

**EN**  
**ANNEX**  
**FRAMEWORK**

**EU ECOLABEL CRITERIA**

Criteria for awarding the EU Ecolabel to furniture:

1. Product description
2. General hazardous substance requirements
3. Wood and wood-based materials
4. Plastics
5. Metals
6. Upholstery covering materials
7. Upholstery padding materials
8. Glass
9. Final Product
10. Consumer information
11. Information appearing on the EU Ecolabel

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.

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.

## 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.

## **CRITERION 1. PRODUCT DESCRIPTION**

Technical drawings that illustrate the assembly of components and sub-components 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:

- Technical drawings that illustrate the different components and sub-components used in the assembly of the furniture product;
- 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.
- Applications that go into further detail, for example expressing the type of metal, the type of textile(s), the type of polymer and recycled contents of specific materials may be provided on an optional basis.

## **CRITERION 2. GENERAL HAZARDOUS SUBSTANCE REQUIREMENTS**

**The presence in the product, or component parts thereof, of substances that are identified according to Article 59 of Regulation (EC) No 1907/2006 (the 'REACH**

**Regulation')<sup>1</sup> or substances or preparations that meet the criteria for classification according to Regulation (EC) No 1272/2008 of the European Parliament and of the Council (the 'CLP Regulation)<sup>2</sup> for the hazards listed in**

Table 1, shall be restricted in accordance with sub-criteria 2.1 and 2.2.

**Table 1. Grouping of Candidate List SVHCs and CLP hazards**

<p><b>Group 1 hazards – Substances of Very High Concern and CLP</b> <i>Hazards that identify a substance as being within Group 1:</i></p> <ul style="list-style-type: none"><li>○ Substances that appear on the Candidate List for Substances of Very High Concern (SVHC).</li><li>○ Category 1A or 1B CMR*: H340, H350, H350i, H360F, H360D, H360FD, H360Fd, H360Df</li></ul>
<p><b>Group 2 hazards – CLP</b> <i>Hazards that identify a substance as being within Group 2:</i></p> <ul style="list-style-type: none"><li>○ Category 2 CMR*: H341, H351, H361f, H361d, H361fd, H362</li><li>○ Category 1 aquatic toxins: H400, H410</li><li>○ Category 1 and 2 acute toxins: H300, H310, H330, H304</li><li>○ Category 1 STOT*: H370, H372</li><li>○ Category 1 Skin Sensitiser H317</li></ul>
<p><b>Group 3 hazards – CLP</b></p> <ul style="list-style-type: none"><li>○ Category 2, 3 and 4 aquatic toxins: H411, H412, H413</li><li>○ Category 3 acute toxins: H301, H311, H331, EUH070</li><li>○ Category 2 STOT*: H371, H373</li></ul>

\*CMR = Carcinogenic, Mutagenic or toxic to reproduction; STOT = Specific Target Organ Toxicity

## **2.1 Restriction of substances of very high concern (SVHCs)**

The furniture product or component parts thereof, shall not contain substances that have been identified according to the procedure described in Article 59(1) of Regulation (EC) No 1907/2006 and included in the Candidate List of 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 in its component parts shall be given to Candidate List SVHCs present in the product or in its sub-assemblies in concentrations greater than 0.10% (weight by weight).

Textile-based materials that have been awarded the EU Ecolabel in accordance with Commission Decision 2014/350/EU shall be considered compliant with this criterion.

### **Assessment and verification:**

The applicant shall provide a declaration of compliance for the product supported, where relevant, by declarations from any component part supplier(s) regarding the non-presence of SVHCs above the specified concentration limit for any component parts used in the assembly

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<sup>1</sup> 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 (OJ L 136, 29.05.2007, p.3).

<sup>2</sup> 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).

of the product. Declarations shall be with reference to the latest version of the Candidate List published by ECHA<sup>3</sup>.

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

## **2.2 CLP restriction of substances and preparations used in the furniture product**

*The criterion is split into two parts:*

*(a) Referring only to substances and preparations directly used by the furniture manufacturer during assembly and any other treatment of the furniture product and*

*(b) Referring only to specific substances and preparations used in the production of specific component materials that are bought from suppliers.*

### **2.2(a) CLP restriction of substances and preparations used by the furniture manufacturer**

Adhesives, paints, primers, varnishes, wood stains, wood preservatives, resins and sealants but not lubricating oils used by the furniture manufacturer during assembly and any other treatment of the furniture product shall not be classified with any of the CLP hazards listed in

Table 1.

However, the use of such restricted substances or preparations shall be permitted if one or more of the following conditions apply:

- That the restricted substance or preparation was used in quantities that amount to less than 0.10% of the weight of the furniture product or weight of the relevant component part to which it was applied.
- That the restricted substance or preparation changes its properties upon processing (e.g. becomes no longer bioavailable or undergoes chemical modification) so that the restricted CLP hazards no longer apply and that any unreacted residual content of the restricted substance or preparation is less than 0.10% (weight by weight) in the furniture product or relevant component part to which it was applied.
- That compliance with specific derogation conditions for specific restricted substances or preparations, as set out in Table 2, is demonstrated.

### **2.2(b) CLP restriction of substances and preparations used by suppliers in defined component materials**

*Any individual component part from suppliers used in the furniture product that: (i) weighs less than 25 g and that (ii) does not come into direct contact with users during normal use shall be considered as exempt from the requirements set out in criterion 2.2(b).*

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<sup>3</sup> ECHA, Candidate List of substances of very high concern for Authorisation, <http://www.echa.europa.eu/candidate-list-table>

Suppliers shall demonstrate that the following component materials have not been produced using substances or preparations that are classified with any of the CLP hazards listed in

Table 1, by providing information about specific substances or preparations used in in the production of specific furniture component materials as per the scope defined below:

- Solid wood and wood-based panels – classification information for any adhesives, paints, pigments, primers, varnishes, wood stains, wood preservatives, resins and sealants.
- Plastics – classification information for any heat stabilisers, pigments, UV stabilisers, plasticisers, biocides, flame retardants or fillers used.
- Metals – classification information for any paints, pigments, primers or varnishes applied to the metal surface and of any metals used in electroplating or galvanization treatment.
- Textiles, leather and coated fabric upholstery – classification information for any dyestuff, varnishes, optical brighteners, stabilisers, auxiliary compounds, flame retardants, plasticisers, biocides or water/dirt/stain repellants.
- Upholstery padding materials – classification information for any biocides, flame retardants or plasticisers applied to the material.

However, the use of such restricted substances or preparations shall be permitted if one or more of the following conditions apply:

- That the restricted substance or preparation was used in quantities that amount to less than 0.10% of the furniture product weight or relevant component part to which it was applied.
- That the restricted substance or preparation changes its properties upon processing (e.g. becomes no longer bioavailable or undergoes chemical modification) so that the restricted CLP hazards no longer apply and that any unreacted residual content of the restricted substance or preparation is less than 0.10% of the weight of the furniture product or weight of the relevant component part to which it was applied.
- That compliance with specific derogation conditions for specific restricted substances or preparations, as set out in Table 2, is demonstrated.

**Table 2. Derogations to the hazard restrictions in**

**Table 1 and applicable conditions.**

Substance / preparation type	Applicability	Derogated classification(s)	Derogation conditions*
(a) Biocides / Preservatives	Treatment of wooden materials and components to be used in the final product	All group 3 hazards listed in Table 1	See criterion 3.2 (f)
(b) Biocides / Preservatives	Use in textiles or coated fabrics used in outdoor furniture	All group 3 hazards as listed in	See criterion 6.3 and part ii of the section under "finishing processes".

		Table 1	
(c) Flame retardants		H317(1B), 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.
(d) Flame retardants / Antimony Trioxide (ATO)	Textiles, leather, coated fabrics in furniture upholstery covering materials and also padding materials.	H351	ATO is only permitted when the following conditions apply: <ul style="list-style-type: none"> <li>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.</li> <li>ii. It is used as a synergist for the backcoating of interior textiles or coated fabrics.</li> <li>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<sup>3</sup>.</li> </ul>
(e) Metals / Nickel	Metal components	H317, H351, H372	Only permitted when used in stainless steel components. When the stainless steel component can be considered to come into direct and prolonged skin contact** during normal use, the Nickel release rate from the stainless steel is shown to be less than 0.5µg/cm <sup>2</sup> /week according to EN 1811.
(f) Metals / Zinc and zinc compounds		H412, H413	Only permitted when zinc or zinc compounds are used in anti-corrosive coatings for iron or steel.
(g) Dyestuff for dyeing and non-pigment printing	Textiles, leather and coated fabrics in furniture upholstery covering materials.	H301, H311, H331, H317, H334	Dust free dye formulations or where automatic dosing and dispensing of dyes shall be used by dye houses and printers to minimise worker exposure.
		H411, H412, H413	Dyeing processes using reactive, direct, vat, sulphur dyes with these classifications shall meet a minimum of one of the following conditions: <ul style="list-style-type: none"> <li>• Use of high affinity dyes;</li> <li>• Achievement of a reject rate of less than 3,0 %</li> <li>• Use of colour matching instrumentation;</li> <li>• Implementation of standard operating procedures for the dyeing process;</li> <li>• Use of colour removal to treat wastewater***</li> </ul> The use of solution dyeing and/or digital printing are 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: <ul style="list-style-type: none"> <li>• In white coloured printing;</li> <li>• As additives during the production of acrylic, polyamide or polyester with a recycled content.</li> </ul>

(i) Water, dirt and stain repellents	Use in any surface treatments of furniture components	H412, H413	The repellent and its degradation products shall not be classified as bioaccumulative and shall be classified as either readily or inherently biodegradable in the aquatic environment, including aquatic sediment.
(j) Stabilisers	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 be eliminable in wastewater treatment systems according to the OECD 303A/B and/or ISO 11733 standards.
(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 (1B), H331, H371, H373, H334, H411, H412, H413, EUH070	Recipes shall be formulated using automatic dosing systems and processes shall follow standard operating procedures.  Substances classified with H311, H331, H317 (1B) shall not be present in the textile material at concentrations greater than 1.0% w/w.

\* Note that no preparations containing concentrations greater than 0.1% w/w of SVHCs listed in the latest version of the Candidate List at the time of application may be derogated.

\*\*prolonged skin contact for Nickel, as per entry 27 of REACH Annex XVII, is currently defined by CARACAL<sup>4</sup> as 10 minutes on three or more occasions within a two week period or 30 minutes on one or more occasions during a two week period.

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

### **Assessment and verification:**

The applicant shall provide a declaration of compliance with criterion 2.2(a), supported by a list of all the preparations used during the assembly and any treatment of the furniture product together with their hazard classifications (if any).

The applicant shall compile declarations of compliance with criterion 2.2(b) from suppliers of any of the defined component materials. These declarations shall be supported by lists of any relevant substance and preparations used and their hazard classifications (if any).

The following information shall be provided in relation to the hazard classifications or non-classification for each substance or preparation:

- (i) The substance's CAS, EC or list number;
- (ii) The physical form and state in which the substance or preparation is used;
- (iii) Harmonised CLP hazard classifications;
- (iv) Self-classification entries in ECHA's REACH registered substance database<sup>5</sup>.

<sup>4</sup> See: [http://ec.europa.eu/enterprise/sectors/chemicals/reach/caracal/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/chemicals/reach/caracal/index_en.htm) .

<sup>5</sup>ECHA, REACH registered substances database: <http://www.echa.europa.eu/information-on-chemicals/registered-substances>



Self-classification entries from joint submissions shall be given priority when comparing entries in the REACH registered substance database.

Where a classification is recorded as 'data lacking' or 'inconclusive' according to the REACH registered substance database, or where the 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:

- Toxicological studies and hazard assessments by ECHA peer regulatory agencies<sup>6</sup>, Member State regulatory bodies or Intergovernmental bodies;
- A Safety Data Sheet fully completed in accordance with Annex II to Regulation (EC) No 1907/2006;
- 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;
- An attestation, where appropriate based on expert judgment, issued by an accredited conformity assessment body that carries out hazard assessments according to the GHS or CLP hazard classification systems.

Information on the hazardous properties of substances of preparations 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 criterion 2.2(a) or 2.2(b), as appropriate, where substance or preparations with the restricted hazards listed in

Table 1 are considered to no longer exhibit any restricted hazardous properties in the final product or relevant component part due to physical and/or chemical changes during processing, and residual levels in the final product, or relevant component part, can be considered to be present at concentrations less than 0.10 % w/w, the applicant shall specifically mention this in their declaration and provide supporting arguments.

For both criterion 2.2(a) or 2.2(b), as appropriate, where the use of restricted substances or preparations may be subject to derogation as per Table 2, the applicant shall provide proof that all the derogation conditions are met, as described in Table 2. Where test reports are required, they shall be valid at the time of application for a production model

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<sup>6</sup> ECHA, Co-operation with peer regulatory agencies, <http://echa.europa.eu/en/about0us/partners-and-networks/international-cooperation/cooperation-with-peer-regulatory-agencies>

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

### **CRITERION 3. WOOD, BAMBOO AND RATTAN**

*The term "wood" applies not only to solid wood but also to wood chips and wood fibres.*

*Where sub-criteria refer solely to wood-based panels, this is mentioned in the title of those sub-criteria.*

#### **3.1 Sustainable wood, 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, bamboo and rattan shall be covered by chain of custody certificates issued by an independent third party certification scheme such as FSC, PEFC or equivalent.

All virgin wood, bamboo and rattan shall be covered by valid sustainable forest management certificates issued by an independent third party certification scheme such as FSC, PEFC or equivalent.

Where certification schemes allow mixing of uncertified material with certified and/or recycled materials in a product or product line, a minimum of 70% of the wood 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.

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 shall provide valid, independently certified chain of custody certificates for all wood, bamboo or rattan used in the product or product line and demonstrate that the at least 70% of the material originates from forests 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.

If the product or product line includes uncertified virgin material, proof should 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 **wooden components**:

#### a) Contaminants in recycled wood used in wood-based panels

Any recycled wood chips or wood fibres used in the manufacture of wood based panels **that are used in the furniture product shall meet** the limits for contaminants defined in the EPF standard for delivery conditions of recycled wood<sup>7</sup> 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)	1000
Copper (Cu)	40	Pentachlorophenol (PCP)	5
Lead (Pb)	90	Creosote (Benzo(a)pyrene)	0.5

#### **Assessment and verification:**

The applicant shall provide either:

- a declaration from the wood-based panel supplier that no recycled wood fibres were used in the panel, or
- a declaration from the wood-based panel supplier that 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.
- A declaration from the wood-based panel supplier that all recycled wood fibres used have been 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.

#### b) Polyvinyl chloride foils **used in wood-based panels**

If PVC foils are used, the emissions of vinyl chloride monomer (VCM) during PVC production and from the resin product shall not exceed the limits set out in Table 4.

Table 4. **VCM emission limits for PVC production and from the resin product**

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<sup>7</sup> "EPF Standard for delivery conditions of recycled wood", October 2002. Can be viewed online at: <http://www.europanel.org/upload/EPF-Standard-for-recycled-wood-use.pdf>

	<b>Suspension process (S-PVC)</b>	<b>Emulsion process (E-PVC)</b>	<b>Combined process (E+S PVC)*</b>
Total VCM emissions to air (including fugitive emissions)	< 100 g/tonne PVC	< 1000 g/tonne PVC	
VCM concentration in aqueous effluents	< 1g / m <sup>3</sup> effluent and < 5 g/tonne PVC	< 1 g/m <sup>3</sup> effluent and < 10 g/tonne PVC	< 1 g/m <sup>3</sup> effluent and < 5 g/tonne PVC
VCM concentration in final resin product	< 1g / tonne PVC		

\* The combined process applies to where aqueous effluents from separate emulsion and suspension processes are combined prior to any treatment and final discharge.

**Assessment and verification:**

The applicant shall provide either:

- A declaration from the supplier of the wood-based panel stating that PVC foils have not been used;

or

- A declaration from the supplier of the wood-based panel, supported by a declaration from their PVC supplier, stating that the PVC foils used in wood-based panels were produced in accordance with the VCM emission limits set out in Table 4. The declaration of the PVC supplier shall:

- Specify whether PVC was produced using the Emulsion Process or the Suspension Process and if aqueous effluent is treated for single or combined plants.
- Include evidence of compliance with the relevant total, atmospheric and aqueous VCM emission limits specified in Table 4.
- Include evidence of compliance with the limit for residual VCM in the final PVC material via test reports of representative samples following the EN ISO 6401 standard or equivalent methodology.

**c) Plasticisers in plastic foils used in wood-based panels**

Any plastic foils applied to wood-based panel surfaces shall not contain any phthalate plasticisers that are referred to in Article 57 of Regulation (EU) No 1907/2006.

The non-presence of these phthalates shall be considered as the total sum of the listed phthalates amounting to less than 0.10 % of the plastic foil weight (1000 mg/kg).

**Assessment and verification:**

The applicant shall provide either:

- A declaration from the wood-based panel supplier stating that plastic foils were not used.

or

- A declaration from the wood-based panel supplier stating that plastic foils were used and that none of the phthalate plasticisers with Article 57 hazard classifications have been used in the plastic foil.

In the absence of a suitable declaration, plastic foil materials shall be tested for the presence of these phthalates according to the ISO 14389 or ISO 8214-6 standards.

**d) Heavy metals in paints, primers and varnishes**

Paints, primers or varnishes used on wood or wood-based materials 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 and/or varnishes used.

**e) VOC content in paints, primers and varnishes**

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

*This sub-criterion shall only apply when the content of coated wood or wood-based panels not described above 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 9.4 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).

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<sup>2</sup> 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<sup>2</sup> of coated surface area and that the surface finish quality meets all of the requirements set out in the Table 5.

**Table 5. Surface finish quality requirements if VOC application rate is 30-60g/m<sup>2</sup>**

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 $\geq 0.30$ mm when a load of 5N has been applied or, Method B: no scratches visible in $\geq 6$ slots in the viewing template where a load of 5N has been applied.
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**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:

- Provide calculations demonstrating that the effective quantity of VOCs applied to the coated surface area of the final assembled furniture product is  $< 30$  g/m<sup>2</sup>, 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  $< 60$  g/m<sup>2</sup>, in accordance with the guidance provided in Appendix I and provide test reports demonstrating compliance of the surface finishes with the requirements of Table 5.

**f) Use of wood preservatives and biocides in paints, primers and varnishes**

Any individual wooden component part from suppliers used in the furniture product that: (i) weighs less than 25 g and that (ii) does not come into direct contact with users during normal use, shall be considered exempted from the requirements set out in this criterion.

No wood preservatives or paints, primers and varnishes that contain biocidal substances shall be used in the coating of any wooden components of the furniture product except under the following conditions set out in Table 6.

**Table 6. Cases in which the use of wood preservatives and biocides are permitted**

Cases	Conditions
Use of wood preservatives	Only permitted if: The furniture product is clearly marketed for outdoor use. The untreated wood does not meet the durability class I or II requirements according to EN 350. The any wood preservation product used (and the active substance(s) it contains are approved for use under Product Type 8 or 18 as per the requirements of Regulation (EU) No 528/2012 of the European Parliament and of the Council (the "Biocidal Products Regulation") <sup>8</sup> .

<sup>8</sup> 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).

	The actual wood preservative chemical formulation is not CLP classified with Group 1 or Group 2 hazards as listed in Table 1 in criterion 2 of this document.
In-can preservatives present in paints, primers and varnishes	Only permitted if: The paint, primer or varnish formulation and any active substance(s) it contains are approved under Product Type 6 as per the requirements of the Biocidal Products Regulation (EU) No 528/2012.
Dry-film preservatives in coatings for wooden components	Only permitted if: The furniture product is clearly marketed for outdoor use The uncoated wood does not meet the durability class I or II requirements according to EN 350. The coating substance shall have a score of 0 for fungal resistance and 0 for algal resistance according to EN 15457 and EN 15458 respectively. The formulation and any active substance(s) it contains are approved under Product Type 7 as per the requirements of the Biocidal Products Regulation (EU) No 528/2012.

### **Assessment and verification:**

The applicant shall provide a declaration of compliance with this criterion, supported by a declaration from the supplier of wooden components which, where relevant, includes information regarding details of any wood preservatives, paints, primers or varnishes used to coat the wooden components and proof that these preparations are approved under the Biocidal Products Regulation (EU) No 528/2012 or are biocide-free.

For outdoor wooden furniture components that have been treated with biocidal products, the applicant shall provide a declaration from the wooden component supplier that the wood, prior to any coating or preservation treatment, does not meet the durability class I or II requirements according to EN 350 and, where dry-film preservatives are used in the paint, primer or varnish, provide a declaration from the paint primer or varnish supplier that they meet the requirements for fungal and algal resistance.

### **3.3 Formaldehyde emissions from wood-based panels**

*This sub-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 manufactured using formaldehyde-based resins shall either:

- Have formaldehyde emissions that are lower than 50 % of the threshold value allowing them to be classified as E1<sup>9</sup>.
- Have formaldehyde emissions that are lower than 65 % of the E1 threshold limit, in the case of MDF (Medium Density Fibreboard) panels.

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<sup>9</sup> E1 is a threshold emission limit originally introduced in 1985 in the EU due to concerns over adverse health effects due to formaldehyde exposure. The emission limits are defined in Annex B of EN 13986 and correspond to steady state background levels of 0.1ppm (or 0.124mg/m<sup>3</sup>) formaldehyde after 28d in a chamber test according to EN 717-1.

- Have formaldehyde emissions that are 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. 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 7.

**Table 7. Assessment and verification of low formaldehyde emission panels**

<b>Certification scheme</b>	<b>Verification documentation</b>
E1 (as defined in Annex B of EN 13986).	A declaration from the wood-based panel supplier, 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 717-1, EN 717-2 or EN 120.
CARB – California Air Resources Board: Phase II limits	A declaration from the wood-based panel supplier, 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 <sup>10</sup> . Optionally, 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 <b>mandatory if the products are sold outside of California or if they</b> were made using no-added formaldehyde or <b>specific</b> ultra-low emitting formaldehyde-based resins).
F-3 or 4 star limits	A declaration from the panel supplier of compliance with the formaldehyde emission limits as per JIS A 5905 (for fibreboard) or JIS A 5908:2003 (for particleboard and plywood), supported by test data according to the JIS A 1460 desicator method.

In all cases, the applicant shall also declare that no further formaldehyde-based surface treatment was applied to supplied panels and that the panels were not modified in any other way that would compromise compliance with the formaldehyde emission limits set out in the **E1, CARB, F3-star or F4-star standards,** as appropriate.

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<sup>10</sup> Regulation 93120 "Airborne toxic control measure to reduce formaldehyde emissions from composite wood products" California Code of Regulations.



## **Criterion 4: Plastics**

The requirements set out in **this criterion** only apply to components that are made of plastic but not to foils, thermosetting resins used in wood-based panels or plastic materials used in upholstery, which are covered by criteria 3.2b), 3.2c), 3.3, 6.1, 6.2, 6.3, 7.1, and 7.2.

### **4.1 Marking of plastic components**

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 should be at least 2.5mm high.

Where any fillers, flame retardants or plasticisers are intentionally incorporated into the plastic in proportions greater than 1 % w/w, their presence should 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 components **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 components shall be clearly visible upon visual examination of the plastic component. 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.

In cases of doubt regarding the nature of the plastic for components **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 components.

### a) Heavy metals in plastic additives

Plastic components 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 and/or with post-consumer PVC recyclates, representative testing of the plastic components shall demonstrate compliance with the conditions set out in Table 8.

**Table 8. 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	1000
Pb		100	1000
Sn		100	1000
Hg		100	1000
CrVI	EN 71-3	0.020	0.20

### b) Polyvinyl chloride

Where PVC is used in the furniture product, the PVC resin shall have been supplied from producers that can demonstrate compliance with vinyl chloride monomer (VCM) emissions presented in Table 9 for their production facility.

**Table 9. VCM emission limits for PVC production and from the resin product**

	Suspension process (S-PVC)	Emulsion process (E-PVC)	Combined process (E+S PVC)*
Total VCM emissions to air (including fugitive emissions)	< 100 g/tonne	< 1000 g/tonne	

VCM concentration in aqueous effluents	< 1g / m <sup>3</sup> effluent and < 5 g/tonne PVC	< 1 g/m <sup>3</sup> effluent and < 10 g/tonne PVC	< 1 g/m <sup>3</sup> effluent and < 5 g/tonne E+S PVC
VCM concentration in final resin product	< 1g / tonne PVC		

\* The combined process applies to where aqueous effluents from separate emulsion and suspension processes are combined prior to any treatment and final discharge.

**Assessment and verification:**

The applicant shall provide either:

- A declaration stating that PVC components have not been used in the furniture product, or
- A declaration stating that PVC components have been used in the furniture product, supported by a declaration from their PVC supplier, stating that the PVC was produced in compliance with the VCM emission limits set out in Table 9. The declaration of the PVC supplier shall:

- Specify whether PVC was produced using the Emulsion Process or the Suspension Process and if aqueous effluent is treated for single or combined plants.
- Include evidence of compliance with the relevant total, atmospheric and aqueous VCM emission limits specified in Table 9.
- Include evidence of compliance with the limit for residual VCM in the final PVC material via test reports of representative samples following the EN ISO 6401 standard or equivalent methodology.

**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 components 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 components in the furniture product.

### **5.1 Electroplating restrictions**

Only components subject to heavy physical wear (nuts, bolts, nails, screws, hinges, brackets, runners, gas lifts and wheels) or components not subject to prolonged skin contact may be electroplated.

Chromium VI or cadmium compounds shall not be used for electroplating operations of any metal components used in the final furniture product. Zinc may be used for electroplating or hot-dip galvanising so long as the derogation conditions in Table 2 are respected.

#### **Assessment and verification:**

The applicant shall provide a declaration of compliance from the supplier of the metal component(s) that no plating treatments involving chromium VI or cadmium substances have been used. Where the furniture manufacturer has used zinc coated components, either for electroplating or hot-dip galvanisation, evidence of compliance with the relevant derogation conditions in Table 2 shall be provided.

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

Paints, primers or varnishes used on metal components 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.

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

*This sub-criterion shall only apply when the content of coated metal components 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 9.4 can be demonstrated,*

The VOC content of any paints, primers or varnishes used to coat any metal components 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<sup>2</sup> 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<sup>2</sup> of coated surface area and that the surface finish quality meets the requirements set out in Table 10.

**Table 10** Error! Reference source not found.

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 5N has been applied or, Method B: no scratches visible in ≥ 6 slots in the viewing template where a load of 5N 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 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 < 30 g/m<sup>2</sup>, 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 < 60 g/m<sup>2</sup>, 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 10.

## **5.4 Use of biocides in paints, primers and varnishes**

Any individual metal component part from suppliers used in the furniture product that: (i) weighs less than 25 g and that (ii) does not come into direct contact with users during normal use, shall be considered exempted from the requirements set out in this criterion.

No paints, primers or varnishes that contain biocidal substances shall be used in the coating of any metal components of the furniture product except under the following conditions set out in Table 11.

**Table 11. Cases in which the use of biocides are permitted**

<b>Cases</b>	<b>Conditions</b>
In-can preservatives present in paints, primers and varnishes	Only permitted if: <ul style="list-style-type: none"><li>• The paint, primer or varnish formulation and any active substance(s) it contains are approved under Product Type 6 as per the requirements of the Biocidal Products Regulation (EU) No 528/2012</li></ul>
Dry-film preservatives in coatings for metal components	Only permitted if: <ul style="list-style-type: none"><li>• The furniture product is clearly marketed for outdoor use</li><li>• The coating substance shall have a score of 0 for fungal resistance and 0 for algal resistance according to EN 15457 and EN 15458 respectively</li><li>• The formulation and any active substance(s) it contains are approved under Product Type 7 as per the requirements of the Biocidal Products Regulation (EU) No 528/2012</li><li>• The actual biocidal preparation is not CLP classified with Group 1 or Group 2 hazards as listed in</li><li>• Table 1 in criterion 2 of this document</li></ul>

**Assessment and verification:**

The applicant shall provide a declaration of compliance with this criterion supported, where relevant, by declarations from suppliers of paints, primers or varnishes used to coat the any metal components, that their products are approved under the Biocidal Products Regulation (EU) No 528/2012 or are biocide-free.

Where paints, primers or varnishes that contain dry-film preservatives are used, the applicant shall also provide a declaration that their product meets the requirements for fungal and algal resistance.

## Criterion 6. Upholstery Covering Materials

### 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 12.

Any coated fabrics used as upholstery covering material shall comply with the physical quality requirements stated in Table 13.

**Table 12. 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
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 13. Physical requirements for coated fabric covering materials in furniture upholstery**

Property	Method	Requirement
Tensile strength	ISO 1421	CH ≥ 35daN and TR ≥ 20daN
Tear resistance of plastic film and sheeting by the trouser tear method	ISO 13937/2	CH ≥ 2,5daN and TR ≥ 2daN
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 ≥ 1,5daN and TR ≥ 1,5daN

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 12 or Table 13 respectively.

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

**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 14 shall specifically apply to upholstery covering materials:

**Table 14. 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	≤ 150	EN ISO 17226-1	
	Textiles and coated fabrics	≤ 75 for textiles and ≤ 150 for coated fabrics	EN ISO 14184-1	
Extractable heavy metals	Leather	Arsenic ≤ 1.0	EN ISO 17072-1	
		Antimony ≤ 30.0		
		Chromium ≤ 200		Cadmium ≤ 0.1
		Cobalt ≤ 4.0		Copper ≤ 50.0
		Lead ≤ 1.0		Mercury ≤ 0.02
	Textiles and coated fabrics	Nickel ≤ 1.0	EN ISO 105 E04	
		Arsenic ≤ 1.0		Antimony ≤ 30.0***
		Chromium ≤ 2.0		Cadmium ≤ 0.1
		Cobalt ≤ 4.0		Copper ≤ 50.0
		Lead ≤ 1.0		Mercury ≤ 0.02
Chlorophenols	Leather	Pentachlorophenol ≤ 1 mg/kg	EN ISO 17070	
		Tetrachlorophenol ≤ 1 mg/kg		
Alkylphenols	Leather	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)	EN ISO DIS 18218-1	



	Textiles and coated fabrics	<p>4-Octylphenol (CAS No. 1806-26-4) 4-tert-Octylphenol (CAS No. 140-66-9)</p> <p><u>Alkylphenoethoxylates (APEOs) and their derivatives:</u> 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)</p> <p><b>Sum Total limit value :</b> <b>≤ 25mg/kg - textiles or coated fabrics</b> <b>≤ 100mg/kg - leather</b></p>	Solvent extraction followed by LC-MS
Polycyclic Aromatic Hydrocarbons	Textiles, coated fabrics or leather	<p><b>REACH restricted PAHs:</b> 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]anthracene (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)</p> <p><b>Individual limits for 10 PAHs listed above:</b> <b>≤ 1 mg/kg</b></p> <p><b>Additional PAHs subject to restriction:</b> 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) 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)</p> <p><b>Sum Total limit for 18 PAHs listed above :</b> <b>10 mg/kg</b></p>	AfPS GS 2014:01 PAK
N,N-Dimethylacetamide (CAS No. 127-19-5)	Elastane or acrylic-based textiles	Result ≤ 0.005% w/w (≤ 50mg/kg)	Solvent extraction followed by GCMS or LCMS
Chloralkanes	Leather	C10-C13 (SCCP) chloralkanes ≤ not detectable C14-C17 (MCCP) chloralkanes ≤ 1000 mg/kg;	EN ISO 18219

\*A total of 22 arylamines listed in Entry 43 of Annex XVII of REACH plus two other compounds (see Table 26 in Appendix III for a full listed of the arylamines to be tested). Limit of detection for EN ISO 17234-1 is 30mg/kg.

\*\* The detection limit for the EN ISO 17075 is generally assumed to be 3mg/kg.

\*\*\* If textiles or coated fabrics are tested together with a backcoating that has been treated with ATO as a synergist, 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 14, supported by test results.

Textile-based materials that have been awarded the EU Ecolabel in accordance with Commission 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 15 on the use of hazardous substances during production.

**Table 15. Restricted substances used in leather, textile and coated fabric production stages**

<b>1 - Hazardous substances used in different production stages</b>	
<b>a) Surfactants, softeners and complexing agents</b>	
<p><b>Applicability:</b> To dyeing and finishing process stages in textile, leather or coated fabric production.</p>	<p>All non-ionic and cationic surfactants must be biodegradable under anaerobic conditions.</p> <p><b>Assessment and verification:</b> 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.</p> <p>The latest revision of the Detergents Ingredients Database should 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.</p> <p><a href="http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf">http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf</a></p>
	<p>Long chain perfluoroalkyl sulfonates (<math>\geq C6</math>) and perfluorocarboxylic acids (<math>\geq C8</math>) shall not be used in the production processes.</p> <p><b>Assessment and verification:</b> 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.</p>
<b>b) Auxiliaries (used in preparations, formulations and adhesives)</b>	
<p><b>Applicability:</b> Intermediate materials and final leather, textile or coated fabric product.</p>	<p>The following substances shall not be used in any preparations or formulations within the supply chain:</p> <ul style="list-style-type: none"> <li>• bis(hydrogenated tallow alkyl) dimethyl ammonium chloride (DTDMAC)</li> <li>• distearyl dimethyl ammonium chloride (DSDMAC)</li> <li>• di(hardened tallow) dimethyl ammonium chloride (DHTDMAC)</li> <li>• ethylene diamine tetra acetate (EDTA),</li> <li>• diethylene triamine penta acetate (DTPA)</li> <li>• 4-(1,1,3,3-tetramethylbutyl)phenol</li> <li>• Nitrilotriacetic acid (NTA)</li> </ul> <p><b>Assessment and verification:</b> The applicant shall provide a declaration from the leather, textile or coated fabric supplier, supported by declarations from chemical supplier(s) and relevant SDSs, that these compounds have not been used in any of the production stages for leather, textiles or</p>

	coated fabrics.
<b>c) Solvents</b>	
<p><b>Applicability:</b> Intermediate materials and final leather, textile or coated fabric product.</p>	<p>The following substances shall not be used in any preparations or formulations during leather, textile or coated fabric production or any part thereof</p> <ul style="list-style-type: none"> <li>• 2-Methoxyethanol</li> <li>• N,N-dimethylformamide</li> <li>• Bis(2-methoxyethyl) ether</li> <li>• 4,4'- Diaminodiphenylmethane</li> <li>• 1,2,3-trichloropropane</li> <li>• 1,2-Dichloroethane; ethylene dichloride</li> <li>• 2-Ethoxyethanol</li> <li>• Benzene-1,4-diamine dihydrochloride</li> <li>• Bis(2-methoxyethyl) ether</li> <li>• Formamide</li> <li>• N,N-dimethylacetamide (DMAC)</li> <li>• N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone</li> <li>• Trichloroethylene</li> <li>• 1-Methyl-2-pyrrolidone</li> </ul> <p><b>Assessment and verification:</b> The applicant shall provide a declaration from the leather, textile or coated fabric producer, supported by declarations from chemical suppliers and relevant SDSs, stating that these solvents have not been used in any of the leather, textile or coated fabric production processes.</p>
<b>2 - Dyes used in dyeing and printing processes</b>	
<p>i. Carriers used in dyeing process</p> <p><b>Applicability:</b> Dyeing and printing processes</p>	<p>Where disperse dyes are used, halogenated dyeing accelerants (carriers) shall not be used (Examples of carriers include: 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, chlorophenoxyethanol).</p> <p><b>Assessment and verification:</b> 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.</p>
<p>ii. Chrome mordant dyes</p> <p><b>Applicability:</b> Dyeing and printing processes</p>	<p>Chrome mordant dyes shall not be used.</p> <p><b>Assessment and verification:</b> 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.</p>
<p>iii. Pigments</p> <p><b>Applicability:</b> Dyeing and printing processes</p>	<p>Pigments based on cadmium, lead, chromium VI, mercury, arsenic and antimony shall not be used.</p> <p><b>Assessment and verification:</b> 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</p>

	furniture product.
<b>3 - Finishing processes</b>	
<p>i. Poly-fluorinated compounds</p> <p><b>Applicability:</b></p> <p>Upholstery covering materials with integrated water or stain repellent function</p>	<p>Fluorinated compounds shall not be impregnated into furniture upholstery 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 biodegradable and have a low potential to bioaccumulate in the aquatic environment shall be permitted.</p> <p><b>Assessment and verification:</b> 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.</p> <p>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 15968:2010.</p> <p>For non-fluorinated treatments, readily 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).</p> <p>A low potential to bioaccumulate shall be demonstrated by tests that show partition coefficients (Log Kow) of <math>\leq 3</math> or Bioconcentration Factors (BCF) <math>\leq 100</math>.</p> <p>With non-fluorinated treatments, the latest revision of the Detergents Ingredients Database should 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.</p> <p><a href="http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf">http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf</a></p>
<p>ii. Biocides</p> <p><b>Applicability:</b></p> <p>Leather, coated fabrics and textiles</p>	<p>Biocides shall not be incorporated into any leather, coated fabrics or textiles with the purpose of providing a final disinfective effect except under the following conditions:</p> <ul style="list-style-type: none"> <li>• That the upholstered furniture is clearly marketed for outdoor use.</li> <li>• The biocide chemical formulation and active substance(s) have been approved for use under Product Type 6 (for polymers and plastics) or Product Type 9 (for textiles) as appropriate.</li> <li>• The actual biocide chemical formulation is not CLP classified with Group 1 or Group 2 hazards as listed in</li> <li>• Table 1 in criterion 2 of this document.</li> </ul> <p><b>Assessment and verification:</b> The applicant shall provide a declaration of compliance with this criterion supported, where relevant, by declarations from suppliers of leather, coated fabrics or textiles used in the furniture upholstery that either state the non-use of biocides during finishing treatments or that state that any biocidal products used are approved under the Biocidal Products Regulation (EU) No 528/2012 for Product Type 6 for coated fabrics or leather or Product Type 9 for textiles.</p>
<b>4 – Tannery effluent quality and specific water consumption</b>	
<p><b>Applicability:</b></p> <p>Leather production process</p>	<p>(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.</p> <p><b>Assessment and verification:</b> the applicant shall provide 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.</p>

	<p>(ii) Total chromium concentration in tannery wastewater after treatment shall not exceed 1 mg/l.</p> <p><b>Assessment and verification:</b> the applicant shall provide a test report of his supplier using 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 11, and BAT 10 or 12 following Commission Implementing Decision 2013/84/EU for the reduction of chromium content of waste water discharges.</p>												
	<p>(iii) Water consumption expressed as annual average volume of water consumed per tonne of raw leather for the tanning of hides and skins shall not exceed the limits given below:</p> <table border="1" data-bbox="421 566 1244 835"> <tr> <td>Hides</td> <td>28 m<sup>3</sup>/tonne</td> </tr> <tr> <td>Skins</td> <td>45 m<sup>3</sup>/tonne</td> </tr> <tr> <td>Vegetable tanned leather</td> <td>35 m<sup>3</sup>/tonne</td> </tr> <tr> <td>Pig skin</td> <td>80 m<sup>3</sup>/tonne</td> </tr> <tr> <td>Calfskin</td> <td>40 m<sup>3</sup>/tonne</td> </tr> <tr> <td>Sheepskins</td> <td>180 l/skin</td> </tr> </table> <p>Water consumption shall be calculated based on the monthly average values of the last twelve months before the application and measured by the amount of water discharged.</p> <p><b>Assessment and verification:</b> the applicant shall provide a declaration of compliance from the leather supplier or leather manufacturing company, where relevant. The declaration shall specify the annual amount of leather production and related water consumption based on the monthly average values of the last twelve months preceding the application, measured by the quantity of waste water discharged.</p> <p><i>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<sup>3</sup>) for the quantity of semi-finished leather produced (tones) or number of skins for sheepskin, as appropriate, based on the monthly average values during the twelve months preceding the application.</i></p> <p><i>The verification shall refer to the entire tanning process.</i></p>	Hides	28 m <sup>3</sup> /tonne	Skins	45 m <sup>3</sup> /tonne	Vegetable tanned leather	35 m <sup>3</sup> /tonne	Pig skin	80 m <sup>3</sup> /tonne	Calfskin	40 m <sup>3</sup> /tonne	Sheepskins	180 l/skin
Hides	28 m <sup>3</sup> /tonne												
Skins	45 m <sup>3</sup> /tonne												
Vegetable tanned leather	35 m <sup>3</sup> /tonne												
Pig skin	80 m <sup>3</sup> /tonne												
Calfskin	40 m <sup>3</sup> /tonne												
Sheepskins	180 l/skin												

**Assessment and verification:**

The applicant shall compile all relevant declarations, SDSs and optional 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 15.

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

**6.4 Cotton and other natural cellulosic seed fibres**

Cotton and other natural cellulosic seed fibres (hereinafter referred to as cotton) shall contain a minimum content of either organic cotton (see criterion 6.4a) or integrated pest management (IPM) cotton (see criterion 6.4b). In addition to this:

— All conventional cotton and IPM cotton used shall comply with the pesticide restrictions in criterion 6.4c,

— All organic and IPM cotton shall be fully traceable in accordance with criterion 6.4d,

Products meeting specific content thresholds for organic or IPM cotton shall be permitted to display additional text alongside the EU Ecolabel logo, communicating the content claim, in accordance with the guidance provided in criterion 11.

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

Textile-based materials that have been awarded the EU Ecolabel in accordance with Commission Decision 2014/350/EU shall be considered compliant with criterion 6.4.

#### **6.4(a) Organic production standard**

A minimum of 10 % weight by weight of the cotton used in furniture shall be grown according to the requirements laid down in Council Regulation (EC) No 834/2007<sup>11</sup>, the US National Organic Programme (NOP) or equivalent legal obligations set by trade partners of the EU. The organic cotton content may include organically grown cotton and transitional organic cotton.

All conventional cotton and IPM cotton blended with organic cotton shall come from non-genetically modified varieties.

#### ***Assessment and verification:***

The applicant shall provide a declaration of compliance with criterion 6.4(a), supported by evidence confirming that at least 10 % of the cotton contained in the product is organic and 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 trade partners. Verification shall be provided on an annual basis for each country of origin.

Non-genetically modified varieties of cotton shall be verified in conformity with Regulation (EC) No 1830/2003 of the European Parliament and of the Council<sup>12</sup>. IPM schemes that exclude genetically modified cotton shall be accepted as proof of compliance for IPM content.

#### **6.4(b) Cotton production according to IPM principles**

A minimum of 20 % weight by weight of the cotton used in the product 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, and shall comply with the pesticide restrictions in criterion 6.4(c).

#### ***Assessment and verification:***

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<sup>11</sup> 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).

<sup>12</sup> Regulation (EC) No 1830/2003 of the European Parliament and of the Council of 22 September 2003 concerning the traceability and labelling of genetically modified organisms and the traceability of food and feed products produced from genetically modified organisms and amending Directive 2001/18/EC (OJ L 268, 18.10.2003, p. 24).

The applicant shall provide a declaration of compliance with criterion 6.4(b), supported by evidence that at least 20 % weight by weight of the 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 bales purchased to manufacture the product.

#### **6.4(c) Pesticide restrictions applying to conventional and IPM cotton**

All cotton used in textile-based materials shall be grown without the use of any of the following substances:

Alachlor, aldicarb, aldrin, campheclor (toxaphene), captafol, chlordane, 2,4,5-T, chlordimeform, chlorobenzilate, cypermethrin, DDT, dieldrin, dinoseb and its salts, endosulfan, endrin, glyphosulfate, heptachlor, hexachlorobenzene, hexachlorocyclohexane (total isomers), methamidophos, methyl-o-demeton, methylparathion, monocrotophos, neonicotinoids (clothianidine, imidacloprid, thiametoxam), parathion, phosphamidon, pentachlorophenol, thiofanex, triafanex, triazophos.

Cotton shall not contain more than 0.5 ppm in total of the substances listed above.

#### ***Assessment and verification:***

The applicant shall provide a declaration of compliance with criterion 6.4(c). Proof of compliance with the pesticide restriction shall not be required for schemes that prohibit use of the substances listed and where either testing is carried out or declarations of non-use are obtained from farmers and/or farmer producer groups that are verified by site visits carried out by control bodies accredited by either national governments or recognised organic or IPM certification schemes.

Cotton shall be tested for the listed substances. A test report shall be provided based on the following test methods, as appropriate:

- US EPA 8081 B (organo-chlorine pesticides, with ultrasonic or Soxhlet extraction and apolar solvents (iso- octane or hexane)),
- US EPA 8151 A (chlorinated herbicides, using methanol),
- US EPA 8141 B (organophosphorus compounds),
- US EPA 8270 D (semi-volatile organic compounds).

Tests shall be made on samples of raw cotton from each country of origin and before it passes through any wet treatment. For each country of origin testing shall be carried out on the following basis:

- (i) Where only one lot of cotton is used per year a sample shall be taken from a randomly selected bale;
- (ii) If two or more lots of cotton are used per year composite samples shall be taken from 5 % of the bales.

Cotton is not required to be tested where it has been certified by an IPM scheme that prohibits the use of the listed substances.

#### **6.4(d) Traceability requirements applying to organic and IPM cotton**

All cotton grown according to the organic and IPM production standards and used to manufacture a textile product shall be traceable from the point of verification of the production standard up until, as a minimum, greige fabric production.

##### **Assessment and verification:**

The applicant shall provide a declaration of compliance with criterion 6.4(d) and demonstrate that the minimum cotton content requirement is met, either for the annual volume of cotton purchased or for the blend of cotton used to manufacture the final product(s) and according to each product line:

- (i) On an annualised basis: Transaction records and/or invoices shall be provided that document the quantity of cotton purchased on an annual basis from farmers or producer groups, and/or the total weight of certified bales, up until greige fabric production.
- (ii) On a final product basis: Documentation shall be provided from the spinning and/or fabric production stages. All documentation shall reference the Control Body or certifier of the different forms of cotton.

#### **6.5 PVC-based coated fabrics**

Where PVC is used in coated fabrics, the PVC resin shall have been supplied from producers that can demonstrate compliance with vinyl chloride monomer (VCM) emissions stated in Table 16 for their production facility.

**Table 16. VCM emission limits for PVC production and from the resin product**

	<b>Suspension process (S-PVC)</b>	<b>Emulsion process (E-PVC)</b>	<b>Combined process (E+S PVC)*</b>
Total VCM emissions to air (including fugitive emissions)	< 100 g/tonne	< 1000 g/tonne	
VCM concentration in aqueous effluents	< 1g / m <sup>3</sup> effluent and < 5 g/tonne PVC	< 1 g/m <sup>3</sup> effluent and < 10 g/tonne PVC	< 1 g/m <sup>3</sup> effluent and < 5 g/tonne E+S PVC
VCM concentration in final resin product	< 1g / tonne PVC		

\* The combined process applies to where aqueous effluents from separate emulsion and suspension processes are combined prior to any treatment and final discharge.

##### **Assessment and verification:**

The applicant shall provide either:

- A declaration from the applicant stating that PVC-based coated fabrics have not been used in the final furniture product; or



- A declaration from the applicant stating that PVC-based coated fabrics have been used in the furniture product, together with a declaration from the producer of the PVC-based coated fabric stating that the PVC-based coated fabric was produced in accordance with the VCM emission limits set out in Table 16. The declaration of the PVC producer shall:

- Specify whether PVC was produced using the Emulsion Process or the Suspension Process and if aqueous effluent is treated for combined plants.
- Include evidence of compliance with the relevant **total, atmospheric and aqueous** VCM emission limits specified in Table 16.
- Include third party verified evidence of compliance with the limit for residual VCM in the final PVC material via test reports of representative samples following the EN ISO 6401 standard or equivalent methodology.

## **Criterion 7. Upholstery padding materials**

### **7.1. Latex foam**

#### **a) Restricted substances**

The concentrations in the latex foam of the substances listed below shall not exceed the limit values shown in Table 17.

**Table 17. Restricted substances in latex foams used in furniture upholstery**

<b>Group of substances</b>	<b>Substance</b>	<b>Limit value (ppm)</b>	<b>Assessment and verification conditions</b>
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*	Aldrin	0.04	C
	o,p-DDE	0.04	C
	p,p-DDE	0.04	C
	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
	Heptachlorepoxyde	0.04	C
	Hexachlorobenzene	0.04	C
	Hexachlorocyclohexane	0.04	C
	α-Hexachlorocyclohexane	0.04	C
	β-Hexachlorocyclohexane	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

\* Only for foams composed of natural latex for at least 20 % by weight.

**Assessment and verification:**

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

**A.** For chlorophenols the applicant shall provide a report presenting the results of the following test procedure. 5 g of sample shall be milled and chlorophenols 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).

**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.

**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 18.

**Table 18. VOC emission limits for latex foams**

Substance	Limit value (mg/m <sup>3</sup> )
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
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 7.1b) 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  $24\pm 1$  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**

**a) Restricted substances**

The concentrations in the PUR foam of the substances listed below shall not exceed the limit values shown in Table 19.

**Table 19. List of restricted substances in PUR**

Substance group	Substance (acronym, CAS number, element symbol)	Limit value	Method
Biocides		Not added intentionally	A

Flame retardants		Not added (unless in compliance with conditions in Table 2 entries c and d)	A
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 <3 years old)	C
	Di-n-octylphthalate (DNOP, 117-84-0)*		
	Di (2-ethylhexyl)-phthalate (DEHP, 117-81-7)*		
	Butylbenzylphthalate (BBP, 85-68-7)*	*0.01 % w/w (sum of 4 phthalates in all other furniture products)	
	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
	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)-phosphin oxide (TEPA, 545-55-1)	Not added intentionally	A
	Tris(2-chloroethyl)-phosphate (TCEP, 115-96-8)	Not added intentionally	A
Dimethyl methylphosphonate (DMMP, 756-79-6)	Not added intentionally	A	

\*\*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 7.2a). Where testing is required, the applicant shall provide the test results and demonstrating compliance with the

limits in Table 19. 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 biocides, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from suppliers of the foam confirming that the listed substances 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 5ml 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 2.5ml 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.

**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 30ml of extracting agent during 1 hour in an ultrasonic bath at room temperature. The extracting agent shall be a mixture composed as it follows: 1750 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 1200 ml of water and 165 ml acetic acid, to be diluted with water to a volume of 2000 ml. After extraction the alkyl tin species shall be derivatized 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.

## **b) 72h VOC emissions**

After 72 hours, the test chamber concentrations of the substances listed below shall not exceed the limit values shown in Table 20.

**Table 20. 72-hour VOC emission limits for PUR foams**

<b>Substance (CAS number)</b>	<b>Limit value (mg/m<sup>3</sup>)</b>
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 the Regulation (EC) No 1272/2008 of the European Parliament and of the Council	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 7.2b). If applicable, the declaration shall be supported by test results that show compliance with the limits stated in Table 20. The test sample/chamber combination shall be either:

- 1 sample of 25x20x15 cm dimensions is placed in a 0.5 m<sup>3</sup> test chamber or
- 2 samples of 25x20x15 cm dimensions are placed in a 1.0 m<sup>3</sup> 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<sup>2</sup>/m<sup>3</sup> (= 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.

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 components are reported from a concentration limit ≥ 1 µg/m<sup>3</sup>. Total VOC value is the sum of all components with a concentration ≥ 1 µg/m<sup>3</sup> 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<sup>3</sup>. 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.

### 7.3. 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.
- 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 7.1a) and b) is demonstrated.

#### **Assessment and verification:**

The applicant shall provide a declaration of compliance stating:

- The nature of the padding/filling material used and any other blended materials;
- That the material does not contain any SVHCs or other hazardous substances that are not specifically derogated in Table 2.
- That down or animal feathers have not been used in the filling/padding material, either alone or in blends.
- 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:

- i. Not contain leaded glass.
- ii. Not contain lead, mercury or cadmium impurities at levels exceeding 100 mg/kg per metal.
- iii. For mirror glass, any paints, primers or varnishes used on the mirror backing shall have a lead content less than 2000 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 Fluorescence 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 2000 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.

#### **Assessment and verification:**

The applicant shall provide a declaration stating compliance with any relevant EN standards, supported by test reports from either the furniture manufacturer or component part 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. During this period, the consumer shall be entitled to have the goods brought into conformity free of charge by repair or replacement. If repair or replacement is deemed impossible or disproportionate by the seller, an appropriate reduction in the price shall be offered. In cases of a major lack of conformity and where repair or replacement cannot be offered within a reasonable time or without significant inconvenience to the consumer, the purchasing contract may be rescinded.

Any lack of conformity resulting from incorrect installation of the consumer goods shall be deemed to be equivalent to lack of conformity of the goods if installation forms part of the contract of sale of the furniture product and the furniture product was installed by the seller or under his responsibility. This shall apply equally if the product, intended to be installed by the consumer, is installed by the consumer and the incorrect installation is due to a shortcoming in the installation instructions.

Any lack of conformity that becomes apparent within 6 months of the date of delivery of the furniture product, unless proved otherwise, shall be presumed to have existed at the time of delivery of the product unless this presumption is incompatible with the nature of the goods or the nature of the lack of conformity.

The seller shall be held liable for any lack of conformity that becomes apparent within five years of the delivery of the furniture product so long as the seller is informed by the consumer of the lack of conformity within two months of it being detected.

This guarantee shall be provided without prejudice to the legal obligations of the manufacturer and seller under national law. The guarantee shall:



- state that the consumer has legal rights under applicable national legislation governing the sale of consumer goods and make clear that those rights are not affected by the guarantee,
- set out in plain intelligible language the contents of the guarantee and the essential particulars necessary for making claims under the guarantee, notably the duration and territorial scope of the guarantee as well as the name and address of the guarantor.

**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. Design for disassembly

- a) For furniture consisting of multiple components, the product shall be designed for disassembly and simple and illustrated instructions regarding the disassembly and replacement of damaged component parts shall be provided. Disassembly and replacement operations should be capable of being carried out using common and basic manual tools and unskilled labour.
- b) The furniture manufacturer shall make spare parts available to customers for a period of at least 5 years from the date when the furniture item shall cease to be manufactured. The cost (if any) of spare parts shall be proportional to the total cost of the furniture product. Contact details that should be used in order to arrange the delivery of spare parts shall be provided.

**Assessment and verification**

- a) 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.
- b) The applicant shall provide a declaration that spare parts shall be available for a period of at least 5 years from the date when the furniture item shall cease to be manufactured. 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. VOC emissions

If the furniture product contains any of the materials or components listed below, VOC emission testing shall be required.:

- Upholstery coverings made of leather

- Upholstery coverings made of coated fabrics
- Any components 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** 30g/m<sup>2</sup> 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 21) or in smaller test chambers specifically for the component parts listed above (see conditions and limits in Table 22).

VOC emissions shall not exceed the limit values given in Table 21 and Table 22.

**Table 21. 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 2-10m <sup>3</sup>				
Loading rate	Product should occupy approximately 25% of chamber volume				*0.5-1.5m <sup>2</sup> /m <sup>3</sup>
Ventilation rate	4.0 m <sup>3</sup> /h		2.0 m <sup>3</sup> /h		*0.5-1.5h <sup>-1</sup>
Substance	3d	28d	3d	28d	28d
Formaldehyde	-	60 µg/m <sup>3</sup>	-	60 µg/m <sup>3</sup>	60 µg/m <sup>3</sup>
TVOC*	≤ 3000 µg/m <sup>3</sup>	≤ 400 µg/m <sup>3</sup>	-	≤ 450 µg/m <sup>3</sup>	≤ 450 µg/m <sup>3</sup>
TSVOC	-	≤ 100 µg/m <sup>3</sup>	-	≤ 80 µg/m <sup>3</sup>	≤ 80 µg/m <sup>3</sup>
C-substances†	≤ 10 µg/m <sup>3</sup> (total limit)	≤ 1 µg/m <sup>3</sup> (per substance)	≤ 10 µg/m <sup>3</sup> (total limit)	≤ 1 µg/m <sup>3</sup> (per substance)	≤ 1 µg/m <sup>3</sup> (per substance)
R-value for LCI substances†	-	≤ 1		≤ 1	≤ 1

\*although there is scope to vary the loading rate and ventilation rate, the ratio between the loading rate (m<sup>2</sup>/m<sup>3</sup>) and the ventilation rate (h<sup>-1</sup>) shall be maintained at 1.0.

**Table 22. Maximum VOC emission limit values for targeted furniture materials/parts**

Test parameter	Coated components		Leather or coated fabric upholstery coverings	
Minimum allowed chamber volume	200 L for wood based components 20 L for other components		20 L	
Ventilation rate	0.5 h <sup>-1</sup>		1.5 m <sup>3</sup> /m <sup>2</sup> .h	
Substance	3d	28d	3d	28d
Formaldehyde	-	60 µg/m <sup>3</sup>	-	60 µg/m <sup>3</sup>
TVOC*	≤ 3000 µg/m <sup>3</sup>	≤ 400 µg/m <sup>3</sup>	-	≤ 450 µg/m <sup>3</sup>
TSVOC	-	≤ 100 µg/m <sup>3</sup>	-	≤ 80 µg/m <sup>3</sup>
C-substances†	≤ 10 µg/m <sup>3</sup> (total limit)	≤ 1 µg/m <sup>3</sup> (per substance)	≤ 10 µg/m <sup>3</sup> (total limit)	≤ 1 µg/m <sup>3</sup> (per substance)
R-value for LCI substances††	-	≤ 1		≤ 1

\* TVOC – Total Volatile Organic Compounds, defined as those compounds eluting within the retention range of C<sub>6</sub> to C<sub>16</sub> (inclusive) on a capillary column coated with 5% phenyl / 95% methyl-poly-siloxane..

\*\* TSVOC – Total Semi-Volatile Organic Compounds, defined as those compounds eluting within the retention range of >C<sub>16</sub> to C<sub>22</sub> (inclusive) on a capillary column coated with 5% phenyl / 95% methyl-poly-siloxane.

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

†† R value = total of all quotients (C<sub>i</sub> / LCI<sub>i</sub>) < 1 (where C<sub>i</sub> = substance concentration in the chamber air, LCI<sub>i</sub> = 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 components 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.

Test data demonstrating compliance with the limits in Table 22 for relevant components that is provided directly by component suppliers, shall also be accepted if they are accompanied by a declaration from the component supplier.

### ***Criterion 10. Consumer Information***

A single consumer information document shall be provided with the product which includes information in English and 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.
- Information about the polymer types of any plastic components with a weight greater than 100g that were not marked in line with the requirements of criterion 4.1.
- 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, which flame retardants have been used (if any) and in what materials (if any).
- A declaration of the non-use of biocides 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 biocides 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.
- Well illustrated assembly and disassembly instructions as per the requirements of criterion 9.3.
- Relevant contact information regarding provision of spare parts as per the requirements of criterion 9.3.

**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.

**Criterion 11. Information appearing on the EU Ecolabel**

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

- Wood from sustainably managed forests
- Recycled content (wood or plastic, if applicable)
- Restricted hazardous substances
- Not treated with biocides (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 23. 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 50%	Made with xx% organic cotton
Organic content of more than 95%	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](http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf)

**Assessment and verification:**

The applicant shall provide a declaration of compliance with this criterion.

## 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 = **1.5m<sup>2</sup>**
- The VOC content of the coating compound (in g/L) = **120g/L**
- The volume\* of coating compound present before coating operation = **18.5L**
- The number of identical units processed during the coating operation = **4**
- The volume\* of coating compound remaining after coating operation = **12.5L**

Total area coated	= 4 x 1.5m <sup>2</sup>	= <b><u>6m<sup>2</sup></u></b>
Total volume of coating compound used	= 18.5 – 12.5	= <b><u>6L</u></b>
Total VOC applied to surface	= 3.9L x 120g/L	= <b><u>468g</u></b>
Total VOC applied per m <sup>2</sup>	= 468g/6m <sup>2</sup>	= <b><u>78g/m<sup>2</sup></u></b>

\*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.

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

Options to lower the VOC content used in coatings can be improved by using more efficient techniques. Indicative efficiencies of different coating techniques are shown below.

**Table 24. Indicative efficiency factors for coating techniques:**

Coating technique	Effectiveness	Efficiency factor
Spraying device without recycling	50%	0.5
Electrostatic spraying	65%	0.65
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

Appendix II: EN 13336 requirements for furniture leather

Table 25. Physical requirements of leather used in Ecolabel furniture (as per EN 13336)

Fundamental characteristics	Test methods		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 1000g.	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	
	Perspiration alkaline solution as defined in EN ISO 11641.	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		--	≥ 2N / 10mm	
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.

### Appendix III: Prohibited arylamine compounds in final leather, textile and coated fabric materials

Included here are the substances listed in Entry 43 that should be tested for in any dyed leather (using the EN 17234 standard) or textiles (using the EN 14362-1 and -3 standards).

**Table 26. 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-naphthylamine	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-diaminoanisole	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-chloro-aniline)	101-14-4

A number of dye compounds, although not directly restricted themselves, are known to cleave to form some of the prohibited substances listed in Table 26 above. Thus it is strongly recommended that their use be avoided in leather and textile dyeing processes in order to comply with the requirements for carcinogenic arylamines.

As a guide to applicants, the following dyes should not be used:

**Table 27. 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



*Appendix IV: Furniture product durability, strength and ergonomic standards.*

**Table 28. Indicative list of EN furniture standards under CEN TC 207 relevant to criterion 9.1**

<b>EN No.</b>	<b>Title</b>	<b>2014 CATAS test price</b>
<b>Upholstered furniture</b>		
1021-1	Furniture - Assessment of the ignitability of upholstered furniture - Part 1: Ignition source smouldering cigarette	115-230 €
1021-2	Furniture - Assessment of the ignitability of upholstered furniture - Part 2: Ignition source match flame equivalent	115-230 €
<b>Office furniture</b>		
527-1	Office furniture - Work tables and desks - Part 1: Dimensions	62-124 €
527-2	Office furniture - Work tables and desks - Part 2: Mechanical safety requirements	62-124 €
1023-2	Office furniture - Screens - Part 2: Mechanical safety requirements	65 – 375 €
1335-1	Office furniture - Office work chair - Part 1: Dimensions - Determination of dimensions	63-391 €
1335-2	Office furniture - Office work chair - Part 2: Safety requirements	95-190 €
14073-2	Office furniture - Storage furniture - Part 2: Safety requirements	76-152 €
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).	Up to 1400-2800 € (depends on how many sub-tests apply)**
<b>Outdoor furniture</b>		
581-1	Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 1: General safety requirements	85-170 €
581-2	Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 2: Mechanical safety requirements and test methods for seating	
581-3	Outdoor furniture - Seating and tables for camping, domestic and contract use - Part 3: Mechanical safety requirements and test methods for tables	Up to 205 - 410 € **
<b>Seating furniture</b>		
1022	Domestic furniture - Seating - Determination of stability	71-142 €
12520	Furniture - Strength, durability and safety - Requirements for domestic seating	170-340 €
12727	Furniture - Ranked seating - Test methods and requirements for strength and durability	Up to 1676-3352 € **
13759	Furniture - Operating mechanisms for seating and sofa-beds - Test methods	
14703	Furniture - Links for non-domestic seating linked together in a row - Strength requirements and test methods	240-480 €
16139	Furniture - Strength, durability and safety - Requirements for non-domestic seating	200-400 €
<b>Tables</b>		
12521	Furniture - Strength, durability and safety - Requirements for domestic tables	190-380 €
15372	Furniture - Strength, durability and safety - Requirements for non-domestic tables	190-380 €
<b>Kitchen furniture</b>		

1116	Kitchen furniture - Co-ordinating sizes for kitchen furniture and kitchen appliances	
14749	Domestic and kitchen storage units and worktops - Safety requirements and test methods	Up to 1100-2200 € **
<b>Beds</b>		
597-1	Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 1: Ignition source: Smouldering cigarette	96-192 €
597-2	Furniture - Assessment of the ignitability of mattresses and upholstered bed bases - Part 2: Ignition source: Match flame equivalent	96-192 €
716-1	Furniture - Children's cots and folding cots for domestic use - Part 1: Safety requirements	67-134 €
747-1	Furniture - Bunk beds and high beds - Part 1: Safety, strength and durability requirements	130-260 €
1725	Domestic furniture - Beds and mattresses - Safety requirements and test methods	Up to 700-1400 € **
1957	Furniture - Beds and mattresses - Test methods for determination of functional characteristics and assessment criteria	Up to 1700-3400 € **
12227	Playpens for domestic use - Safety requirements and test methods	
<b>Storage furniture</b>		
16121	Non-domestic storage furniture - Requirements for safety, strength, durability and stability	108-216 €
<b>Other types of furniture</b>		
1729-1	Furniture - Chairs and tables for educational institutions - Part 1: Functional dimensions	125-250 €
1729-2	Furniture - Chairs and tables for educational institutions - Part 2: Safety requirements and test methods	Up to 680-1360 € **
13150	Workbenches for laboratories - Dimensions, safety requirements and test methods	Up to 1400-2800 € **
14434	Writing boards for educational institutions - Ergonomic, technical and safety requirements and their test methods	Up to 3500-7000 €**

\* indicative costs only based on 2014 CATAS catalogue (lower costs represent 50% discount for CATAS members).

\*\*Maximum indicative costs if all sub-tests apply to the product