polyester with a recycled content.
(i) Water, dirt and stain repellents	Use in any surface treatments of furniture component parts/materials	H413	The repellent and its degradation products shall either: i. be readily and/or inherently biodegradable or ii. have a low potential to bioaccumulate (an octanol-water partition coefficient Log Kow ≤ 3,2 or a Bioconcentration Factor (BCF) < 100) in the aquatic environment, including aquatic sediment.

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Substance/mixture type	Applicability	Derogated classification(s)	Derogation conditions
(j) Stabilisers and varnishes	Use in coated fabric production	H411, H412, H413	Automatic dosing and/or personal protective equipment must be used to minimise worker exposure. At least 95 % of these additives must show at least 80 % degradation of dissolved organic carbon within 28 days using OECD 303A/B and/or ISO 11733 test methods.
(k) Auxiliaries (comprising carriers, levelling agents, dispersing agents, surfactants, thickeners and binders)	Use in treatment of furniture upholstery covering materials (textiles, leather or coated fabrics)	H301, H311, H317, H331, H371, H373, H411, H412, H413, EUH070	Recipes shall be formulated using automatic dosing systems and processes shall follow standard operating procedures. Substances classified with H311 or H331 shall not be present on the material at concentrations greater than 1,0 % w/w.
(l) Paints, varnishes, resins and adhesives	Any furniture component part/material	H304, H317, H412, H413, H371, H373	A Safety Data Sheet (SDS) of the chemical mixture which clearly outlines the correct Personal Protective Equipment and adequate procedures for storage, handling, use and disposal of these mixtures during use and a declaration of proof of compliance with these measures shall be provided.
		H350	Only applicable to formaldehyde-based resins where the free formaldehyde content in the resin formulation (resins, adhesives and hardeners) does not exceed 0,2 % (w/w) as determined by ISO 11402 or equivalent methodology.
(m) Lubricating oils	In component parts designed to move repeatedly during normal use	All Group 2 hazards except CMR and all Group 3 hazards listed in Table 1	Lubricants shall only be permitted for use if it can be demonstrated by relevant OECD or ISO tests to be readily or inherently biodegradable in the aquatic environment, including aquatic sediment.

(*) Colour removal in wastewater treatment shall be considered as taking place when effluents from the dyehouse meets the following spectral coefficients: (i) $7m^{-1}$ at 436 nm, $5m^{-1}$ at 525 nm and $3m^{-1}$ at 620 nm.

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Assessment and verification: The applicant shall provide a declaration of compliance with criterion 2.2(a) and 2.2(b) supported, where appropriate, by declarations from suppliers. Declarations shall be supported by lists of relevant mixtures or substances used together with information about their hazard classification or non-classification.

The following information shall be provided to support declarations of the hazard classification or non-classification for each substance or mixture:

(i) The CAS, EC or list number (where available for mixtures);

(ii) The physical form and state in which the substance or mixture is used;

(iii) Harmonised CLP hazard classifications for substances;

(iv) Self-classification entries in ECHA's REACH registered substance database ([1]) (if no harmonised classification is available).

(v) Mixture classifications according to the criteria laid down in the CLP Regulation.

When considering self-classification entries in the REACH registered substance database, priority shall be given to entries from joint submissions.

Where a classification is recorded as ‘data-lacking’ or ‘inconclusive’ according to the REACH registered substance database, or where a substance has not yet been registered under the REACH system, toxicological data meeting the requirements in Annex VII to Regulation (EC) No 1907/2006 shall be provided that is sufficient to support conclusive self-classifications in accordance with Annex I to Regulation (EC) No 1272/2008 and ECHA's supporting guidance. In the case of ‘data lacking’ or ‘inconclusive’ database entries, self-classifications shall be verified, with the following information sources being accepted:

(i) Toxicological studies and hazard assessments by ECHA peer regulatory agencies ([2]), Member State regulatory bodies or Intergovernmental bodies;

(ii) A Safety Data Sheet (SDS) fully completed in accordance with Annex II to Regulation (EC) No 1907/2006;

(iii) A documented expert judgment provided by a professional toxicologist. This shall be based on a review of scientific literature and existing testing data, where necessary supported by results from new testing carried out by independent laboratories using methods approved by ECHA;

([1]) ECHA, REACH registered substances database: http://www.echa.europa.eu/information-on-chemicals/registered-substances.

([2]) ECHA, Cooperation with peer regulatory agencies, http://echa.europa.eu/about-us/partners-and-networks/international-cooperation/cooperation-with-peer-regulatory-agencies.

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(iv) An attestation, where appropriate based on expert judgment, issued by an accredited conformity assessment body that carries out hazard assessments according to the Globally Harmonised System (GHS) of the classification and labelling of chemicals or CLP hazard classification systems.

Information on the hazardous properties of substances or mixtures may, in accordance with Annex XI to Regulation (EC) No 1907/2006, be generated by means other than tests, for instance through the use of alternative methods such as in vitro methods, by quantitative structure activity models or by the use of grouping or read-across.

For the derogated substances and mixtures listed in Table 2, the applicant shall provide proof that all derogation conditions are met.

Textile-based materials that have been awarded the EU Ecolabel in accordance with Decision 2014/350/EU shall be considered compliant with criteria 2.2(a) and 2.2(b), however a copy of the EU Ecolabel certificate must be provided.

Criterion 3 — Wood, cork, bamboo and rattan

The term ‘wood’ applies not only to solid wood but also to wood chips and wood fibres. Where criteria refer solely to wood-based panels, this is mentioned in the title of those criteria.

Plastic foils manufactured using Vinyl Chloride Monomer (VCM) shall not be used in any part of the furniture product.

3.1. *Sustainable wood, cork, bamboo and rattan*

This criterion shall only apply when the content of wood or wood-based panels exceeds 5 % w/w of the final product weight (excluding packaging).

All wood, cork, bamboo and rattan shall be covered by chain of custody certificates issued by an independent third party certification scheme such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or equivalent.

All virgin wood, cork, bamboo and rattan shall not originate from GMO species and shall be covered by valid sustainable forest management certificates issued by an independent third party certification scheme such as FSC, PEFC or equivalent.

Where a certification scheme allows the mixing of uncertified material with certified and/or recycled materials in a product or production line, a minimum of 70 % of the wood, cork, bamboo or rattan material, as appropriate, shall be sustainable certified virgin material and/or recycled material.

Uncertified material shall be covered by a verification system which ensures that it is legally sourced, and meets any other requirement of the certification scheme with respect to uncertified material.

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The certification bodies issuing forest and/or chain of custody certificates shall be accredited or recognised by that certification scheme.

Assessment and verification: The applicant or material supplier, as appropriate, shall provide a declaration of compliance supported by valid, independently certified chain of custody certificate(s) for all wood, cork, bamboo or rattan material used in the product or production line and demonstrate that at least 70 % of the material originates from forests or areas managed according to Sustainable Forestry Management principles and/or from recycled sources that meet the requirements set out by the relevant independent chain of custody scheme. FSC, PEFC or equivalent schemes shall be accepted as independent third party certification. In case the scheme does not specifically require that all virgin material is sourced from non-GMO species, additional evidence shall be provided to demonstrate this.

If the product or production line includes uncertified virgin material, proof shall be provided that the content of uncertified virgin material does not exceed 30 % and is covered by a verification system which ensures that it is legally sourced and meets any other requirement of the certification scheme with respect to uncertified material.

3.2. *Restricted substances*

In addition to the General conditions on hazardous substances set out in criterion 2, the following conditions shall specifically apply to any furniture component parts made of wood, cork, bamboo or rattan or specifically only to wood-based panels where the latter term is mentioned in the criterion title:

3.2(a) Contaminants in recycled wood used in wood-based panels

Any recycled wood fibres or wood chips used in the manufacture of wood based panels shall be tested in accordance with the European Panel Federation (EPF) standard for delivery conditions of recycled wood ([1]) and comply with the limits for contaminants as listed in Table 3.

Table 3

Limits for contaminants in recycled wood

Contaminant	Limit values (mg/kg recycled wood)	Contaminant	Limit values (mg/kg recycled wood)
Arsenic (As)	25	Mercury (Hg)	25
Cadmium (Cd)	50	Fluorine (F)	100
Chromium (Cr)	25	Chlorine (Cl)	1 000

([1]) 'EPF Standard for delivery conditions of recycled wood', October 2002. Can be viewed online at: http://www.europanels.org/upload/EPF-Standard-for-recycled-wood-use.pdf

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Contaminant	Limit values (mg/kg recycled wood)	Contaminant	Limit values (mg/kg recycled wood)
Copper (Cu)	40	Pentachlorophenol (PCP)	5
Lead (Pb)	90	Creosote (Benzo(a)pyrene)	0,5

Assessment and verification: The applicant shall provide either:

(i) A declaration from the wood-based panel manufacturer that no recycled wood fibres were used in the panel, or

(ii) A declaration from the wood-based panel manufacturer that all recycled wood fibres used have been representatively tested in accordance with the 2002 'EPF Standard conditions for the delivery of recycled wood', supported by appropriate test reports that demonstrate compliance of the recycled wood samples with the limits specified in Table 3.

(iii) A declaration from the wood-based panel manufacturer that all recycled wood fibres used have been representatively tested by other equivalent standards that have equal or stricter limits than the 2002 'EPF Standard conditions for the delivery of recycled wood', supported by appropriate test reports that demonstrate compliance of the recycled wood samples with the limits specified in Table 3.

3.2(b) Heavy metals in paints, primers and varnishes

Paints, primers or varnishes used on wood or wood-based materials shall not contain substances based on cadmium, lead, chromium VI, mercury, arsenic or selenium, at concentrations exceeding 0,010 % w/w for each individual metal in the in-can paint, primer or varnish formulation.

Assessment and verification: The applicant or material supplier, as appropriate, shall provide a declaration of compliance with this criterion and provide the respective SDS from the suppliers of the paints, primers and/or varnishes used.

3.2(c) VOC content in paints, primers and varnishes

This criterion does not apply to untreated wooden surfaces or to natural wooden surfaces treated with soap, wax or oil.

This criterion shall only apply when the content of coated wood or wood-based panels (excluding untreated wooden surfaces or natural wooden surfaces treated with soap, wax or oil) exceeds 5 % w/w in the final furniture product (excluding packaging).

It shall not be necessary to meet the requirements of this criterion if compliance with criterion 9.5 can be demonstrated.

The VOC content of any paints, primers or varnishes used to coat any wood or wood-based panels used in the furniture product shall not exceed 5 % (in-can concentration).

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However, higher VOC content coatings may be used, if it can be demonstrated that either:

— The total quantity of VOCs in the paint, primer or varnish used during the coating operation amounts to less than 30 g/m^2 of coated surface area, or

— The total quantity of VOCs in the paint, primer or varnish used during the coating operation is between 30 and 60 g/m^2 of coated surface area and that the surface finish quality meets all of the requirements set out in Table 4.

Table 4

Surface finish quality requirements if VOC application rate is 30-60 g/m^2

Test standard	Condition	Required result
EN 12720. Furniture — Assessment of surface resistance to cold liquids	Contact with water	No change after 24 hour contact
	Contact with grease	No change after 24 hour contact
	Contact with alcohol	No change after 1 hour contact
	Contact with coffee	No change after 1 hour contact
EN 12721. Furniture — Assessment of a surface resistance to wet heat	Contact with 70 °C heat source	No change after testing
EN 12722. Furniture — Assessment of surface resistance to dry heat	Contact with 70 °C heat source	No change after testing
EN 15186. Furniture — Assessment of the surface resistance to scratching	Contact with diamond scratching tip	Method A: no scratches ≥ 0,30 mm when a load of 5 N has been applied or, Method B: no scratches visible in ≥ 6 slots in the viewing template where a load of 5 N has been applied

Assessment and verification: The applicant shall provide a declaration of compliance, specifying whether compliance is achieved because the furniture product is exempt from the criterion or if it is achieved by the controlled use of VOCs in the coating operation.

In the latter case, the declaration by the applicant shall be supported by information from the paint, primer or varnish supplier stating the VOC content and density of the paint, primer or varnish (both in g/L) and a calculation of the effective percentage VOC content.

If the VOC content of the paint, primer or varnish is greater than 5 % (in-can concentration), then the applicant shall either:

(i) Provide calculations demonstrating that the effective quantity of VOCs applied to the coated surface area of the final assembled furniture product is less than 30 g/m^2, in accordance with the guidance provided in Appendix I.

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(ii) Provide calculations demonstrating that the effective quantity of VOCs applied to the coated surface area of the final assembled furniture product is less than 60 g/m^2, in accordance with the guidance provided in Appendix I and provide test reports demonstrating compliance of the surface finishes with the requirements of Table 4.

3.3. *Formaldehyde emissions from wood-based panels*

This criterion shall only apply when the content of wood-based panels in the final furniture product (excluding packaging) exceeds 5 % w/w.

Formaldehyde emissions from all supplied wood-based panels, in the form that they are used in the furniture product (in other words, unfaced, coated, overlaid, veneered), and which were manufactured using formaldehyde-based resins shall either:

— Be lower than 50 % of the threshold value allowing them to be classified as E1.

— Be lower than 65 % of the E1 threshold value, in the case of Medium Density Fibreboard (MDF) panels.

— Be lower than the limits set out in the CARB Phase II or the Japanese F-3 star or F-4 star standards.

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion, stating that no other further modification or treatment has been applied by the applicant to the panels that would compromise their compliance with the formaldehyde emission limits of the panels as supplied. The assessment and verification of low formaldehyde emission panels shall vary depending on the certification scheme it falls under. The verification documentation required for each scheme is described in Table 5.

Table 5

Assessment and verification of low formaldehyde emission panels

Certification scheme	Verification documentation
E1 (as defined in Annex B of EN 13986)	A declaration from the wood-based panel manufacturer, stating that the panel is compliant with 50 % of E1 emission limits or, in the case of MDF panels, with 65 % of E1 emission limits, supported by test reports carried out according to either EN 717-2, EN 120, EN 717-1 or equivalent methods.
CARB — California Air Resources Board: Phase II limits	A declaration from the wood-based panel manufacturer, supported by test results according to ASTM E1333 or ASTM D6007, demonstrating panel compliance with the formaldehyde Phase II emission limits defined in the California Composite Wood Products Regulation 93120 ([1]). The wood-based panel may be labelled in accordance with Section 93120.3(e), containing details in respect of the manufacturer's name, the product lot number or batch produced, and the CARB assigned number for the third party certifier (this part is not mandatory if the products are sold outside of California or if they were made using no-added formaldehyde or certain ultra-low emitting formaldehyde-based resins).

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Certification scheme	Verification documentation
F-3 or 4 star limits	A declaration from the wood-based panel manufacturer of compliance with the formaldehyde emission limits as per JIS A 5905 (for fibreboard) or JIS A 5908 (for particleboard and plywood), supported by test data according to the JIS A 1460 desicator method.

([1]) Regulation 93120 'Airborne toxic control measure to reduce formaldehyde emissions from composite wood products'California Code of Regulations.

Criterion 4 — Plastics

Plastics manufactured using Vinyl Chloride Monomer (VCM) shall not be used in any part of the furniture product.

4.1. *Marking of plastic component parts*

Plastic parts with a mass greater than 100 g shall be marked in accordance with EN ISO 11469 and EN ISO 1043 (parts 1-4). The lettering used in markings shall be at least 2,5 mm high.

Where any fillers, flame retardants or plasticisers are intentionally incorporated into the plastic in proportions greater than 1 % w/w, their presence shall also be included in the marking as per EN ISO 1043 parts 2-4.

In exceptional cases, non-marking of plastic parts with a weight greater than 100 g is permitted if:

— Marking would impact on the performance or functionality of the plastic part;

— Where marking is not technically possible due to the production method;

— Where parts cannot be marked because there is not enough appropriate surface area available for the marking to be of a legible size to be identified by a recycling operator.

In the above cases, where non-marking is allowed, further details about the polymer type and any additives as per the requirements of EN ISO 11469 and EN ISO 1043 (parts 1-4) shall be included with consumer information referred to in criterion 10.

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion, listing all the plastic component parts with a weight greater than 100 g in the furniture product and stating whether or not they have been marked according to EN ISO 11469 and EN ISO 1043 (parts 1-4).

The marking of any plastic component parts shall be clearly visible upon visual examination of the plastic component part. Marking does not necessarily need to be clearly visible in the final assembled furniture product.

If any plastic parts with a weight greater than 100 g have not been marked, the applicant shall provide justification for non-marking and indicate where relevant information has been included in consumer information.

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In cases of doubt regarding the nature of the plastic for component parts with a weight greater than 100 g and in case suppliers do not provide the required information, laboratory test data using infra-red or Raman spectroscopy or any other suitable analytical techniques to identify the nature of the plastic polymer and the quantity of fillers or other additives shall be provided as evidence supporting the EN ISO 11469 and EN ISO 1043 marking.

4.2. *Restricted substances*

In addition to the general requirements for hazardous substances established in Criterion 2, the conditions listed below shall apply for plastic component parts.

4.2(a) Heavy metals in plastic additives

Plastic component parts and any surface layers shall not be manufactured using additives that contain cadmium (Cd), chromium VI (CrVI), lead (Pb), mercury (Hg) or tin (Sn) compounds.

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion.

Where only virgin plastic is used, a declaration from the supplier of the virgin plastic material that no additives containing cadmium, chromium VI, lead, mercury or tin have been used shall be accepted.

Where virgin plastic has been combined with pre-consumer plastic recyclates from known sources and/or with post-consumer polyethylene terephthalate (PET), polystyrene (PS), polyethylene (PE) or polypropylene (PP) from municipal collection schemes, a declaration from the supplier of the recycled plastic material that no compounds containing cadmium, chromium VI, lead, mercury or tin have been intentionally added shall be accepted.

If no suitable declarations are provided by the supplier, or where virgin plastic is combined with pre-consumer recyclates from mixed or unknown sources, representative testing of the plastic component parts shall demonstrate compliance with the conditions set out in Table 6.

Table 6

Assessment and verification of heavy metal impurities in plastics

Metal	Method	Limit (mg/kg)	
		Virgin	Recycled
Cd	XRF (X-Ray Fluorescence) or acid digestion followed by inductively coupled plasma or atomic absorption spectrophotometry or other equivalent methods for measuring total metal content	100	1 000
Pb		100	1 000
Sn		100	1 000
Hg		100	1 000
CrVI	EN 71-3	0,020	0,20

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4.3. *Recycled plastic content*

This criterion shall only apply if the total content of plastic material in the furniture product exceeds 20 % of the total product weight (excluding packaging).

The average recycled content of plastic parts (not including packaging) shall be at least 30 % w/w.

Assessment and verification: The applicant shall provide a declaration from the plastic supplier(s) stating the average recycled content in the final furniture product. Where plastic component parts come from different sources or suppliers, the average recycled content shall be calculated for each plastic source and the overall average recycled plastic content in the final furniture product shall be stated.

The declaration of recycled content from the plastic manufacturer(s) shall be supported by traceability documentation for plastic recyclates. An option would be to provide batch delivery information as per the framework set out in Table 1 of EN 15343.

Criterion 5 — Metals

In addition to the general requirements for hazardous substances stated in Criterion 2, the conditions listed below shall apply for metal component parts in the furniture product.

5.1. *Electroplating restrictions*

Chromium VI or cadmium shall not be used for electroplating operations of any metal component parts used in the final furniture product.

Nickel shall only be permitted in electroplating operations if the nickel release rate from the electroplated component part is less than 0,5 μg/cm^2/week according to EN 1811.

Assessment and verification: The applicant shall provide a declaration from the supplier of the metal component part(s) that no plating treatments involving chromium VI or cadmium substances have been used in any metal component parts.

Where nickel has been used in electroplating operations, the applicant shall provide a declaration from the supplier of the metal component part(s), supported by a test report according to EN 1811, where results reveal nickel release rates to be less than 0,5 μg/cm^2/week.

5.2. *Heavy metals in paints, primers and varnishes*

Paints, primers or varnishes used on metal component parts shall not contain additives based on cadmium, lead, chromium VI, mercury, arsenic or selenium, at concentrations exceeding 0,010 % w/w for each individual metal in the in-can paint, primer or varnish formulation.

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion and provide the respective SDS from the suppliers of the paints, primers or varnishes used.

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5.3. *VOC content in paints, primers and varnishes*

This sub-criterion shall only apply when the content of coated metal component parts exceeds 5 % w/w in the final furniture product (excluding packaging).

It shall not be necessary to meet the requirements of this sub-criterion if compliance with criterion 9.5 can be demonstrated.

The VOC content of any paints, primers or varnishes used to coat any metal component parts used in the furniture product shall not exceed 5 % (in-can concentration).

However, higher VOC content coatings may be used, if it can be demonstrated that either:

— The total quantity of VOCs in the paint, primer or varnish used during the coating operation amounts to less than 30 g/m^2 of coated surface area, or

— The total quantity of VOCs in the volume of paint, primer or varnish that is used during the coating operation is between 30 and 60 g/m^2 of coated surface area and that the surface finish quality meets the requirements set out in Table 7.

Table 7

Surface finish quality requirements if VOC application rate is 30-60 g/m^2

Test standard	Condition	Required result
EN 12720. Furniture — Assessment of surface resistance to cold liquids	Contact with water	No change after 24 hour contact
	Contact with grease	No change after 24 hour contact
	Contact with alcohol	No change after 1 hour contact
	Contact with coffee	No change after 1 hour contact
EN 12721. Furniture — Assessment of a surface resistance to wet heat	Contact with 70 °C heat source	No change after testing
EN 12722. Furniture — Assessment of surface resistance to dry heat	Contact with 70 °C heat source	No change after testing
EN 15186. Furniture — Assessment of the surface resistance to scratching	Contact with diamond scratching tip	Method A: no scratches ≥ 0,30 mm when a load of 5 N has been applied or, Method B: no scratches visible in ≥ 6 slots in the viewing template where a load of 5 N has been applied

Assessment and verification: The applicant shall provide a declaration of compliance, specifying whether compliance is achieved because the furniture product is exempt from the criterion or if it is achieved by the controlled use of VOCs in the coating operation.

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In the latter case, the declaration by the applicant shall be supported by information from the paint, primer or varnish supplier stating the VOC content and density of the paint, primer or varnish (both in g/L) and the effective percentage of VOC content.

If the VOC content of the paint, primer or varnish is greater than 5 % (in-can concentration), then the applicant shall either:

— Provide calculations demonstrating that the effective quantity of VOCs applied to the coated surface area of the final assembled furniture product is less than 30 g/m^2, in accordance with the guidance provided in Appendix I.

— Provide calculations demonstrating that the effective quantity of VOCs applied to the coated surface area of the final assembled furniture product is less than 60 g/m^2, in accordance with the guidance provided in Appendix I and provide test reports that show compliance of the surface finishes with the requirements of Table 7.

Criterion 6 — Upholstery Covering Materials

Upholstery covering materials manufactured using Vinyl Chloride Monomer (VCM) shall not be used in any part of the furniture product.

6.1. *Physical quality requirements*

Any leather used as upholstery covering material shall comply with the physical quality requirements presented in Appendix II.

Any textiles used as upholstery covering material shall comply with the physical quality requirements presented in Table 8.

Any coated fabrics used as upholstery covering material shall comply with the physical quality requirements stated in Table 9.

Table 8

Physical requirements for textile fabric covering materials in furniture upholstery

Test factor	Method	Removable and washable coverings	Non-removable and washable coverings
Dimensional changes during washing and drying	Domestic washing: ISO 6330 + EN ISO 5077 (three washes at temperatures as indicated in the product with tumble drying after each washing cycle) Commercial washing: ISO 15797 + EN ISO 5077 (at minimum of 75 °C)	woven furniture upholstery fabrics: ± 2,0 % woven furniture ticking fabric: ± 3,0 % non-woven furniture ticking: ± 5,0 % non-woven furniture upholstery fabrics: ± 6,0 %	N/A
Colour fastness to washing	Domestic washing: ISO 105-C06 Commercial washing: ISO 15797 + ISO 105-C06 (at minimum of 75 °C)	≥ level 3-4 for colour change ≥ level 3-4 for staining	N/A

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Test factor	Method	Removable and washable coverings	Non-removable and washable coverings
Colour fastness to wet rubbing (*)	ISO 105 X12	≥ level 2-3	≥ level 2-3
Colour fastness to dry rubbing (*)	ISO 105 X12	≥ level 4	≥ level 4
Colour fastness to light	ISO 105 B02	≥ level 5 (**)	≥ level 5 (**)
Fabric resistance to pilling and abrasion	Knitted and non-woven products: ISO 12945-1 Woven fabrics: ISO 12945-2	ISO 12945-1 result > 3 ISO 12945-2 result > 3	ISO 12945-1 result > 3 ISO 12945-2 result > 3

(*) Does not apply to white products or products that are neither dyed nor printed.
(**) A level of 4 is nevertheless allowed when furniture covering fabrics are both light coloured (standard depth < 1/12) and made of more than 20 % wool or other keratin fibres, or more than 20 % linen or other bast fibres.

Table 9

Physical requirements for coated fabric covering materials in furniture upholstery

Property	Method	Requirement
Tensile strength	ISO 1421	CH ≥ 35 daN and TR ≥ 20 daN
Tear resistance of coated fabrics by the trouser tear method	ISO 13937/2	CH ≥ 2,5 daN and TR ≥ 2 daN
Colour fastness to artificial weathering — Xenon arc fading lamp test	EN ISO 105-B02	Indoor use ≥ 6; Outdoor use ≥ 7
Textiles — abrasion resistance by the Martindale method	ISO 5470/2	≥ 75 000
Determination of coating adhesion	EN 2411	CH ≥ 1,5 daN and TR ≥ 1,5 daN

Where: daN = deca Newtons, CH = Warp and TR = Weft

Assessment and verification: The applicant shall provide a declaration from the leather supplier, textile fabric supplier or coated fabric supplier, as appropriate, supported by relevant test reports, stating that the upholstery covering material meets the physical requirements for leather, textile fabrics or coated fabrics as specified in Appendix II, Table 8 or Table 9 respectively.

Textile-based materials that have been awarded the EU Ecolabel in accordance with Decision 2014/350/EU shall be considered compliant with this criterion, however a copy of the EU Ecolabel certificate must be provided.

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6.2. *Chemical testing requirements*

This criterion applies to the upholstery covering materials in the final treated form that they are to be used in the furniture product. In addition to the general conditions on hazardous substances set out in criterion 2, the following restrictions listed in Table 10 shall specifically apply to upholstery covering materials:

Table 10

Chemical testing requirements for leather, textiles and coated fabric covering material

Chemical	Applicability	Limits (mg/kg)		Test method
Restricted arylamines from cleavage of azodyes (*)	Leather	≤ 30 for each amine (*)		EN ISO 17234-1
	Textiles and coated fabrics			EN ISO 14362-1 and EN ISO 14362-3
Chromium VI	Leather	< 3 (**)		EN ISO 17075
Free formaldehyde	Leather	≤ 20 (for children's furniture) (***) or ≤ 75 for other furniture		EN ISO 17226-1
	Textiles and coated fabrics			EN ISO 14184-1
Extractable heavy metals	Leather	Arsenic ≤ 1,0	Antimony ≤ 30,0	EN ISO 17072-1
		Chromium ≤ 200,0	Cadmium ≤ 0,1	
		Cobalt ≤ 4,0	Copper ≤ 50,0	
		Lead ≤ 1,0	Mercury ≤ 0,02	
		Nickel ≤ 1,0		
	Textiles and coated fabrics	Arsenic ≤ 1,0	Antimony ≤ 30,0 (****)	EN ISO 105 E04
		Chromium ≤ 2,0	Cadmium ≤ 0,1	
		Cobalt ≤ 4,0	Copper ≤ 50,0	
		Lead ≤ 1,0	Mercury ≤ 0,02	
		Nickel ≤ 1,0		
Chlorophenols	Leather	Pentachlorophenol ≤ 0,1 mg/kg Tetrachlorophenol ≤ 0,1 mg/kg		EN ISO 17070

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Chemical	Applicability	Limits (mg/kg)	Test method
Alkylphenols	Leather, textiles and coated fabrics	Nonylphenol, mixed isomers (CAS No 25154-52-3); 4-Nonylphenol (CAS No 104-40-5) 4-Nonylphenol, branched (CAS No 84852-15-3) Octylphenol (CAS No 27193-28-8) 4-Octylphenol (CAS No 1806-26-4) 4-tert-Octylphenol (CAS No 140-66-9) Alkylphenolethoxylates (APEOs) and their derivatives: Polyoxyethylated octyl phenol (CAS No 9002-93-1) Polyoxyethylated nonyl phenol (CAS No 9016-45-9) Polyoxyethylated p-nonyl phenol (CAS No 26027-38-3) **Sum Total limit value:** **≤ 25 mg/kg — textiles or coated fabrics** **≤ 100 mg/kg — leather**	For leather: EN ISO 18218-2 (indirect method) For textiles and coated fabrics: EN ISO 18254 for alkylphenole-thoxylates. For alkylphenols final product testing is to be carried out by solvent extraction followed by LC-MS or GC-MS
Polycyclic Aromatic Hydrocarbons	Textiles, coated fabrics or leather	**PAHs restricted under Regulation (EC) No 1907/2006:** Chrysene (CAS No 218-01-9) Benzo[a]anthracene (CAS No 56-55-3) Benzo[k]fluoranthene (CAS No 207-08-9) Benzo[a]pyrene (CAS No 50-32-8) Dibenzo[a,h]anthrancene (CAS No 53-70-3) Benzo[j]fluoranthene (CAS No 205-82-3) Benzo[b]fluoranthene (CAS No 205-99-2) Benzo[e]pyrene (CAS No 192-97-2) **Individual limits for 8 PAHs listed above:** **≤ 1 mg/kg** **Additional PAHs subject to restriction:** Naphthalene (CAS No 91-20-3) Acenaphthylene (CAS No 208-96-8) Acenaphthene (CAS No 83-32-9) Fluorene (CAS No 86-73-7) Phenanthrene (CAS No 85-1-8) Anthracene (CAS No 120-12-7)	AfPS GS 2014:01 PAK

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Chemical	Applicability	Limits (mg/kg)	Test method
		Fluoranthene (CAS No 206-44-0) Pyrene (CAS No 129-00-0) Indeno[1,2,3-c,d]pyrene (CAS No 193-39-5) Benzo[g,h,i]perylene (CAS No 191-24-2) **Sum Total limit for 18 PAHs listed above:** **≤ 10 mg/kg**	
N,N-Dimethyl-acetamide (CAS No 127-19-5)	Elastane or acrylic-based textiles	Result ≤ 0,005 % w/w (≤ 50 mg/kg)	Solvent extraction followed by GCMS or LCMS
Chloralkanes	Leather	C10-C13 (SCCP) chloralkanes not detectable C14-C17 (MCCP) chloralkanes ≤ 1 000 mg/kg;	EN ISO 18219

(*) A total of 22 arylamines listed in Entry 43 of Annex XVII to Regulation (EC) No 1907/2006 plus two other compounds (see Table 1 in Appendix III for a full listed of the arylamines to be tested). Limit of detection for EN ISO 17234-1 is 30 mg/kg.
(**) The detection limit for the EN ISO 17075 is generally assumed to be 3 mg/kg.
(***) Furniture designed specifically for babies and children less than 3 years old.
(****) If the tested textiles have been treated with ATO as a synergist, in accordance with the derogation conditions for ATO use in entry (c) of Table 2, then it shall be exempted from compliance with the leaching limit for antimony.

Assessment and verification: The applicant shall provide a declaration that the leather, textile fabric or coated fabric upholstery covering material complies with the limits specified in Table 10, supported by test reports.

Textile-based materials that have been awarded the EU Ecolabel in accordance with Decision 2014/350/EU shall be considered compliant with this criterion, however a copy of the EU Ecolabel certificate must be provided.

6.3. *Restrictions during production processes*

If the upholstery covering materials account for more than 1,0 % w/w of the total furniture product weight (excluding packaging), the supplier of the material shall comply with the restrictions specified in Table 11 on the use of hazardous substances during production.

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Table 11

Restricted substances used in leather, textile and coated fabric production stages

1 — **Hazardous substances used in different production stages**

(a) *Detergents, surfactants, softeners and complexing agents*

Applicability: To dyeing and finishing process stages in textile, leather or coated fabric production	All non-ionic and cationic detergents and surfactants must be ultimately biodegradable under anaerobic conditions. *Assessment and verification:* The applicant shall provide a declaration from the leather, textile or coated fabric producer, supported by a declaration from their chemical supplier(s) and by relevant SDSs and results of EN ISO 11734 or ECETOC No 28 OECD 311 tests. The latest revision of the Detergents Ingredients Database shall be used as a reference point for biodegradability and may, at the discretion of the competent body, be accepted as an alternative to providing test reports. http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf
	Long chain perfluoroalkyl sulfonates (≥ C6) and perfluorocarboxylic acids (≥ C8) shall not be used in the production processes. *Assessment and verification:* The applicant shall provide a declaration from the leather, textile or coated fabric producer, supported by a declaration from their chemical supplier(s) and by relevant SDSs of the non-use of these substances for each production stage.

(b) *Auxiliaries (used in mixtures, formulations and adhesives)*

Applicability: Dyeing and finishing operations for leather, textile or coated fabric production	The following substances shall not be used in any mixtures or formulations for dyeing and finishing of leather, textiles or coated fabrics: bis(hydrogenated tallow alkyl) dimethyl ammonium chloride (DTDMAC) distearyl dimethyl ammonium chloride (DSDMAC) di(hardened tallow) dimethyl ammonium chloride (DHTDMAC) ethylene diamine tetra acetate (EDTA), diethylene triamine penta acetate (DTPA) 4-(1,1,3,3-tetramethylbutyl)phenol Nitrilotriacetic acid (NTA) *Assessment and verification:* The applicant shall provide a declaration from the leather, textile or coated fabric supplier, supported by relevant SDSs, that these compounds have not been used in any dyeing and finishing operations for leather, textiles or coated fabrics.

(c) *Solvents*

Applicability: Processing of leather, textile or coated fabric materials	The following substances shall not be used in any mixtures or formulations for the processing of leather, textile or coated fabric materials: 2-Methoxyethanol N,N-dimethylformamide 1-Methyl-2-pyrrolidone Bis(2-methoxyethyl) ether 4,4′- Diaminodiphenylmethane 1,2,3-trichloropropane 1,2-Dichloroethane (ethylene dichloride) 2-Ethoxyethanol

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	Benzene-1,4-diamine dihydrochloride Bis(2-methoxyethyl) ether Formamide N-methyl-2-pyrrolidone Trichloroethylene *Assessment and verification:* The applicant shall provide a declaration from the leather, textile or coated fabric producer, supported by relevant SDSs, that these solvents have not been used in any of the leather, textile or coated fabric production processes.

2 — **Dyes used in dyeing and printing processes**

(i) Carriers used in dyeing process Applicability: Dyeing and printing processes	Where disperse dyes are used, halogenated dyeing accelerants (carriers) shall not be used (Examples of carriers include: 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, chlorophenoxy-ethanol). *Assessment and verification:* The applicant shall provide a declaration, supported by declarations of leather, textile or coated fabric producers, their chemical supplier(s) and any relevant SDSs, that states the non-use of any halogenated carriers during the dyeing process of any leather, textiles or coated fabrics used in the furniture product.
(ii) Chrome mordant dyes Applicability: Dyeing and printing processes	Chrome mordant dyes shall not be used. *Assessment and verification:* The applicant shall provide a declaration, supported by declarations of leather, textile or coated fabric producers, their chemical supplier(s) and any relevant SDSs, that states the non-use of any chrome mordant dyes during the dyeing process of any leather, textiles or coated fabrics used in the furniture product.
(iii) Pigments Applicability: Dyeing and printing processes	Pigments based on cadmium, lead, chromium VI, mercury, arsenic and antimony shall not be used. *Assessment and verification:* The applicant shall provide a declaration, supported by declarations of leather, textile or coated fabric producers, their chemical supplier(s) and any relevant SDSs, that states the non-use of any pigments based on the mentioned heavy metals during dyeing or printing processes with any leather, textiles or coated fabrics used in the furniture product.

3 — **Finishing processes**

Fluorinated compounds Applicability: Upholstery covering materials with integrated water or stain repellent function	Fluorinated compounds shall not be impregnated into furniture upholstery covering material finishes in order to impart water, stain and oil repellent functions. This restriction includes perfluorinated and polyfluorinated substances. Non-fluorinated treatments using substances that are readily or inherently biodegradable or have a low potential to bioaccumulate in the aquatic environment shall be permitted. *Assessment and verification:* The applicant shall provide a declaration of compliance, supported by declarations from leather, textile or coated fabric producers, declarations from chemical supplier(s) and any relevant SDSs, that state non-use of fluorinated, perfluorinated or polyfluorinated substances in leather, textile or coated fabric finishing operations. In the absence of an acceptable declaration, the competent body may further request testing of the covering material according to the methods defined by CEN/TS 15968. For non-fluorinated treatments, readily or inherently biodegradability properties may be demonstrated by tests conducted according to the following methods: OECD 301 A, ISO 7827, OECD 301 B, ISO 9439, OECD 301 C, OECD 301 D, ISO 10708, OECD 301 E, OECD 301 F, ISO 9408.

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	A low potential to bioaccumulate shall be demonstrated by tests that show an octanol-water partition coefficients (Log Kow) of < 3,2 or Bioconcentration Factors (BCF) < 100. With non-fluorinated treatments, the latest revision of the Detergents Ingredients Database shall be used as a reference point for biodegradability and may, at the discretion of the competent body, be accepted as an alternative to providing test reports. http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf

4 — **Tannery effluent quality and specific water consumption**

Applicability: Leather production process	(i) The COD value in wastewater from leather tanning sites, when discharged to surface waters after treatment (whether on-site or off-site), shall not exceed 200 mg/l. *Assessment and verification:* the applicant or material supplier, as appropriate, shall provide a declaration of compliance supported by detailed documentation and test reports in accordance with ISO 6060 showing compliance with this criterion on the basis of monthly averages for the six months preceding the application. The data shall demonstrate compliance of the production site or, if the effluent is treated off-site, of the wastewater treatment operator. (ii) Total chromium concentration in tannery wastewater after treatment shall not exceed 1,0 mg/l as specified in the Commission Implementing Decision 2013/84/EU ([1]). *Assessment and verification:* the applicant or material supplier, as appropriate, shall provide a declaration of compliance supported by a test report using one of the following test methods: ISO 9174 or EN 1233 or EN ISO 11885 for chromium and showing compliance with this criterion on the basis of monthly averages for the six months preceding the application. The applicant shall provide a declaration of compliance with BAT 10, and either BAT 11 or 12, as appropriate, of Implementing Decision 2013/84/EU for the reduction of chromium content of wastewater discharges. (iii) Water consumption expressed as annual average volume of water consumed per tonne of raw hides and skins shall not exceed the limits given below:

Hides	28 m^3/t
Skins	45 m^3/t
Vegetable tanned leather	35 m^3/t
Pig skin	80 m^3/t
Sheepskins	180 l/skin

Assessment and verification: the applicant shall provide a declaration of compliance from the leather supplier or leather manufacturing company, as appropriate. The declaration shall specify the annual amount of leather production and related water consumption based on the monthly average values of the last 12 months preceding the application, measured by the quantity of waste water discharged.

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	If the leather production process is conducted in different geographical locations, the applicant or supplier of semi-finished leather shall provide documentation that specifies the quantity of water discharged (m^3) for the quantity of semi-finished leather processed in tonnes (t) or number of skins for sheepskin, as appropriate, based on the monthly average values during the 12 months preceding the application.

([1]) Commission Implementing Decision 2013/84/EU of 11 February 2013 establishing the best available techniques (BAT) conclusions under Directive 2010/75/EU of the European Parliament and of the Council on industrial emissions for the tanning of hides and skins (OJ L 45, 16.2.2013, p. 13).

Assessment and verification: The applicant shall compile all relevant declarations, SDSs and supporting test reports from leather, textile or coated fabric producers, or their suppliers, that are relevant to demonstrate compliance with the requirements for non-use of the hazardous substances listed in Table 11.

Upholstery covering materials made of textiles that have been awarded the EU Ecolabel in accordance with Decision 2014/350/EU shall be considered compliant with this criterion for non-use of the listed hazardous substances during production processes, however a copy of the EU Ecolabel certificate must be provided.

6.4. *Cotton and other natural cellulosic seed fibres*

Cotton that contains equal or greater than 70 % weight by weight of recycled content is exempted from the requirements of criterion 6.4.

Cotton and other natural cellulosic seed fibres (hereinafter referred to as cotton) that are not recycled fibres, shall contain a minimum content of either organic cotton (see criterion 6.4(a)) or integrated pest management (IPM) cotton (see criterion 6.4(b)).

Textiles that have been awarded the EU Ecolabel based on the ecological criteria established in Decision 2014/350/EU are considered to comply with criterion 6.4.

Assessment and verification: The applicant or material supplier, as appropriate, shall provide a declaration of compliance.

Where EU Ecolabel textiles are used, the applicant shall provide a copy of the EU Ecolabel certificate showing that it was awarded in accordance with Decision 2014/350/EU.

Where applicable, recycled content shall be traceable back to the reprocessing of the feedstock. This shall be verified by independent third party certification of the chain of custody or by documentation provided by feedstock suppliers and reprocessors.

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6.4(a) Organic production standard

A minimum of 10 % weight by weight of the non-recycled cotton fibre used in upholstery materials shall be grown according to the requirements laid down in Council Regulation (EC) No 834/2007 ([1]), the US National Organic Programme (NOP) or equivalent legal obligations set by trading partners of the EU. The organic cotton content may include organically grown cotton and transitional organic cotton.

Where the organic cotton is to be blended with conventional or IPM cotton, cotton shall be from non-genetically modified varieties.

Organic content claims may only be made when the organic content is a minimum of 95 %.

Assessment and verification: The applicant or material supplier, as appropriate, shall provide a declaration of compliance for the organic content supported by evidence certified by an independent control body to have been produced in conformity with the production and inspection requirements laid down in Regulation (EC) No 834/2007, the US National Organic Programme (NOP) or those set by other trading partners. Verification shall be provided for each country of origin.

The applicant or material supplier, as appropriate, shall demonstrate compliance with the minimum organic cotton content requirement based on the annual volume of cotton purchased to manufacture the final product(s) and according to each product line. Transaction records and/or invoices shall be provided that document the quantity of certified cotton purchased.

For conventional or IPM cotton that is used in blends with organic cotton, a screening test for common genetic modifications shall be accepted as a proof of compliance of the cotton variety.

6.4(b) Cotton production according to Integrated Pest Management (IPM) principles and restriction on pesticides

A minimum of 20 % weight by weight of the non-recycled cotton fibre used in upholstery materials shall be grown according to IPM principles as defined by the UN Food and Agricultural Organisation (FAO) IPM programme, or Integrated Crop Management (ICM) systems incorporating IPM principles.

IPM cotton destined for use in the final product shall be grown without the use of any of the following substances: aldicarb, aldrin, campheclor (toxaphene), captafol, chlordane, 2,4,5-T, chlordimeform, cypermethrin, DDT, dieldrin, dinoseb and its salts, endosulfan, endrin, heptachlor, hexachlorobenzene, hexachlorocyclohexane (total isomers), methamidophos, methylparathion, monocrotophos, neonicotinoids (clothianidine, imidacloprid, thiametoxam), parathion, pentachlorophenol.

([1]) Council Regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products and repealing Regulation (EEC) No 2092/91 (OJ L 189, 20.7.2007, p. 1).

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Assessment and verification: The applicant or material supplier, as appropriate, shall provide a declaration of compliance with criterion 6.4(b), supported by evidence that at least 20 % weight by weight of the non-recycled cotton contained in the product has been grown by farmers that have participated in formal training programmes of the UN FAO or Government IPM and ICM programmes and/or that have been audited as part of third party certified IPM schemes. Verification shall either be provided on an annual basis for each country of origin or on the basis of certifications for all IPM cotton purchased to manufacture the product.

The applicant of material supplier, as appropriate, shall also declare that the IPM cotton was not grown using any of the substances listed in criterion 6.4(b). IPM certification schemes that exclude the use of listed substances shall be accepted as a proof of compliance.

Criterion 7 — Upholstery padding materials

7.1. *Latex foam*

7.1(a) Restricted substances

The concentrations in the latex foam of the substances listed below shall not exceed the limit values shown in Table 12.

Table 12

Restricted substances in latex foams used in furniture upholstery padding materials

Group of substances	Substance	Limit value (ppm)	Assessment and verification conditions
Chlorophenols	mono- and di-chlorinated phenols (salts and esters)	1	A
	Other chlorophenols	0,1	A
Heavy metal	As (Arsenic)	0,5	B
	Cd (Cadmium)	0,1	B
	Co (Cobalt)	0,5	B
	Cr (Chromium), total	1	B
	Cu (Copper)	2	B
	Hg (Mercury)	0,02	B
	Ni (Nickel)	1	B
	Pb (Lead)	0,5	B
	Sb (Antimony)	0,5	B
Pesticides (only to be tested for foams composed of natural latex by at least 20 % by weight),	Aldrin	0,04	C
	o,p-DDE	0,04	C
	p,p-DDE	0,04	C

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Group of substances	Substance	Limit value (ppm)	Assessment and verification conditions
	o,p-DDD	0,04	C
	p,p-DDD	0,04	C
	o,p-DDT	0,04	C
	p,p-DDT	0,04	C
	Diazinone	0,04	C
	Dichlorfenthion	0,04	C
	Dichlorvos	0,04	C
	Dieldrin	0,04	C
	Endrin	0,04	C
	Heptachlor	0,04	C
	Heptachlorepoxide	0,04	C
	Hexachlorobenzene	0,04	C
	Hexachlorocyclohexane	0,04	C
	α-Hexachlorocyclohexane	0,04	C
	β-Hexachlorcyclohexane	0,04	C
	γ-Hexachlorocyclohexane (Lindane)	0,04	C
	δ-Hexachlorocyclohexane	0,04	C
	Malathion	0,04	C
	Methoxichlor	0,04	C
	Mirex	0,04	C
	Parathion-ethyl	0,04	C
	Parathion-methyl	0,04	C
Other specific substances that are restricted	Butadiene	1	D

Assessment and verification: The applicant shall provide a declaration of compliance with criterion 7.1(a) and, if applicable, test reports according to the following methods:

A. For clorophenols the applicant shall provide a report presenting the results of the following test procedure. 5 g of sample shall be milled and clorophenols shall be extracted in the form of phenol (PCP), sodium salt (SPP) or esters. The extracts shall be analysed by means of gas chromatography (GC). Detection shall be made with mass spectrometer or electron capture detector (ECD).

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B. For heavy metals the applicant shall provide a report presenting the results of the following test procedure. Milled sample material is eluted in accordance with DIN 38414-S4 or equivalent in a ratio of 1:10. The resultant filtrate shall be passed through a 0,45 μm membrane filter (if necessary by pressure filtration). The solution obtained shall be examined for the content of heavy metals by inductively coupled plasma optical emission spectrometry (ICP-OES), also known as inductively coupled plasma atomic emission spectrometry (ICP-AES), or by atomic absorption spectrometry using a hydride or cold vapour process.

C. For pesticides the applicant shall provide a report presenting the results of the following test procedure. 2 g of sample is extracted in an ultrasonic bath with a hexane/dichloromethane mixture (85/15). The extract is cleaned up by acetonitrile agitation or by adsorption chromatography over florisil. Measurement and quantification are determined by gas chromatography with detection on an electron capture detector or by coupled gas chromatography/mass spectrometry. The testing on pesticides is requested for latex foams with a content of at least 20 % natural latex.

D. For butadiene the applicant shall provide a report presenting the results of the following test procedure. Following milling and weighing of the latex foam, headspace sampling shall be performed. Butadiene content shall be determined by gas chromatography with detection by flame ionisation.

7.1(b) 24h VOC emissions

After 24 hours, the test chamber concentrations of the VOCs listed below shall not exceed the limit values shown in Table 13.

Table 13

VOC emission limits for latex foams

Substance	Limit value (mg/m^3)
1,1,1 — trichloroethane	0,2
4-Phenylcyclohexene	0,02
Carbon Disulphide	0,02
Formaldehyde	0,005
Nitrosamines (*)	0,0005
Styrene	0,01
Tetrachloroethylene	0,15
Toluene	0,1
Trichlorethylene	0,05
Vinyl chloride	0,0001

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Substance	Limit value (mg/m^3)
Vinyl cyclohexene	0,002
Aromatic hydrocarbons (total)	0,3
VOCs (total)	0,5

(*) N-nitrosodimethylamine (NDMA), N-nitrosodiethylamine (NDEA), N-nitrosomethylethylamine (NMEA), N-nitrosodi-i-propylamine (NDIPA), N-nitrosodi-n- propylamine (NDPA), N-nitrosodi-n-butylamine (NDBA), N-nitrosopyrrolidinone (NPYR), N-nitrosopiperidine (NPIP), N-nitrosomorpholine (NMOR).

Assessment and verification: The applicant shall provide a declaration of compliance with criterion 7.1(b) which, if applicable, shall be supported by a test report presenting the results of chamber test analysis in accordance with ISO 16000-9.

The wrapped sample shall be stored at room temperature at least for 24 hours. After this period the sample shall be unwrapped and immediately transferred into the test chamber. The sample shall be placed on a sample holder, which allows air access from all sides. The climatic factors shall be adjusted according to ISO 16000-9. For comparison of test results, the area specific ventilation rate (q = n/l) shall be 1. The ventilation rate shall be between 0,5 and 1. The air sampling shall be done 24 ± 1 h after loading of the chamber during 1 hour on DNPH cartridges for the analysis of formaldehyde and other aldehydes and on Tenax TA for the analysis of other volatile organic compounds. Sampling duration for other compounds may be longer but shall be completed before 30 hours.

The analysis of formaldehyde and other aldehydes shall comply with the standard ISO 16000-3. Unless specified differently, the analysis of other volatile organic compounds shall comply with the standard ISO 16000-6.

Testing following the standard CEN/TS 16516 shall be considered as equivalent to those of the ISO 16000 series of standards.

The analysis of nitrosamines shall be done by means of gas chromatography in combination with a thermal energy analysis detector (GC-TEA), in accordance with the BGI 505-23 method (formerly: ZH 1/120.23) or equivalent.

7.2. *Polyurethane (PUR) foam*

7.2(a) Restricted substances and mixtures

The concentrations in the PUR foam of the substances and mixtures listed below shall not exceed the limit values shown in Table 14.

Table 14

List of restricted substances and mixtures in PUR

Substance group	Substance (acronym, CAS number, element symbol)	Limit value	Method
Biocidal products		Not added intentionally	A
Flame retardants		Not added (unless in compliance with conditions in Table 2 entries (b) and (c)	A

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Substance group	Substance (acronym, CAS number, element symbol)	Limit value	Method
Heavy Metals	As (Arsenic)	0,2 ppm	B
	Cd (Cadmium)	0,1 ppm	B
	Co (Cobalt)	0,5 ppm	B
	Cr (Chromium), total	1,0 ppm	B
	Cr VI (Chromium VI)	0,01 ppm	B
	Cu (Copper)	2,0 ppm	B
	Hg (Mercury)	0,02 ppm	B
	Ni (Nickel)	1,0 ppm	B
	Pb (Lead)	0,2 ppm	B
	Sb (Antimony)	0,5 ppm	B
	Se (Selenium)	0,5 ppm	B
Plasticizers	Dibutylphthalate (DBP, 84-74-2) (*)	0,01 % w/w (sum of all 6 phthalates in furniture for children less than 3 years old)	C
	Di-n-octylphthalate (DNOP, 117-84-0) (*)		
	Di (2-ethylhexyl)-phthalate (DEHP, 117-81-7) (*)		
	Butylbenzylphthalate (BBP, 85-68-7) (*)		
	Di-iso-decylphthalate (DIDP, 26761-40-0)		
	Di-iso-nonylphthalate (DINP, 28553-12-0)		
	ECHA Candidate List (**) phthalates	Not added intentionally	A
TDA and MDA	2,4 Toluenediamine (2,4-TDA, 95-80-7)	5,0 ppm	D
	4,4′-Diaminodiphenylmethane (4,4′-MDA, 101-77-9)	5,0 ppm	D
Tinorganic substances	Tributyltin (TBT)	50 ppb	E
	Dibutyltin (DBT)	100 ppb	E
	Monobutyltin (MBT)	100 ppb	E

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Substance group	Substance (acronym, CAS number, element symbol)	Limit value	Method
	Tetrabutyltin (TeBT)	—	—
	Monooctyltin (MOT)	—	—
	Dioctyltin (DOT)	—	—
	Tricyclohexyltin (TcyT)	—	—
	Triphenyltin (TPhT)	—	—
	Sum	500 ppb	E
Other specific substances that are restricted	Chlorinated or brominated dioxins or furans	Not added intentionally	A
	Chlorinated hydrocarbons: (1,1,2,2-Tetrachloroethane, Pentachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene)	Not added intentionally	A
	Chlorinated phenols (PCP, TeCP, 87-86-5)	Not added intentionally	A
	Hexachlorocyclohexane (58-89-9)	Not added intentionally	A
	Monomethyldibromo–Diphenylmethane (99688-47-8)	Not added intentionally	A
	Monomethyldichloro-Diphenylmethane (81161-70-8)	Not added intentionally	A
	Nitrites	Not added intentionally	A
	Polybrominated Biphenyls (PBB, 59536-65-1)	Not added intentionally	A
	Pentabromodiphenyl Ether (PeBDE, 32534-81-9)	Not added intentionally	A
	Octabromodiphenyl Ether (OBDE, 32536-52-0)	Not added intentionally	A
	Polychlorinated Biphenyls (PCB, 1336-36-3)	Not added intentionally	A
	Polychlorinated Terphenyls (PCT, 61788-33-8)	Not added intentionally	A
	Tris(2,3-dibromopropyl) phosphate (TRIS, 126-72-7)	Not added intentionally	A
	Trimethylphosphate (512-56-1)	Not added intentionally	A
	Tris-(aziridinyl)-phosphinoxide (TEPA, 545-55-1)	Not added intentionally	A

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Substance group	Substance (acronym, CAS number, element symbol)	Limit value	Method
	Tris(2-chloroethyl)-phosphate (TCEP, 115-96-8)	Not added intentionally	A
	Dimethyl methylphosphonate (DMMP, 756-79-6)	Not added intentionally	A

(*) 0,01 % w/w (sum of 4 phthalates in all other furniture products)
(**) With reference to the latest version of the ECHA Candidate List at the time of application.

Assessment and verification: The applicant shall provide a declaration of compliance with criterion 7.2(a). Where testing is required, the applicant shall provide the test results and demonstrating compliance with the limits in Table 14. For methods B, C, D and E where analysis is required, 6 composite samples shall be taken from a maximum depth of up to 2 cm from the surface faces of the material sent to the relevant laboratory.

A. For biocidal products, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from suppliers of the foam confirming that they have not been added intentionally to the foam formulation.

B. For heavy metals the applicant shall provide a report presenting the results of the following test procedure. Milled sample material is eluted in accordance with DIN 38414-S4 or equivalent in a ratio of 1:10. The resultant filtrate shall be passed through a 0,45 µm membrane filter (if necessary by pressure filtration). The solution obtained shall be examined for the content of heavy metals by atomic emission spectrometry with inductively coupled plasma (ICP-AES or ICP-OES) or by atomic absorption spectrometry using a hydride or cold vapour process.

C. For the total amount of plasticizers the applicant shall provide a report presenting the results of the following test procedure. Extraction shall be performed using a validated method such as the subsonic extraction of 0,3 g of sample in a vial with 9 ml of t-Butylmethylether during 1 hour followed by the determination of phthalates by GC using a single ion monitoring mass selective detector (SIM Modus).

D. For TDA and MDA the applicant shall provide a report presenting the results of the following test procedure. Extraction of a 0,5 g composite sample in a 5 ml syringe shall be performed with 2,5 ml of 1 % aqueous acetic acid solution. The syringe is squeezed and the liquid returned to the syringe. After repeating this operation 20 times, the final extract is kept for analysis. A new 2,5 ml of 1 % aqueous acetic acid is then added to the syringe and another 20 cycles repeated. After this, the extract is combined with the first extract and diluted to 10 ml in a volumetric flask with acetic acid. The extracts shall be analysed by high-performance liquid chromatography (HPLC-UV) or HPLC-MS. If HPLC-UV is performed and interference is suspected, reanalysis with high performance liquid chromatography–mass spectrometry (HPLC-MS) shall be performed.

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E. For tinorganic substances the applicant shall provide a report presenting the results of the following test procedure. A composite sample of 1-2 g weight shall be mixed with at least 30 ml of extracting agent during 1 hour in an ultrasonic bath at room temperature. The extracting agent shall be a mixture composed as it follows: 1 750 ml methanol + 300 ml acetic acid + 250 ml buffer (pH 4,5). The buffer shall be a solution of 164 g of sodium acetate in 1 200 ml of water and 165 ml acetic acid, to be diluted with water to a volume of 2 000 ml. After extraction the alkyl tin species shall be derivatised by adding 100 µl of sodium tetraethylborate in tetrahydrofuran (THF) (200 mg/ml THF). The derivative shall be extracted with n-hexane and the sample shall be submitted to a second extraction procedure. Both hexane extracts shall be combined and further used to determine the organotin compounds by gas chromatography with mass selective detection in SIM modus.

7.2(b) 72 h VOC emissions

After 72 hours, the test chamber concentrations of the substances listed below shall not exceed the limit values shown in Table 15.

Table 15

72-hour VOC emission limits for PUR foams

Substance (CAS number)	Limit value (mg/m^3)
Formaldehyde (50-00-0)	0,005
Toluene (108-88-3)	0,1
Styrene (100-42-5)	0,005
Each detectable compound classified as categories C1A or C1B according to Regulation (EC) No 1272/2008	0,005
Sum of all detectable compound classified as categories C1A or C1B according to Regulation (EC) No 1272/2008	0,04
Aromatic hydrocarbons	0,5
VOCs (total)	0,5

Assessment and verification: The applicant shall provide a declaration of compliance with criterion 7.2(b). If applicable, the declaration shall be supported by test results that show compliance with the limits stated in Table 15. The test sample/chamber combination shall be either:

1 sample of 25 × 20 × 15 cm dimensions is placed in a 0,5 m^3 test chamber or

2 samples of 25 × 20 × 15 cm dimensions are placed in a 1,0 m^3 test chamber.

The foam sample shall be placed on the bottom of an emission test chamber and conditioned for 3 days at 23 °C and 50 % relative humidity, applying an air exchange rate n of 0,5 per hour and a chamber loading L of 0,4 m^2/m^3 (= total exposed surface of sample in relation to chamber dimensions without sealing edges and back) in accordance with ISO 16000-9 and ISO 16000-11.

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Sampling shall be done 72 ± 2 h after loading of the chamber during 1 hour via Tenax TA and DNPH cartridges for VOC and formaldehyde analysis respectively. The emissions of VOC are being trapped on Tenax TA sorbent tubes and subsequently analysed by means of thermo-desorption-GC-MS in accordance to ISO 16000-6.

Results are semi-quantitatively expressed as toluene equivalents. All specified individual analytes are reported from a concentration limit ≥ 1 μg/m^3. Total VOC value is the sum of all analytes with a concentration ≥ 1 μg/m^3 and eluting within the retention time window from n-hexane (C6) to n-hexadecane (C16), both included. The sum of all detectable compounds classified as categories C1A or C1B according to Regulation (EC) No 1272/2008 is the sum of all these substances with a concentration ≥ 1 μg/m^3. In case the test results exceed the standard limits, substance specific quantification needs to be performed. Formaldehyde can be determined by collection of the sampled air onto DNPH cartridge and subsequent analysis by HPLC/UV in accordance to ISO 16000-3.

Testing following the standard CEN/TS 16516 shall be considered as equivalent to those of the ISO 16000 series of standards.

7.2(c) Blowing agents

Halogenated organic compounds shall not be used as blowing agents or as auxiliary blowing agents.

Assessment and verification: The applicant shall provide a declaration of non-use from the manufacturer of the foam.

7.3. *Other padding materials*

Other materials may be permitted to be used as padding in furniture upholstery if the following conditions are met:

— General requirements for hazardous substances set out in criterion 2 are respected.

— Halogenated organic compounds are not used as blowing agents or as auxiliary blowing agents.

— Feathers or down are not be used as padding/filling material either alone or in blends.

— If the padding/filling material uses coconut fibre rubberised using latex, compliance with criterion 7.1(a) and 7.1(b) is demonstrated.

Assessment and verification: The applicant shall provide a declaration of compliance stating:

(i) The nature of the padding/filling material used and any other blended materials;

(ii) That the material does not contain any SVHCs or other hazardous substances that are not specifically derogated in Table 2.

(iii) That halogenated organic compounds have not been used as blowing agents or as auxiliary blowing agents.

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(iv) That down or animal feathers have not been used in the filling/padding material, either alone or in blends.

(v) If coconut fibres have been rubberised with latex, then compliance with criterion 7.1 for restricted substances and VOC emissions shall be demonstrated.

Criterion 8 — Glass: use of heavy metals

This criterion applies to any glass-material included in the final furniture product regardless of the weight fraction it presents.

Any glass used in the furniture product shall comply with the following conditions:

— Not contain leaded glass.

— Not contain lead, mercury or cadmium impurities at levels exceeding 100 mg/kg per metal.

— For mirror glass, any paints, primers or varnishes used on the mirror backing shall have a lead content less than 2 000 mg/kg of the in-can substance. Coatings shall be applied using the ‘tin process’ instead of the ‘copper process’.

Assessment and verification:

(i) The applicant shall provide a declaration from the glass supplier stating that no leaded glass is present in the final furniture product. In the absence of a suitable declaration, the competent body may request analysis of glass in the final furniture product via a non-destructive method using a portable X-Ray Flourescence instrument.

(ii) The applicant shall provide a declaration from the glass supplier stating that the glass present in the furniture product does not contain lead, mercury or cadmium impurities at levels exceeding 100 mg/kg (0,01 % w/w). In the absence of a suitable declaration, the competent body may request testing of these metals in the glass by X-Ray Fluorescence according to the principles of the ASTM F2853-10 standard or equivalent.

(iii) The applicant shall provide a declaration from the mirror supplier that all paint, primer and varnish formulations used on any mirror backing contains less than 2 000 mg/kg lead (0,2 % w/w). The declaration shall be supported by a relevant SDS or similar documentation. A further declaration from the mirror glass supplier shall be provided stating that the backing has been applied using the ‘tin process’ and not the ‘copper process’.

Criterion 9 — Final product requirements

9.1. *Fitness for use*

EU Ecolabel furniture shall be considered as fit for use if it complies with the requirements set out in the latest versions of any relevant EN standards listed in Appendix IV that relate to the durability, dimensional requirements, safety and strength of the product.

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Assessment and verification: The applicant shall provide a declaration stating which (if any) standards in Appendix IV apply to the product and then provide a declaration of compliance with any relevant EN standards, supported by test reports from either the furniture manufacturer or component part/material suppliers, as appropriate.

9.2. *Extended product guarantee*

The applicant shall provide at no additional cost a minimum of a five year guarantee effective from the date of delivery of the product. This guarantee shall be provided without prejudice to the legal obligations of the manufacturer and seller under national law.

Assessment and verification: The applicant shall provide a declaration of compliance and indicate the terms and conditions of the extended product guarantee that are provided in consumer information documentation and that meet the minimum requirements set out in this criterion.

9.3. *Provision of spare parts*

The furniture manufacturer shall make spare parts available to customers for a period of at least 5 years from the date of delivery of the product. The cost (if any) of spare parts shall be proportional to the total cost of the furniture product. Contact details that shall be used in order to arrange the delivery of spare parts shall be provided.

Assessment and verification: The applicant shall provide a declaration that spare parts shall be available for a period of at least 5 years from the date of delivery of the product. The parts shall be available for free during the guarantee period if the goods are found to be faulty during normal use or at a proportionate cost if the goods were damaged by misuse. Contact information shall be included in consumer information.

9.4. *Design for disassembly*

For furniture consisting of multiple component parts/materials, the product shall be designed for disassembly with a view to facilitating repair, reuse and recycling. Simple and illustrated instructions regarding the disassembly and replacement of damaged component parts/materials shall be provided. Disassembly and replacement operations shall be capable of being carried out using common and basic manual tools and unskilled labour.

Assessment and verification: The applicant shall provide technical drawings that illustrate how the furniture item can be assembled/disassembled using basic tools and unskilled labour. In the case of upholstery, such disassembly may include the use of zip fastenings and velcro to attach/detach sofa cushions from the frame and interior padding from covering materials. If necessary, provision must be made for screw fittings that go directly into wood-based panels so that the screw can be re-inserted during reassembly at a different point than where it was removed from during disassembly.

9.5. *VOC emissions*

If the furniture product contains any of the component parts/materials listed below, VOC emission testing shall be required:

— Upholstery coverings made of leather;

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— Upholstery coverings made of coated fabrics;

— Any component parts that account for more than 5 % of the total furniture product weight (excluding packaging) and that have been treated with high VOC content (higher than 5 %) coating formulations that have been applied at rates greater than 30 g/m^2 of coated surface area or whose application rates have not been calculated.

Packaging and delivery of samples sent for testing, their handling and conditioning, test chamber requirements and gas analysis methods shall follow the procedures described in the ISO 16000 set of standards.

Testing may be carried out on the entire furniture product (see conditions and limits in Table 16) or in smaller test chambers specifically for the component parts/materials listed above (see conditions and limits in Table 17).

VOC emissions shall not exceed the limit values given in Table 16 and Table 17.

Table 16

Maximum VOC emission limit values for specific furniture products

Test parameter	Armchairs and Sofas		Office chairs		Other furniture items
Chamber volume	In the range of 2-10 m^3				
Loading rate	Product shall occupy approximately 25 % of chamber volume				(*) 0,5-1,5 m^2/m^3
Ventilation rate	4,0 m^3/h		2,0 m^3/h		(*) 0,5-1,5 h^{-1}
Substance	3d	28d	3d	28d	28d
Formaldehyde	—	60 µg/m^3	—	60 µg/m^3	60 µg/m^3
TVOC (*)	≤ 3 000 µg/m^3	≤ 400 µg/m^3	—	≤ 450 µg/m^3	≤ 450 µg/m^3
TSVOC	—	≤ 100 µg/m^3	—	≤ 80 µg/m^3	≤ 80 µg/m^3
C-substances ([1])	≤ 10 µg/m^3 (total limit)	≤ 1 µg/m^3 (per substance)	≤ 10 µg/m^3 (total limit)	≤ 1 µg/m^3 (per substance)	≤ 1 µg/m^3 (per substance)
R-value for LCI substances ([2])	—	≤ 1	—	≤ 1	≤ 1

(*) Although there is scope to vary the loading rate and ventilation rate for other furniture items, the ratio between the loading rate (m^2/m^3) and the ventilation rate (h^{-1}) shall be maintained at 1,0.

([1]) Formaldehyde is excluded from consideration within cumulative carcinogenic VOC emission calculations and instead has its own individual limit.

([2]) R value = total of all quotients (C_i/LCI_i) < 1 (where C_i = substance concentration in the chamber air, LCI_i = LCI value of the substance as defined by the latest data defined under the European Collaborative Action ‘Urban air, indoor environment and human exposure’.

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Table 17

Maximum VOC emission limit values for targeted furniture materials/parts

Test parameter	Coated component parts		Leather or coated fabric upholstery covering materials	
Minimum allowed chamber volume	200 L for wood-based component parts 20 L for other component parts		20 L	
Ventilation rate	0,5 h^{-1}		1,5 $m^3/m^2 \cdot h$	
Substance	3d	28d	3d	28d
Formaldehyde	—	60 µg/m^3	—	60 µg/m^3
TVOC	≤ 3 000 µg/m^3	≤ 400 µg/m^3	—	≤ 450 µg/m^3
TSVOC	—	≤ 100 µg/m^3	—	≤ 80 µg/m^3
C-substances (1)	≤ 10 µg/m^3 (total limit)	≤ 1 µg/m^3 (per substance)	≤ 10 µg/m^3 (total limit)	≤ 1 µg/m^3 (per substance)
R-value for LCI substances (2)	—	≤ 1	—	≤ 1

(1) Formaldehyde is excluded from consideration within cumulative carcinogenic VOC emission calculations and instead has its own individual limit.

(2) R value = total of all quotientes (C_i/LCI_i) < 1 (where C_i = substance concentration in the chamber air, LCI_i = LCI value of the substance as defined by the latest data defined under the European Collaborative Action 'Urban air, indoor environment and human exposure'.

Assessment and verification: Where the furniture product is deemed to require final product VOC emission testing, the applicant shall provide a declaration of compliance, supported by a test report from chamber tests carried according to the ISO 16000 series of standards. Tests carried out according to CEN/TS 16516 shall be considered as equivalent to ISO 16000. If the chamber concentration limits specified at 28 days can be met 3 days after placing the sample in the chamber, or any other time period between 3 and 27 days after placing the sample in the chamber, then the compliance with the requirements can be declared and the test may be stopped prematurely.

Test data from up to 12 months prior to the EU Ecolabel application shall be valid for products or component parts/materials so long as no changes to the manufacturing process or chemical formulations used have been made that would be considered to increase VOC emissions from the final product or relevant component parts/materials.

Test data demonstrating compliance with the limits in Table 17 for relevant component parts/materials that is provided directly by suppliers shall also be accepted if they are accompanied by a declaration from that supplier.

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Criterion 10 — Consumer Information

A single consumer information document shall be provided with the product which includes information in the language of the country where the product is placed on the market, relating to the following aspects:

— A product description as per the requirements of criterion 1.

— A detailed description of the best ways to dispose of the product (i.e. reuse, take-back initiative by the applicant, recycling, energy recovery) shall be given to the consumer, ranking them according to their impact on the environment.

— Information about the polymer types of any plastic component parts with a weight greater than 100 g that were not marked in accordance with the requirements of criterion 4.1.

— A declaration that the designation, description, label or marking of leather are used in accordance with the requirements established in EN 15987 and EN 16223.

— A clear statement under what conditions the furniture product should be used. For example indoors, outdoors, temperature ranges, load bearing capacities and how to correctly clean the product.

— Information regarding the type of glass used, any safety information, its suitability for contact with hard materials such as glass, metal or stone and information regarding the correct disposal of the glass, for example its compatibility or non-compatibility with post-consumer container glass.

— A declaration of compliance with relevant fire safety regulations in the country of sale for upholstered furniture, details regarding which flame retardants have been used (if any) and in what materials (if any).

— A declaration of the non-use of biocidal products in order to provide a final disinfective effect in any furniture that is clearly marketed for indoor use and with outdoor furniture, a declaration of which active substances of biocidal products have been used (if any) and in what materials (if any).

— A statement of compliance with any relevant EN standards as referred to in criterion 9.1 and Appendix IV.

— Relevant information regarding the terms and conditions of the product guarantee as per the requirements of criterion 9.2.

— Relevant contact information regarding provision of spare parts as per the requirements of criterion 9.3.

— Well illustrated assembly and disassembly instructions as per the requirements of criterion 9.4.

Assessment and verification: The applicant shall provide a copy of the consumer information document that is to be provided with the product that shows compliance with each of the points listed in the criterion, as appropriate.

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Criterion 11 — Information appearing on the EU Ecolabel

If the optional label with text box is used, it shall contain, where relevant, three of the following statements:

— Wood, cork, bamboo and rattan from sustainably managed forests

— Recycled content (wood or plastic, if applicable)

— Restricted hazardous substances

— Not treated with biocidal products (if applicable)

— Not treated with flame retardants (if applicable)

— Low formaldehyde emission product

— Low VOC emission product

— Product designed for disassembly and ease of repair

— Where cotton-based textile materials have been used in furniture upholstery using organic or IPM cotton, text may be displayed in box 2 of the EU Ecolabel as follows:

Table 18

Information that may appear alongside the EU Ecolabel relating to cotton in textiles

Production specification	Text that may be displayed
Organic content of more than 95 %	Textiles made with organic cotton
IPM content of more than 70 %	Cotton grown with reduced use of pesticides

The guidelines for the use of the optional label with the text box can be found in the ‘Guidelines for the use of the EU Ecolabel logo’ on the website:

http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf

Assessment and verification: The applicant shall provide a declaration of compliance with this criterion.

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Appendix I

GUIDANCE FOR CALCULATING VOC USED IN SURFACE COATINGS

The calculation method requires the following information:

— Total coated surface area of final assembled product

— The VOC content of the coating compound (in g/L).

— The volume of coating compound present before the coating operation.

— The number of identical units processed during the coating operation.

— The volume of coating compound remaining after the coating operation.

An example calculation is as follows:

Total coated surface area of final assembled product	= 1,5 m^2.
The VOC content of the coating compound (in g/L)	= 120 g/L.
The volume [1] of coating compound present before coating operation	= 18,5 L.
The number of identical units processed during the coating operation	= 4.
The volume [1] of coating compound remaining after coating operation	= 12,5 L

Total area coated	= 4 × 1,5 m^2	= 6 m^2.
Total volume of coating compound used	= 18,5 — 12,5	= 6 L.
Total VOC applied to surface	= 3,9 L × 120 g/L	= 468 g
Total VOC applied per m^2	= 468 g/6 m^2	= 78 g/m^2.

Where more than one coating compound is applied, such as primers or finishing coats, the volumetric consumption and VOC contents shall also be calculated and added together.

Options to lower the total quantity of VOCs content used in coating operations include using more efficient techniques. Indicative efficiencies of different coating techniques are shown below.

Table

Indicative efficiency factors for coating techniques:

Coating technique	Effectiveness (%)	Efficiency factor
Spraying device without recycling	50	0,5
Electrostatic spraying	65	0,65

[1] Note that weight measurements can be used instead of volume so long as the density of the coating compound is known and accounted for in the calculation.

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Coating technique	Effectiveness (%)	Efficiency factor
Spraying device with recycling	70	0,7
Spraying bell/disk	80	0,8
Roller varnishing	95	0,95
Blanket varnishing	95	0,95
Vacuum varnishing	95	0,95
Dipping	95	0,95
Rinsing	95	0,95

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Appendix II

EN 13336 REQUIREMENTS FOR FURNITURE LEATHER

Table

Physical requirements of leather used in EU Ecolabel furniture (as per EN 13336)

Fundamental characteristics	Test method		Recommended values		
			Nubuck, Suede and Aniline (*)	Semi-aniline (*)	Coated, pigmented and other (*)
pH and ΔpH	EN ISO 4045		≥ 3,5 (if the pH is < 4,0, ΔpH shall be ≤ 0,7		
Tear load, average value	EN ISO 3377-1		> 20 N		
Colour fastness to to-and-fro rubbing	EN ISO 11640. Total mass of finger 1 000 g. Perspiration alkaline solution as defined in EN ISO 11641.	Aspects to be evaluated	Change of leather colour and felt staining	Change of leather colour and felt staining No destruction of finish	
		using dry felt	50 cycles, ≥ 3 grey scale	500 cycles, ≥ 4 grey scale	
		using wet felt	20 cycles, ≥ 3 grey scale	80 cycles, ≥ 3/4 grey scale	250 cycles, ≥ 3/4 grey scale
		using felt wetted with artificial perspiration	20 cycles, ≥ 3 grey scale	50 cycles, ≥ 3/4 grey scale	80 cycles, ≥ 3/4 grey scale
Colour fastness to artificial light	EN ISO 105-B02 (method 3)		≥ 3 blue scale	≥ 4 blue scale	≥ 5 blue scale
Dry finish adhesion	EN ISO 11644		—	≥ 2 N/10 mm	
Dry flex resistance	EN ISO 5402-1		For aniline leather with non-pigmented finish only, 20 000 cycles (no finish damage cracks)	50 000 cycles (no finish damage cracks)	50 000 cycles (no finish damage cracks)
Colour fastness to water spotting	EN ISO 15700		≥ 3 grey scale (no permanent swelling)		
Cold crack resistance of finish	EN ISO 17233		—	– 15 °C (no finish crack)	
Fire resistance	EN 1021 or relevant national standards		Pass		

(*) Definitions of these leather types are according to EN 15987.

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Appendix III

PROHIBITED ARYLAMINE COMPOUNDS IN FINAL LEATHER, TEXTILE AND COATED FABRIC MATERIALS

Included here are the substances listed in Entry 43 of Annex XVII to Regulation (EC) No 1907/2006 that shall be tested for in any dyed leather (using the EN 17234 standard) or textiles (using the EN 14362-1 and -3 standards).

Table 1

Carcinogenic arylamines to be tested in textiles or leather.

Aryl amine	CAS Number	Aryl amine	CAS Number
4-aminodiphenyl	92-67-1	4,4′-oxydianiline	101-80-4
Benzidine	92-87-5	4,4′-thiodianiline	139-65-1
4-chloro-o-toluidine	95-69-2	o-toluidine	95-53-4
2-naphtylamine	91-59-8	2,4-diaminotoluene	95-80-7
o-amino-azotoluene	97-56-3	2,4,5-trimethylaniline	137-17-7
2-amino-4-nitrotoluene	99-55-8	4-aminoazobenzene	60-09-3
4-chloroaniline	106-47-8	o-anisidine	90-04-0
2,4-diaminoanisol	615-05-4	2,4-Xylidine	95-68-1
4,4′-diaminodiphenylmethane	101-77-9	2,6-Xylidine	87-62-7
3,3′-dichlorobenzidine	91-94-1	p-cresidine	120-71-8
3,3′-dimethoxybenzidine	119-90-4	3,3′-dimethylbenzidine	119-93-7
3,3′-dimethyl-4,4′-diaminodiphenylmethane	838-88-0	4,4'-methylene-bis-(2-chloroaniline)	101-14-4

A number of other dye compounds, which are not directly restricted by Entry 43 of Annex XVII to Regulation (EC) No 1907/2006, are known to cleave during processing to form some of the prohibited substances listed in Table 1. In order to greatly reduce uncertainty about compliance with the established limit of 30 mg/kg for the substances listed in Table 1, manufacturers are recommended, but not obliged, to avoid the use of the dyes listed in Table 2.

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Table 2

Indicative list of dyes that may cleave to form carcinogenic arylamines

Disperse dyes		Basic dyes	
Disperse Orange 60	Disperse Yellow 7	Basic Brown 4	Basic Red 114
Disperse Orange 149	Disperse Yellow 23	Basic Red 42	Basic Yellow 82
Disperse Red 151	Disperse Yellow 56	Basic Red 76	Basic Yellow 103
Disperse Red 221	Disperse Yellow 218	Basic Red 111	
Acid dyes			
CI Acid Black 29	CI Acid Red 4	CI Acid Red 85	CI Acid Red 148
CI Acid Black 94	CI Acid Red 5	CI Acid Red 104	CI Acid Red 150
CI Acid Black 131	CI Acid Red 8	CI Acid Red 114	CI Acid Red 158
CI Acid Black 132	CI Acid Red 24	CI Acid Red 115	CI Acid Red 167
CI Acid Black 209	CI Acid Red 26	CI Acid Red 116	CI Acid Red 170
CI Acid Black 232	CI Acid Red 26:1	CI Acid Red 119:1	CI Acid Red 264
CI Acid Brown 415	CI Acid Red 26:2	CI Acid Red 128	CI Acid Red 265
CI Acid Orange 17	CI Acid Red 35	CI Acid Red 115	CI Acid Red 420
CI Acid Orange 24	CI Acid Red 48	CI Acid Red 128	CI Acid Violet 12
CI Acid Orange 45	CI Acid Red 73	CI Acid Red 135	
Direct dyes			
Direct Black 4	Direct Blue 192	Direct Brown 223	Direct Red 28
Direct Black 29	Direct Blue 201	Direct Green 1	Direct Red 37
Direct Black 38	Direct Blue 215	Direct Green 6	Direct Red 39
Direct Black 154	Direct Blue 295	Direct Green 8	Direct Red 44
Direct Blue 1	Direct Blue 306	Direct Green 8.1	Direct Red 46
Direct Blue 2	Direct Brown 1	Direct Green 85	Direct Red 62
Direct Blue 3	Direct Brown 1:2	Direct Orange 1	Direct Red 67
Direct Blue 6	Direct Brown 2	Direct Orange 6	Direct Red 72
Direct Blue 8	Basic Brown 4	Direct Orange 7	Direct Red 126
Direct Blue 9	Direct Brown 6	Direct Orange 8	Direct Red 168
Direct Blue 10	Direct Brown 25	Direct Orange 10	Direct Red 216
Direct Blue 14	Direct Brown 27	Direct Orange 108	Direct Red 264
Direct Blue 15	Direct Brown 31	Direct Red 1	Direct Violet 1
Direct Blue 21	Direct Brown 33	Direct Red 2	Direct Violet 4
Direct Blue 22	Direct Brown 51	Direct Red 7	Direct Violet 12
Direct Blue 25	Direct Brown 59	Direct Red 10	Direct Violet 13
Direct Blue 35	Direct Brown 74	Direct Red 13	Direct Violet 14
Direct Blue 76	Direct Brown 79	Direct Red 17	Direct Violet 21
Direct Blue 116	Direct Brown 95	Direct Red 21	Direct Violet 22
Direct Blue 151	Direct Brown 101	Direct Red 24	Direct Yellow 1
Direct Blue 160	Direct Brown 154	Direct Red 26	Direct Yellow 24
Direct Blue 173	Direct Brown 222	Direct Red 22	Direct Yellow 48

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Appendix IV

FURNITURE PRODUCT DURABILITY, STRENGTH AND ERGONOMIC STANDARDS

Table

Indicative list of EN furniture standards (elaborated by the Technical Committee CEN/TC 207 'Furniture') relevant to criterion 9.1.

Standard	Title
Upholstered furniture	
EN 1021-1	Furniture — Assessment of the ignitability of upholstered furniture — Part 1: Ignition source smouldering cigarette
EN 1021-2	Furniture — Assessment of the ignitability of upholstered furniture — Part 2: Ignition source match flame equivalent
Office furniture	
EN 527-1	Office furniture — Work tables and desks — Part 1: Dimensions
EN 527-2	Office furniture — Work tables and desks — Part 2: Mechanical safety requirements
EN 1023-2	Office furniture — Screens — Part 2: Mechanical safety requirements
EN 1335-1	Office furniture — Office work chair — Part 1: Dimensions — Determination of dimensions
EN 1335-2	Office furniture — Office work chair — Part 2: Safety requirements
EN 14073-2	Office furniture — Storage furniture — Part 2: Safety requirements
EN 14074	Office furniture — Tables and desks and storage furniture — Test methods for the determination of strength and durability of moving parts. (after testing, the components shall not be damaged and shall still function as intended).
Outdoor furniture	
EN 581-1	Outdoor furniture — Seating and tables for camping, domestic and contract use — Part 1: General safety requirements
EN 581-2	Outdoor furniture — Seating and tables for camping, domestic and contract use — Part 2: Mechanical safety requirements and test methods for seating
EN 581-3	Outdoor furniture — Seating and tables for camping, domestic and contract use — Part 3: Mechanical safety requirements and test methods for tables
Seating furniture	
EN 1022	Domestic furniture — Seating — Determination of stability
EN 12520	Furniture — Strength, durability and safety — Requirements for domestic seating
EN 12727	Furniture — Ranked seating — Test methods and requirements for strength and durability
EN 13759	Furniture — Operating mechanisms for seating and sofa-beds — Test methods

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Standard	Title
EN 14703	Furniture — Links for non-domestic seating linked together in a row — Strength requirements and test methods
EN 16139	Furniture — Strength, durability and safety — Requirements for non-domestic seating
Tables	
EN 12521	Furniture — Strength, durability and safety — Requirements for domestic tables
EN 15372	Furniture — Strength, durability and safety — Requirements for non-domestic tables
Kitchen furniture	
EN 1116	Kitchen furniture — Coordinating sizes for kitchen furniture and kitchen appliances
EN 14749	Domestic and kitchen storage units and worktops — Safety requirements and test methods
Beds	
EN 597-1	Furniture — Assessment of the ignitability of mattresses and upholstered bed bases — Part 1: Ignition source: Smouldering cigarette
EN 597-2	Furniture — Assessment of the ignitability of mattresses and upholstered bed bases — Part 2: Ignition source: Match flame equivalent
EN 716-1	Furniture — Children's cots and folding cots for domestic use — Part 1: Safety requirements
EN 747-1	Furniture — Bunk beds and high beds — Part 1: Safety, strength and durability requirements
EN 1725	Domestic furniture — Beds and mattresses — Safety requirements and test methods
EN 1957	Furniture — Beds and mattresses — Test methods for determination of functional characteristics and assessment criteria
EN 12227	Playpens for domestic use — Safety requirements and test methods
Storage furniture	
EN 16121	Non-domestic storage furniture — Requirements for safety, strength, durability and stability
Other types of furniture	
EN 1729-1	Furniture — Chairs and tables for educational institutions — Part 1: Functional dimensions
EN 1729-2	Furniture — Chairs and tables for educational institutions — Part 2: Safety requirements and test methods
EN 13150	Workbenches for laboratories — Dimensions, safety requirements and test methods
EN 14434	Writing boards for educational institutions — Ergonomic, technical and safety requirements and their test methods