COMMISSION DECISION

of 23 June 2014

establishing the ecological criteria for the award of the EU Ecolabel for bed mattresses

(notified under document C(2014) 4083)

(Text with EEA relevance)

(2014/391/EU)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 66/2010 of the European Parliament and of the Council of 25 November 2009 on the EU Ecolabel ([1]), and in particular Article 8(2) thereof,

After consulting the European Union Eco-labelling Board,

Whereas:

(1) Under Regulation (EC) No 66/2010, the EU Ecolabel may be awarded to products which have a reduced environmental impact during their entire life cycle.

(2) Regulation (EC) No 66/2010 provides that specific EU Ecolabel criteria are to be established according to product groups.

(3) Commission Decision 2009/598/EC ([2]) has established the ecological criteria and the related assessment and verification requirements for bed mattresses, which are valid until 30 June 2014.

(4) In order to better reflect the state of the art of the market for this product group and take into account the innovation of the last years, it is considered appropriate to modify the scope of the product group and to establish a revised set of ecological criteria.

(5) The revised criteria, as well as the related assessment and verification requirements should be valid for four years from the date of adoption of this Decision, taking into account the innovation cycle for this product group. These criteria aim at using of materials produced in a more sustainable way (considering a life cycle analysis approach), limiting the use of hazardous compounds, the levels of hazardous residues and the contribution of mattresses to indoor air pollution and promoting a durable and high-quality product that is easy to repair and disassembly.

(6) Decision 2009/598/EC should therefore be replaced by this Decision.

(7) A transitional period should be allowed for producers whose products have been awarded the EU Ecolabel for bed mattresses on the basis of the criteria set out in Decision 2009/598/EC, so that they have sufficient time to adapt their products to comply with the revised criteria and requirements.

(8) The measures provided for in this Decision are in accordance with the opinion of the Committee established by Article 16 of Regulation (EC) No 66/2010,

HAS ADOPTED THIS DECISION:

Article 1

1. The product group 'bed mattresses' shall comprise products consisting of a cloth cover that is filled with materials and that can be placed on an existing supporting bed structure or designed for free standing in order to provide a surface to sleep or rest upon for indoor use.

([1]) OJ L 27, 30.1.2010, p. 1.
([2]) Commission Decision 2009/598/EC of 9 July 2009 on establishing the ecological criteria for the award of the Community Ecolabel for bed mattresses (OJ L 203, 5.8.2009, p. 65).

2. The product group shall not include wooden and upholstered bed bases, inflatable mattresses and water mattresses, as well as mattresses classified under Council Directive 93/42/EEC ([1]).

Article 2

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

(1) 'Cot mattress' means a mattress with the length shorter than 1 400 mm;

(2) 'Eliminable substance' means a substance that shows 80 % degradation of dissolved organic carbon within 28 days using one of the following test methods: OECD 303A/B, ISO 11733;

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

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

(5) 'Semi-volatile organic compound (SVOC)' means any organic compound eluting in a gas chromatographic column between n-hexadecane (excluded) and n-docosane (included) and with a boiling point approximately higher than 287 °C, where the measurement is carried out using a capillary column coated with 5 % phenyl/95 % methyl-polysiloxane;

(6) 'Very volatile organic compound (VVOC)' means any organic compound eluting in a gas chromatographic column before n-hexane and with a boiling point approximately lower than 68 °C, where the measurement is carried out using a capillary column coated with 5 % phenyl/95 % methyl-polysiloxane;

(7) 'Volatile organic compound (VOC)' means any organic compound eluting in a gas chromatographic column between, and including, n-hexane and n-hexadecane with a boiling point in the range of approximately 68 °C to 287 °C, where the measurement is carried out using a capillary column coated with 5 % phenyl/95 % methyl-polysiloxane.

Article 3

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

Article 4

The criteria for the product group 'bed mattresses', as well as the related assessment and verification requirements, shall be valid for four years from the date of adoption of this Decision.

Article 5

For administrative purposes, the code number assigned to the product group 'bed mattresses' shall be '014'.

Article 6

Decision 2009/598/EC is repealed.

([1]) Council Directive 93/42/EEC of 14 June 1993 concerning medical devices (OJ L 169, 12.7.1993, p. 1).

Article 7

1. By derogation from Article 6, applications for the EU Ecolabel for products falling within the product group 'bed mattresses' submitted before the date of adoption of this Decision shall be evaluated in accordance with the conditions laid down in Decision 2009/598/EC.

2. Applications for the EU Ecolabel for products falling within the product group 'bed mattresses' submitted within two months from the date of adoption of this Decision may be based either on the criteria set out in Decision 2009/598/EC or on the criteria set out in this Decision.

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

3. EU Ecolabel licenses awarded in accordance with the criteria set out in Decision 2009/598/EC may be used for 12 months from the date of adoption of this Decision.

Article 8

This Decision is addressed to the Member States.

Done at Brussels, 23 June 2014.

For the Commission
Janez POTOČNIK
Member of the Commission

ANNEX

FRAMEWORK

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 tests which are accredited according to ISO 17025 and verifications performed by bodies which are accredited under the EN 45011 standard or an equivalent international standard.

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 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.

EU ECOLABEL CRITERIA

Criteria for awarding the EU Ecolabel to bed mattresses:

1. Latex foam
2. Polyurethane (PUR) foam
3. Wire and springs
4. Coconut fibres
5. Textiles (fabrics and fibres used as mattress cover and/or filling materials)
6. Glues and adhesives
7. Flame retardants
8. Biocides
9. Plasticizers
10. Excluded or limited substances and mixtures
11. Emission of specified volatile organic compounds (SVOCs, VOCs, VVOCs) from the mattress
12. Technical performance
13. Design for disassembly and recovery of materials
14. Information appearing on the EU Ecolabel
15. Additional information to consumers

The Ecolabel criteria reflect the best environmental performing products on the market of bed mattresses.

Whilst the use of chemical products 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 to the mattress. For this purpose, derogation conditions for specific substances/groups of substances are granted in exceptional circumstances, in order not to shift the environmental burden to other life cycle phases or impacts and only when there are no viable alternatives existing on the market.

Criterion 1. Latex foam

Note: The following requirements need to be met only if latex foam contributes to more than 5 % of the total weight of the mattress.

1.1. *Restricted substances*

The concentrations in the latex foam of the substances listed below shall not exceed the following values:

Group of substances	Substance	Limit value (ppm)	Assessment and verification conditions
Chlorophenols	mono- and di-chlorinated phenols (salts and esters)	1	A
	Other chlorophenols	0,1	A
Heavy metal	As (Arsenic)	0,5	B
	Cd (Cadmium)	0,1	B
	Co (Cobalt)	0,5	B
	Cr (Chromium), total	1	B
	Cu (Copper)	2	B
	Hg (Mercury)	0,02	B
	Ni (Nickel)	1	B
	Pb (Lead)	0,5	B
	Sb (Antimony)	0,5	B
Pesticides (*)	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

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

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

Assessment and verification:

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

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.

1.2. *Emission of specified volatile organic compounds (SVOCs, VOCs, VVOCs)*

The room concentrations of the substances reported below, calculated through the test chamber method, shall not exceed the following values after a period of 24 hours.

Substance	Limit value (mg/m^3)
1,1,1 — trichloroethane	0,2
4-Phenylcyclohexene	0,02
Carbon Disulphide	0,02
Formaldehyde	0,005
Nitrosamines (*)	0,0005
Styrene	0,01
Tetrachloroethylene	0,15
Toluene	0,1
Trichlorethylene	0,05
Vinyl chloride	0,0001
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 report presenting the results of the following test procedure. A test chamber analysis shall be performed in accordance with the standard ISO 16000-9. The wrapped sample shall be stored at room temperature at least for 24 hours. After this period the sample shall be unwrapped and immediately transferred into the test chamber. The sample shall be placed on a sample holder, which allows air access from all sides. The climatic factors shall be adjusted according to ISO 16000-9. For comparison of test results, the area specific ventilation rate (q = n/l) shall be 1. The ventilation rate shall be between 0,5 and 1. The air sampling shall be done 24 ± 1 h after loading of the chamber during 1 hour on DNPH cartridges for the analysis of formaldehyde and other aldehydes and on Tenax TA for the analysis of other volatile organic compounds. Sampling duration for other compounds may be longer but shall be completed before 30 hours.

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

Testing following the standard CEN/TS 16516 shall be considered 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.

1.3. *Dyes*

Should dyes be used, criterion 5.5 shall be respected.

Assessment and verification: the applicant shall provide either a declaration of non-use of dyes from the manufacturer of the foam or, in case of use, a declaration of compliance with this criterion, together with supporting documentation.

Criterion 2. Polyurethane (PUR) foam

Note: The following requirements need to be met only if PUR foam contributes to more than 5 % of the total weight of the mattress.

2.1. *Restricted substances*

The concentrations in the PUR foam of the substances listed below shall not exceed the following values:

Group of substances	Substance (acronym, CAS number, element symbol)	Limit value	Assessment and verification conditions
Biocides	Substances restricted according to criterion 8.1	Not added intentionally	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

Group of substances	Substance (acronym, CAS number, element symbol)	Limit value	Assessment and verification conditions
Plasticizers	Di-iso-nonylphthalate (DINP, 28553-12-0)	0,01 % w/w (sum)	C
	Di-n-octylphthalate (DNOP, 117-84-0)		
	Di (2-ethylhexyl)-phthalate (DEHP, 117-81-7)		
	Di-iso-decylphthalate (DIDP, 26761-40-0)		
	Butylbenzylphthalate (BBP, 85-68-7)		
	Dibutylphthalate (DBP, 84-74-2)		
	Phthalates	Not added intentionally	A
TDA and MDA	2,4 Toluenediamine (2,4-TDA, 95-80-7)	5,0 ppm	D
	4,4'-Diaminodiphenylmethane	5,0 ppm	D
	(4,4'-MDA, 101-77-9)		
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 susbstances that are restricted	Chlorinated or brominated dioxines 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

Group of substances	Substance (acronym, CAS number, element symbol)	Limit value	Assessment and verification conditions
	Chlorinated phenols (PCP, TeCP, 87-86-5)	Not added intentionally	A
	Hexachlorocyclohexane (58-89-9)	Not added intentionally	A
	Monomethyldibromo–Diphenylmethane (99688-47-8)	Not added intentionally	A
	Monomethyldichloro-Diphenylmethane (81161-70-8)	Not added intentionally	A
	Nitrites	Not added intentionally	A
	Polybrominated Biphenyls (PBB, 59536-65-1)	Not added intentionally	A
	Pentabromodiphenyl Ether (PeBDE, 32534-81-9)	Not added intentionally	A
	Octabromodiphenyl Ether (OBDE, 32536-52-0)	Not added intentionally	A
	Polychlorinated Biphenyls (PCB, 1336-36-3)	Not added intentionally	A
	Polychlorinated Terphenyls (PCT, 61788-33-8)	Not added intentionally	A
	Tris(2,3-dibromopropyl) phosphate (TRIS, 126-72-7)	Not added intentionally	A
	Trimethylphosphate (512-56-1)	Not added intentionally	A
	Tris-(aziridinyl)-phosphinoxide (TEPA, 545-55-1)	Not added intentionally	A
	Tris(2-chloroethyl)-phosphate (TCEP, 115-96-8)	Not added intentionally	A
	Dimethyl methylphosphonate (DMMP, 756-79-6)	Not added intentionally	A

Assessment and verification:

A. For biocides, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from manufacturers 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. The sample shall be a composite of 6 pieces to be taken from beneath each samples face (to a maximum of 2 cm from the surface). Extraction shall be performed with dichloromethane using validated method and followed by analysis with gas chromatography–mass spectrometry (GC/MS) or high-performance liquid chromatography (HPLC/UV).

D. For TDA and MDA the applicant shall provide a report presenting the results of the following test procedure. The sample shall be a composite of 6 pieces to be taken from beneath each samples face (to a maximum of 2 cm from the surface). Extraction shall be performed with 1 % aqueous acetic acid solution. Four repeat extractions of the same foam sample shall be performed maintaining the sample weight to volume ratio of 1:5 in each case. The extracts shall be combined, made up to a known volume, filtered and 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. The sample shall be a composite of 6 pieces to be taken from beneath each sample face (to a maximum of 2 cm from the surface). Extraction shall be performed for 1 hour in an ultrasonic bath at room temperature. The extracting agent shall be a mixture composed as it follows: 1 750 ml methanol + 300 ml acetic acid + 250 ml buffer (pH 4,5). The buffer shall be a solution of 164 g of sodium acetate in 1 200 ml of water and 165 ml acetic acid, to be diluted with water to a volume of 2 000 ml. After extraction the alkyl tin species shall be derivatized by adding sodium tetraethylborate solution in tetrahydrofuran (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.

2.2. *Emission of specified volatile organic compounds (SVOCs, VOCs, VVOCs)*

The room concentrations of the substances reported below, calculated through the test chamber method, shall not exceed the following values after a period of 72 hours.

Substance (CAS number)	Limit value (mg/m^3)
Formaldehyde (50-00-0)	0,005
Toluene (108-88-3)	0,1
Styrene (100-42-5)	0,005
Each detectable compound classified as categories C1A or C1B according to the Regulation (EC) No 1272/2008 of the European Parliament and of the Council [1]	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

[1] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1).

Assessment and verification: the applicant shall provide a report presenting the results of the following test procedure. The foam sample is placed on the bottom of an emission test chamber and is conditioned for 3 days at 23 °C and 50 % relative humidity, applying an air exchange rate n of 0,5 per hour and a chamber loading L of 0,4 m^2/m^3 (= total exposed surface of sample in relation to chamber dimensions without sealing edges and back) in accordance with ISO 16000-9 and ISO 16000-11. Sampling shall be done 72 ± 2 h after loading of the chamber during 1 hour on Tenax TA and DNPH cartridges for respectively VOC and formaldehyde analysis. 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 $\mu g/m^3$. Total VOC value is the sum of all components with a concentration ≥ 1 $\mu g/m^3$ and eluting within the retention time window from n-hexane (C6) to n-hexadecane (C16), both included. The

sum of all detectable compounds classified as categories C1A or C1B according to Regulation (EC) No 1272/2008 is the sum of all these substances with a concentration ≥ 1 µg/m³. 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 equivalent to those of the ISO 16000 series of standards.

Note:

— Chamber volume shall be 0,5 or 1 m³.

— 1 sample (25 cm × 20 cm × 15 cm) shall be used in a test chamber of 0,5 m³ standing vertically on one 20 cm × 15 cm side.

— 2 samples (25 cm × 20 cm × 15 cm) shall be used in a 1 m³ test chamber standing vertically on one 20 cm × 15 cm side; in this case both samples shall be placed in the test chamber with 15 cm distance in between.

2.3. *Dyes*

Should dyes be used, criterion 5.5 shall be respected.

Assessment and verification: the applicant shall provide either a declaration of non-use of dyes from the manufacturer of the foam or, in case of use, a declaration of compliance with this criterion, together with supporting documentation.

2.4. *Total chlorine content of isocyanates*

Should mixed isomers of toluene diisocyanate (TDI) be used in the production of the PUR foam, the total chlorine content of these isocyanates shall not exceed 0,07 % by weight.

Assessment and verification: the applicant shall provide either a declaration of non-use from the manufacturer of the foam or the results of the test methods carried-out in accordance with ASTM D4661-93 or equivalent.

2.5. *Blowing agents*

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

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

Criterion 3. Wire and springs

Note: The following requirements need to be met only if wire and springs contribute to more than 5 % of the total weight of the mattress.

3.1. *Degreasing*

If degreasing and/or cleaning of wire and/or springs is carried out with organic solvents, use shall be made of a closed cleaning/degreasing system.

Assessment and verification: the applicant shall provide a corresponding declaration from the manufacturer of wire and/or springs.

3.2. *Galvanisation*

The surface of springs shall not be covered with a galvanic metallic layer.

Assessment and verification: the applicant shall provide a corresponding declaration from the manufacturer of wire and/or springs.

Criterion 4. Coconut fibres

Note: The following requirement needs to be met only if coconut fibre contribute to more than 5 % of the total weight of the mattress.

Criteria for latex foam shall be considered if coconut fibre material is rubberised using latex.

Assessment and verification: the applicant shall either provide a declaration of non-use of rubberised coconut fibres, or the test reports required in criterion 1 for latex foam.

Criterion 5. Textiles (fabrics and fibres used as mattress cover and/or filling materials)

Notes:

(1) All the requirements (5.1 to 5.11) shall be respected for the mattress cover (i.e. ticking).

(2) Filling materials (i.e. padding) shall respect requirement 5.1. Where wool is used as filling material, requirements 5.1, 5.2 and 5.8 shall be respected.

(3) All textiles which have been awarded the EU Ecolabel, as established in Commission Decision 2014/350/EU [1], are considered being automatically compliant with requirements 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.10 and 5.11. Nevertheless, in order to allow mattresses to be awarded the EU Ecolabel, it shall be demonstrated that also criterion 5.9 is satisfied for the mattress cover.

5.1. *General requirements on hazardous substances (including flame retardants, biocides and plasticizers) (Applicability: all textiles)*

All textiles: criteria 7 (flame retardants), 8 (biocides), 9 (plasticizers) and 10 (hazardous substances) shall be respected by all textiles.

Assessment and verification: the applicant shall provide a declaration of compliance with this criterion, together with the supporting documentation required in the respective criterion (7, 8, 9 and 10).

5.2. *Auxiliaries used in preparations and formulations (Applicability: covers made of any fibres and filling materials made of wool)*

All covers: The following substances shall not be used in any preparations or formulations used for the production of all mattress covers. Limit values for the presence of Alkylophenols and APEOs on the cover shall be respected.

Filling materials made of wool: Alkylophenols and APEOs shall not be used in any preparations or formulations used for the production of filling materials made of wool and limit values for their presence in the filling material shall be respected.

Substance (CAS number/Acronym)	Limit value (mg/kg)	Assessment and verification conditions
Alkylphenols: — Nonylphenol, mixed isomers (25154-52-3) — 4-Nonylphenol (104-40-5) — 4-Nonylphenol, branched (84852-15-3) — Octylphenol (27193-28-8) — 4-Octylphenol (1806-26-4) — 4-tert-Octylphenol (140-66-9)	25 (sum)	A
Alkylphenolethoxylates (APEOs) and their derivatives — Polyoxyethylated octyl phenol (9002-93-1) — Polyoxyethylated nonyl phenol (9016-45-9) — Polyoxyethylated p-nonyl phenol (26027-38-3)		

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

Substance (CAS number/Acronym)	Limit value (mg/kg)	Assessment and verification conditions
bis(hydrogenated tallow alkyl) dimethyl ammonium chloride (DTDMAC)	Not used	B
distearyl dimethyl ammonium chloride (DSDMAC)		
di(hardened tallow) dimethyl ammonium chloride (DHTDMAC)		
ethylene diamine tetra acetate (EDTA)		
diethylene triamine penta acetate (DTPA)		
4-(1,1,3,3-tetramethylbutyl)phenol		
1-Methyl-2-pyrrolidone		
Nitrilotriacetic acid (NTA)		

Assessment and verification:

A. The applicant shall provide a report presenting the results of the final product testing which shall be performed through solvent extraction followed by liquid chromatography–mass spectrometry (LC-MS).

B. The applicant shall provide a declaration of non-use from the supplier supported by safety data sheets for all production stages.

5.3. *Surfactants, fabric softeners and complexing agents in wet processes (Applicability: covers made of any fibres)*

All surfactants, softeners and complexing agents: At least 95 % by weight of surfactants, softeners and complexing agents shall comply with one of the following conditions:

(a) they shall be readily biodegradable under aerobic conditions;

(b) they shall be inherently biodegradable or eliminable in wastewater treatment plants.

Non-ionic and cationic surfactants: All non-ionic and cationic surfactants shall also be readily biodegradable under anaerobic conditions.

The latest revision of the Detergents Ingredients Database should be used as a reference point for biodegradability:

http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf

Assessment and verification: the applicant shall provide appropriate documentation through safety data sheets and declarations from suppliers.

For all surfactants, softeners and complexing agents, this shall be supported by results of appropriate OECD or ISO tests for:

— Readily biodegradability (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)

— Inherently biodegradability (ISO 14593, OECD 302 A, ISO 9887, OECD 302 B, ISO 9888, OECD 302 C)

— Eliminability (OECD 303A/B, ISO 11733)

For non-ionic and cationic surfactants, this shall be supported by results of appropriate OECD or ISO tests (ISO 11734, ECETOC No 28 (June 1988), OECD 311).

5.4. *Bleaching of pulp, yarns, fabrics and end products (Applicability: covers made of any fibres)*

Chlorine agents shall not be used for the bleaching of any yarns, fabrics or end-products with the exception of man-made cellulose fibres.

Pulp used to manufacture man-made cellulose fibres (e.g. viscose) shall be bleached without the use of elemental chlorine. The resulting total amount of chlorine and organically bound chlorine in the finished fibres (OX) shall not exceed 150 ppm or in the wastewater from pulp manufacturing (AOX) shall not exceed 0,170 kg/ADt pulp.

Assessment and verification: the applicant shall provide a declaration of non-use of chlorinated bleaching agents from the supplier.

For man-made cellulose fibres, the applicant shall provide a test report showing compliance with either the OX or the AOX requirement, using the appropriate test method:

— OX: ISO 11480 (controlled combustion and microcoulometry)

— AOX: ISO 9562

5.5. *Dyes (Applicability: covers made of any fibres)*

The following restrictions apply to dyes.

The use of dyes in textiles shall be also compliant with criterion 10 on hazardous substances and thus the related derogation conditions shall apply. Derogation conditions relate to the handling of dyes in the dye house, the dyeing process and colour removal from wastewater from dye houses.

<table>
<tr><th>Group of substances</th><th colspan="2">Criterion</th><th>Assessment and verification</th></tr>
<tr><td>(i) Halogenated carriers</td><td colspan="2">Where disperse dyes are used, halogenated dyeing accelerants (carriers) shall not be used to dye polyester, acrylic or polyamide fibres and fabrics made of these fibres or polyester-wool blends (Examples of carriers include: 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, chlorophenoxyethanol).</td><td>A</td></tr>
<tr><td>(ii) Azo dyes</td><td colspan="2">Azo dyes that may cleave to aromatic amines that are known to be carcinogenic shall not be used in acrylic, cotton, polyamide and wool fibres and fabrics made of these fibres. The limit value for the content of each arylamine in the final product shall be 30 mg/kg.</td><td>B</td></tr>
<tr><td></td><td>Arylamine</td><td>CAS number</td><td></td></tr>
<tr><td></td><td>4-aminodiphenyl</td><td>92-67-1</td><td></td></tr>
<tr><td></td><td>Benzidine</td><td>92-87-5</td><td></td></tr>
<tr><td></td><td>4-chloro-o-toluidine</td><td>95-69-2</td><td></td></tr>
<tr><td></td><td>2-naphtylamine</td><td>91-59-8</td><td></td></tr>
<tr><td></td><td>o-amino-azotoluene</td><td>97-56-3</td><td></td></tr>
<tr><td></td><td>2-amino-4-nitrotoluene</td><td>99-55-8</td><td></td></tr>
<tr><td></td><td>p-chloroaniline</td><td>106-47-8</td><td></td></tr>
<tr><td></td><td>2,4-diaminoanisol</td><td>615-05-4</td><td></td></tr>
</table>

Group of substances	Criterion		Assessment and verification
	4,4′-diaminodiphenylmethane	101-77-9	
	3,3′-dichlorobenzidine	91-94-1	
	3,3′-dimethoxybenzidine	119-90-4	
	3,3′-dimethylbenzidine	119-93-7	
	3,3′-dimethyl-4,4′-diaminodiphenylmethane	838-88-0	
	p-cresidine	120-71-8	
	4,4′-methylene-bis-(2-chloroaniline)	101-14-4	
	4,4′-oxydianiline	101-80-4	
	4,4′-thiodianiline	139-65-1	
	o-toluidine	95-53-4	
	2,4-diaminotoluene	95-80-7	
	2,4,5-trimethylaniline	137-17-7	
	o-anisidine (2-Methoxyanilin)	90-04-0	
	2,4-Xylidine	95-68-1	
	2,6-Xylidine	87-62-7	
	4-aminoazobenzene	60-09-3	
	An indicative list of azodyes that may cleave to arylamines is provided in the following.		
	Disperse dyes that may cleave to aromatic amines		
	Disperse Orange 60	Disperse Yellow 7	
	Disperse Orange 149	Disperse Yellow 23	
	Disperse Red 151	Disperse Yellow 56	
	Disperse Red 221	Disperse Yellow 218	
	Basic dyes that may cleave to aromatic amines		
	Basic Brown 4	Basic Red 114	
	Basic Red 42	Basic Yellow 82	
	Basic Red 76	Basic Yellow 103	
	Basic Red 111		

Group of substances	Criterion			Assessment and verification
	Acid dyes that may cleave to aromatic amines			
	CI Acid Black 29	CI Acid Red 24	CI Acid Red 128	
	CI Acid Black 94	CI Acid Red 26	CI Acid Red 115	
	CI Acid Black 131	CI Acid Red 26:1	CI Acid Red 128	
	CI Acid Black 132	CI Acid Red 26:2	CI Acid Red 135	
	CI Acid Black 209	CI Acid Red 35	CI Acid Red 148	
	CI Acid Black 232	CI Acid Red 48	CI Acid Red 150	
	CI Acid Brown 415	CI Acid Red 73	CI Acid Red 158	
	CI Acid Orange 17	CI Acid Red 85	CI Acid Red 167	
	CI Acid Orange 24	CI Acid Red 104	CI Acid Red 170	
	CI Acid Orange 45	CI Acid Red 114	CI Acid Red 264	
	CI Acid Red 4	CI Acid Red 115	CI Acid Red 265	
	CI Acid Red 5	CI Acid Red 116	CI Acid Red 420	
	CI Acid Red 8	CI Acid Red 119:1	CI Acid Violet 12	
	Direct dyes that may cleave to aromatic amines			
	Direct Black 4	Basic Brown 4	Direct Red 13	
	Direct Black 29	Direct Brown 6	Direct Red 17	
	Direct Black 38	Direct Brown 25	Direct Red 21	
	Direct Black 154	Direct Brown 27	Direct Red 24	
	Direct Blue 1	Direct Brown 31	Direct Red 26	
	Direct Blue 2	Direct Brown 33	Direct Red 22	
	Direct Blue 3	Direct Brown 51	Direct Red 28	
	Direct Blue 6	Direct Brown 59	Direct Red 37	
	Direct Blue 8	Direct Brown 74	Direct Red 39	
	Direct Blue 9	Direct Brown 79	Direct Red 44	
	Direct Blue 10	Direct Brown 95	Direct Red 46	
	Direct Blue 14	Direct Brown 101	Direct Red 62	
	Direct Blue 15	Direct Brown 154	Direct Red 67	

Group of substances	Criterion			Assessment and verification
	Direct Blue 21	Direct Brown 222	Direct Red 72	
	Direct Blue 22	Direct Brown 223	Direct Red 126	
	Direct Blue 25	Direct Green 1	Direct Red 168	
	Direct Blue 35	Direct Green 6	Direct Red 216	
	Direct Blue 76	Direct Green 8	Direct Red 264	
	Direct Blue 116	Direct Green 8.1	Direct Violet 1	
	Direct Blue 151	Direct Green 85	Direct Violet 4	
	Direct Blue 160	Direct Orange 1	Direct Violet 12	
	Direct Blue 173	Direct Orange 6	Direct Violet 13	
	Direct Blue 192	Direct Orange 7	Direct Violet 14	
	Direct Blue 201	Direct Orange 8	Direct Violet 21	
	Direct Blue 215	Direct Orange 10	Direct Violet 22	
	Direct Blue 295	Direct Orange 108	Direct Yellow 1	
	Direct Blue 306	Direct Red 1	Direct Yellow 24	
	Direct Brown 1	Direct Red 2	Direct Yellow 48	
	Direct Brown 1:2	Direct Red 7		
	Direct Brown 2	Direct Red 10		
(iii) CMR dyes	Dyes that are carcinogenic, mutagenic or toxic to reproduction shall not be used in all fibres and fabrics.			A
	Dyes that are carcinogenic, mutagenic or toxic to reproduction	CAS number		
	C.I. Acid Red 26	3761-53-3		
	C.I. Basic Red 9	569-61-9		
	C.I. Basic Violet 14	632-99-5		
	C.I. Direct Black 38	1937-37-7		
	C.I. Direct Blue 6	2602-46-2		
	C.I. Direct Red 28	573-58-0		
	C.I. Disperse Blue 1	2475-45-8		
	C.I. Disperse Orange 11	82-28-0		
	C.I. Disperse Yellow 3	2832-40-8		

<table>
<tr><th>Group of substances</th><th colspan="2">Criterion</th><th>Assessment and verification</th></tr>
<tr><td>(iv) Potentially sensitising dyes</td><td colspan="2">Dyes that are potentially sensitising shall not be used in acrylic, polyamide and polyester fibres and fabrics made of these fibres.</td><td>A</td></tr>
<tr><td></td><td>Disperse dyes that are potentially sensitising</td><td>CAS number</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 1</td><td>2475-45-8</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 3</td><td>2475-46-9</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 7</td><td>3179-90-6</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 26</td><td>3860-63-7</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 35</td><td>12222-75-2</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 102</td><td>12222-97-8</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 106</td><td>12223-01-7</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Blue 124</td><td>61951-51-7</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Brown 1</td><td>23355-64-8</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Orange 1</td><td>2581-69-3</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Orange 3</td><td>730-40-5</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Orange 37</td><td>12223-33-5</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Orange 76</td><td>13301-61-6</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Red 1</td><td>2872-52-8</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Red 11</td><td>2872-48-2</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Red 17</td><td>3179-89-3</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Yellow 1</td><td>119-15-3</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Yellow 3</td><td>2832-40-8</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Yellow 9</td><td>6373-73-5</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Yellow 39</td><td>12236-29-2</td><td></td></tr>
<tr><td></td><td>C.I. Disperse Yellow 49</td><td>54824-37-2</td><td></td></tr>
<tr><td>(v) Chrome mordant dyes</td><td colspan="2">Chrome mordant dyes shall not be used in polyamide and wool fibres and fabrics made of these fibres.</td><td>A</td></tr>
<tr><td>(vi) Metal complex dyes</td><td colspan="2">Metal complex dyes based on copper, chromium and nickel shall only be permitted for dyeing wool, polyamide or blends of these fibres with man-made cellulose fibres (e.g. viscose).</td><td>A</td></tr>
</table>

Assessment and verification:

A. The applicant shall provide a declaration of non-use from the supplier supported by safety data sheets.

B. The applicant shall provide a report presenting the results of the final product testing. Content of azo dyes in the final product shall be tested according to EN 14362-1 and 14362-3. Limit value is 30 mg/kg for each arylamine. (*Note:* false positives may be possible with respect to the presence of 4-aminoazobenzene, and confirmation is therefore recommended).

5.6. *Extractable metals (Applicability: covers made of any fibres)*

The following limit values shall apply:

Metal	Limit values (mg/kg)	
	Covers for cot mattresses	All other products
Antimony (Sb)	30,0	30,0
Arsenic (As)	0,2	1,0
Cadmium (Cd)	0,1	0,1
Chromium (Cr):		
— Textiles dyed with metal complex dyes	1,0	2,0
— All other textiles	0,5	1,0
Cobalt (Co)		
— Textiles dyed with metal complex dyes	1,0	4,0
— All other textiles	1,0	1,0
Copper (Cu)	25,0	50,0
Lead (Pb)	0,2	1,0
Nickel (Ni):		
— Textiles dyed with metal complex dyes	1,0	1,0
— All other textiles	0,5	1,0
Mercury (Hg)	0,02	0,02

Assessment and verification: the applicant shall provide a report presenting the results of the final product testing as verification for the limit values. The tests shall be extraction according to ISO 105-E04 (acid sweat solution) and detection with inductively coupled plasma mass spectrometry (ICP-MS) or inductively coupled plasma optical emission spectrometry (ICP-OES, also referred to as ICP-AES).

5.7. *Water, stain and oil repellents (Applicability: covers made of any fibres)*

Fluorinated water, stain and oil repellent treatment shall not be used. This shall include perfluorinated and polyfluorinated carbon treatments.

Non-fluorinated treatments shall be readily biodegradable and non-bioaccumulative in the aquatic environment including aquatic sediment. They shall additionally comply with criterion 10 on hazardous substances.

Assessment and verification: the applicant shall provide a declaration of non-use from the supplier supported by safety data sheets and compliance with criterion 10 shall be demonstrated accordingly.

5.8. *Wastewater discharges from wet processing (Applicability: covers made of any fibres and filling materials made of wool)*

Wastewater discharges to the environment shall not exceed 20 g COD/kg textile processing. This requirement shall apply to weaving, dyeing, printing and finishing processes used to manufacture the product(s). The requirement shall be measured downstream of on-site wastewater treatment plant or off-site wastewater treatment plant receiving wastewater from those processing sites.

If the effluent is treated on site and discharged directly to surface waters, it shall also meet the following requirements:

(i) pH between 6 and 9 (unless the pH of the receiving water is outside this range)

(ii) Temperature of less than 35 °C (unless the temperature of the receiving water is above this value)

If colour removal is required by a derogation condition in criterion 10(a) then the following spectral absorption coefficients shall be met:

(i) 7 m^{-1} at 436 nm (yellow sector)

(ii) 5 m^{-1} at 525 nm (red sector)

(iii) 3 m^{-1} at 620 nm (blue sector).

Assessment and verification: the applicant shall provide detailed documentation and test reports, using ISO 6060 for determination of COD and ISO 7887 for determination of colour, and showing compliance with this criterion on the basis of monthly averages for the six months preceding the application, together with a declaration of compliance. The data shall demonstrate compliance by the production site or, if the effluent is treated off-site, by the wastewater treatment operator.

5.9. *Mechanical resistance (Applicability: covers made of any fibre)*

Mattress cover shall achieve satisfactory mechanical properties, which are defined by the following testing standards:

Property	Requirement	Test method
Tear strength	Woven fabrics ≥ 15 N Nonwoven fabrics ≥ 20 N Knitted fabrics: not applicable	ISO 13937-2 (woven fabrics) ISO 9073-4 (nonwoven)
Seam slippage	Woven fabrics ≥ 16 picks: maximum 6 mm Woven fabrics < 16 picks: maximum 10 mm Knitted fabrics and nonwovens: not applicable	ISO 13936-2 (under a load of 60 N for all woven fabrics)
Tensile strength	Woven fabrics ≥ 350 N Knitted fabrics and nonwovens: not applicable	ISO 13934-1

Assessment and verification: the applicant shall provide reports describing the results of the tests performed according to ISO 13937-2 or ISO 9073-4 for tear strength, ISO 13936-2 (under a load of 60 N) for seam slippage and ISO 13934-1 for tensile strength.

5.10. *Durability of flame retardant function (Applicability: covers made of any fibre)*

Removable and washable covers shall retain their functionality after 50 wash and tumble dry cycles at a minimum of 75 °C. Covers that are not intended to be removed and washed shall retain their functionality after a soak test.

Assessment and verification: the applicant shall provide reports from tests carried out according to the following standards, as appropriate:

— ISO 6330 in combination with ISO 12138 for domestic wash cycles and ISO 10528 for industrial laundry cycles in case of removable and washable covers.

— BS 5651 or equivalent in case the cover is not intended to be removed and washed.

5.11. *Dimensional change (Applicability: removable covers made of any fibres)*

For mattress covers that are removable and washable, the dimensional changes after washing and drying at either domestic or industrial washing temperatures and conditions shall not exceed:

— Woven fabrics: ± 3 %

— Nonwoven fabrics: ± 5 %

This criterion does not apply to fabrics that are not promoted as 'washable'.

Assessment and verification: the applicant shall provide test reports referring to appropriate standards. ISO 6330 in combination with EN 25077 shall be used as test method. Unless the cover states otherwise, the default conditions shall be washing 3A (60 °C), drying C (flat drying) and ironing according to the composition of the fabric.

Criterion 6. Glues and adhesives

Glues containing organic solvents shall not be used. Glues and adhesives used for assembling the product shall be also compliant with criterion 10 on hazardous substances.

Assessment and verification: the applicant shall provide a declaration of non-use or a declaration from suppliers together with supporting documentation and compliance with criterion 10 shall be demonstrated accordingly.

Criterion 7. Flame retardants

The following flame retardants shall not be added intentionally to the product, any article of it and any homogeneous part of it:

Name	CAS number	Acronym
Decabromodiphenlyether	1163-19-5	decaBDE
Hexabromocyclododecane	25637-99-4	HBCD/HBCDD
Octabromodiphenylether	32536-52-0	octaBDE
Pentabromodiphenylether	32534-81-9	pentaBDE
Polybrominated biphenyls	59536-65-1	PBBs
Short chain chlorinated paraffins (C10-C13)	85535-84-8	SCCP
Tris-(2,3-dibromopropyl)-phosphate	126-72-7	TRIS
Tris(2-chloroethyl)phosphate	115-96-8	TCEP
Tris-(aziridinyl)-phosphinoxide	545-55-1	TEPA

The use of any flame retardant shall be compliant with criterion 10 on hazardous substances.

Assessment and verification: the applicant shall provide and shall make suppliers to provide a declaration of non-use confirming that the listed flame retardants have not been included in the product, any article of it and any homogeneous part of it. A list of substances added to enhance the flame retarding properties shall be also provided, including concentrations and related H statements/R phrases, and compliance with criterion 10 shall be demonstrated accordingly.

Criterion 8. Biocides

8.1. *Production*

The use of any biocidal active substance in the product shall have to be authorised under Regulation (EU) No 528/2012 of the European Parliament and of the Council [1] (list available at: http://ec.europa.eu/environment/biocides/annexi_and_ia.htm) and shall be compliant with criterion 10 on hazardous substances.

Assessment and verification: the applicant shall provide either declarations of non-use or evidence that the use of biocides is authorised under Regulation (EU) No 528/2012. A list of biocidal products added to the product shall be also provided, including concentrations and related H statements/R phrases, and compliance with criterion 10 shall be demonstrated accordingly.

8.2. *Transportation*

Chlorophenols (their salts and esters), polychlorinated biphenyl (PCB), organo-tin compounds (including TBT, TPhT, DBT and DOT) and diemthyl fumarate (DMFu) shall not be used during the transportation or storage of the product, any article of it and any homogeneous part of it.

Assessment and verification: the applicant shall provide and shall make suppliers to provide a declaration of non-use, as appropriate, confirming that the listed substances have not been used during the transportation or storage of the product, any article and any homogeneous part of it. A list of biocidal products added to the product shall be also provided, including concentrations and related H statements/R phrases, and compliance with criterion 10 shall be demonstrated accordingly.

Criterion 9. Plasticizers

The following plasticizers shall not be added intentionally to the product, any article of it and to any homogeneous part of it:

Name	CAS number	Acronym
Di-iso-nonylphtalate (*)	28553-12-0; 68515-48-0	DINP
Di-n-octylphthalate	117-84-0	DNOP
Di(2-ethylhexyl)-phthalate	117-81-7	DEHP
Diisodecylphthalate (*)	26761-40-0; 68515-49-1	DIDP
Butylbenzylphthalate	85-68-7	BBP
Dibutylphthalate	84-74-2	DBP
Di-iso-butylphthalate	84-69-5	DIBP
Di-C6-8-branched alkylphthalates	71888-89-6	DIHP
Di-C7-11-branched alkylphthalates	68515-42-4	DHNUP
Di-n-hexylphthalate	84-75-3	DHP
Di-(2-methoxyethyl)-phthalate	117-82-8	DMEP

(*) only for cot mattresses.

[1] Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products (OJ L 167, 27.6.2012, p. 1).

The sum of the prohibited plasticizers shall be lower than 0,10 % by weight. The use of any plasticizer shall be compliant with criterion 10 on hazardous substances.

Assessment and verification: the applicant shall provide and shall make suppliers to provide a declaration of non-use confirming that the listed substances have not been used in the product, any article of it and any homogeneous part of it. Safety data sheets for the formulation of polymers may be requested to confirm that the listed substances have not been included in the product. A list of plasticizers added to the product shall be provided, including concentrations and related H statements/R phrases, and compliance with criterion 10 shall be demonstrated accordingly. Additional verification for the total content of phthalates may be required in accordance with ISO 14389 when quality of information is considered insufficient.

Criterion 10. Excluded or limited substances and mixtures

(a) *Hazardous substances and mixtures*

The EU Ecolabel may not be awarded if the product or any article of it, as defined in Article 3(3) of Regulation (EC) No 1907/2006 of the European Parliament and of the Council ([1]), or any homogenous part of it contains a substance or mixture meeting the criteria for classification with the hazard statements or risk phrases specified in the table below, in accordance with Regulation (EC) No 1272/2008 or Council Directive 67/548/EEC ([2]), or contains a substance or mixture referred to in Article 57 of Regulation (EC) No 1907/2006, unless specific derogation has been granted.

The most recent classification rules adopted by the Union shall take precedence over the listed hazard classifications and risk phrases. Applicants shall therefore ensure that any classifications are based on the most recent classification rules.

The hazard statements and the risk phrases in the table below generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

The use of substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable or undergo chemical modification) so that the identified hazards no longer apply are exempted from the above requirements. This shall include for instance modified polymers and monomers or additives which become covalently bonded within plastic coatings.

Hazard Statement ([a])	Risk Phrase ([b])
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68

([1]) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1).

([2]) Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (OJ 196, 16.8.1967, p. 1).

Hazard Statement [a]	Risk Phrase [b]
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28
H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs	R48/25/24/23
H373 May cause damage to organs	R48/20/21/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32

Hazard Statement [a]	Risk Phrase [b]
EUH070 Toxic by eye contact	R39-41
H317 (Sub-category 1A): May cause allergic skin reaction (trigger concentration ≥ 0,1 % w/w) [c]	R43
H317 (Sub-category 1B): May cause allergic skin reaction (trigger concentration ≥ 1,0 % w/w) [c]	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42

Notes

[a] According to Regulation (EC) No 1272/2008.
[b] According to Directive 67/548/EEC and Directives 2006/121/EC and 1999/45/EC.
[c] According to Commission Regulation (EU) No 286/2011 of 10 March 2011 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (OJ L 83, 30.3.2011, p. 1).

In accordance with Article 6(7) of Regulation (EC) No 66/2010 the following substances are specifically derogated from the requirements set out in criterion 10(a) and in accordance with the derogation conditions set out below. For each substance all derogation conditions shall be met for the specified hazard classifications.

Substances/Groups of substances	Derogated classification	Derogation conditions
Antimony Trioxide — ATO	H351	ATO shall be used as catalyst in polyester or as flame retardant synergist in textiles for backcoatings. Emissions to air in the workplace where ATO is applied shall meet an eight hour occupational exposure limit value of 0,5 mg/m³.
Nickel	H317, H351, H372	Nickel shall be contained in stainless steel.
Dyestuff for dyeing and non-pigment printing in textiles	H301, H311, H331, H317, H334	Dust free dye formulations or automatic dosing and dispensing of dyes shall be used by dye houses and printers to minimise worker exposure.
	H411, H412, H413	The use of reactive, direct, vat, sulphur dyes with these classifications shall meet at least one of the following conditions: — High affinity dyes are used; — Colour matching instrumentation is used; — Standard Operating Procedures for the dyeing process are used; — Colour removal is used in wastewater treatment (see criterion 5.8). — Solution dyeing processes are used; — Digital inkjet printing processes are used; The use of solution dyeing and/or digital printing are exempted from these conditions.

Substances/Groups of substances	Derogated classification	Derogation conditions
Flame retardants used in textiles	H317 (1B), H373, H411, H412, H413	The product shall be designed in order to meet fire protection requirements in ISO, EN, Member State or public sector procurement standards and regulations. The product shall meet the requirements for durability of function (see criterion 5.10)
Optical brighteners	H411, H412, H413	Optical brighteners shall only be applied as additives during the production of acrylic, polyamide and polyester fibres.
Water, dirt and stain repellents	H413	The repellent and its degradation products shall be readily biodegradable and non-bioaccumulative in the aquatic environment, including aquatic sediment.
Auxiliaries used in textiles (comprising: Carriers, Levelling agents, Dispersing agents, Surfactants, Thickeners, Binders)	H301, H371, H373, H334, H411, H412, H413, EUH070	Recipes shall be formulated using automatic dosing systems and processes shall follow Standard Operating Procedures.
	H311, H331, H317 (1B)	Residual auxiliaries classified accordingly shall not be present at concentrations of greater than 1,0 % w/w on the final product.
Glues and adhesives	H304, H341, H362, H371, H373, H400, H410, H411, H412, H413, EUH059, EUH029, EUH031, EUH032, EUH070, H317, H334	Glue and adhesives shall respect conditions set in criterion 6.

Assessment and verification: the applicant shall provide the bill of materials of the product, including a list with all articles and homogeneous part of it.

The applicant shall screen the presence of substances and mixtures that may be classified with the hazard statements or risk phrases reported above in the criterion. The applicant shall provide a declaration of compliance with requirement 10(a) for the product, any article of it or any homogenous part of it.

Applicants shall select the appropriate forms of verification. The main forms of verification are foreseen as follows:

— Articles manufactured according to a specific chemical formulation (e.g. latex and PUR foams): Safety Data Sheets shall be provided for the final article or for the substances and mixtures composing the final article above a cut-off limit of 0,10 % w/w.

— Homogenous parts and any associated treatments or impurities (e.g. plastic and metal parts): Safety Data Sheets shall be provided for the materials composing that part of the product and for substances and mixtures used in the formulation and treatment of the materials remaining in the final part above a cut-off limit of 0,10 % w/w.

— Chemical recipes used to impart a specific function to the product or to textile components of the product (e.g. glues and adhesives, flame retardants, biocides, plasticizers, dyes): Safety Data Sheets shall be provided for substances and mixtures used in the assembly of the final product or substances and mixtures applied to textile components during production, dyeing, printing and finishing processes and remaining in the textile components.

The declaration shall include related documentation, such as declarations of compliance signed by the suppliers, on the non-classification of the substances, mixtures or materials with any of the hazard classes associated to the hazard statements or risk phrases referred in the list above in accordance with Regulation (EC) No 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII to Regulation (EC) No 1907/2006.

The information provided shall relate to the forms or physical states of the substances or mixtures as used in the final product.

The following technical information shall be provided to support the declaration of classification or non-classification for each substance and mixture:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 or which do not yet have a harmonised CLP classification: information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: Safety Data Sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: Safety Data Sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

Safety Data Sheets (SDS) shall be completed in accordance with the guidance in Section 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006 (Requirements for the Compilation of Safety Data Sheets). Incomplete SDS shall require supplementing with information from declarations by chemical suppliers.

Information on intrinsic properties of substances may 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 in accordance with Annex XI to Regulation (EC) No 1907/2006. The sharing of relevant data across the supply chain is strongly encouraged.

Where substances used are derogated, then the declaration shall specifically identify those derogated substances and provide supporting evidence showing how the derogation conditions are met.

(b) *Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006*

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006, present in mixtures, in an article or in any homogeneous part of the product in concentrations > 0,10 % by weight.

Assessment and verification: reference to the latest list of substances of very high concern shall be made on the date of application. The applicant shall provide a declaration of compliance with requirement 10(b), together with related documentation, including declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures in accordance with Annex II to Regulation (EC) No 1907/2006. Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006 for substances and mixtures.

Criterion 11. Emission of specified volatile organic compounds (SVOCs, VOCs, VVOCs) from the mattress

The contribution of mattresses to the VOC content of the indoor air shall not exceed the final values reported below, for a period of 7 days or, alternatively, 28 days.

Values are calculated with the emission test chamber method and with reference to the European Reference Room, by analogy with the procedure specified in the 'Health-related Evaluation Procedure for Volatile Organic Compounds Emissions from Building Products' developed by the AgBB (2012 version available at http://www.umweltbundesamt.de/sites/default/files/medien/377/dokumente/agbb_evaluation_scheme_2012.pdf)

Substance	Final value 7th day	Final value 28th day
Formaldehyde	< 0,06 mg/m³	< 0,06 mg/m³
Other aldehydes	< 0,06 mg/m³	< 0,06 mg/m³
VOCs (total)	< 0,5 mg/m³	< 0,2 mg/m³
SVOCs (total)	< 0,1 mg/m³	< 0,04 mg/m³
Each detectable compound classified as categories C1A or C1B according to the Regulation (EC) No 1272/2008	< 0,001 mg/m³	< 0,001 mg/m³

Assessment and verification: the applicant shall perform a test chamber analysis in accordance with the standard EN ISO 16000-9. The analysis of formaldehyde and other aldehydes shall comply with the standard ISO 16000-3; the analysis of VOCs and SVOCs shall comply with the standard ISO 16000-6. Testing following the standard CEN/TS 16516 shall be considered equivalent to those of the ISO 16000 series of standards.

Test results shall be calculated for an area specific ventilation rate 'q' = 0,5 m^3/m^2h, corresponding to a loading factor 'L' of 1 m^2/m^3 and an air change rate 'n' of 0,5 per hour. In all these cases, the total surface of all surfaces (upside, downside and edges) of the mattress determine the area used for calculation of the loading factor. The test shall be performed on an entire mattress. Should this not be possible for any reason, any of the following alternative procedures of testing may be applied:

1. Performing the test on a representative sample of the mattress (i.e. one half, one quarter or one eighth); cut edges shall be closed airtight by appropriate means. In order to provide a conservative estimation of the concentration values expected from the entire mattress, concentrations registered with the sample shall be scaled-up by volume (i.e. emissions shall be multiplied by a factor 2, 4 or 8);

2. Performing the test for each separate element forming part of the mattress. In order to provide a conservative estimation of the concentration values expected from the entire mattress, contributions registered with single components shall be combined using this formula $C_M = \Sigma\ \omega_i \cdot C_i$; where:

   — 'C_M' ($\mu g \cdot m^{-3}$) is the overall contribution from the entire mattress;

   — 'C_i' ($\mu g \cdot m^{-3} \cdot kg_i^{-1}$) is the contribution per unit of mass given by each element 'i' forming part of the mattress;

   — 'ω_i' (kg_i) is the weight of the element 'i' in the entire mattress.

   The emissions of all elements of the mattress shall be summed up without taking into account any adsorption or barrier effects (worst-case approach).

Criterion 12. Technical performance

12.1. *Quality*

The mattress shall be designed in a way that a quality product meeting the needs of the consumer is placed on the market.

Assessment and verification: the applicant shall provide a report describing the approach followed and the actions taken in order to ensure the quality of the product, the fulfilment of specific functional characteristics and the respect of thermo-hygrometric wellness requirements. The following aspects should be taken into consideration: research and development, selection of materials, internal testing and verification procedures for demonstrating the fulfilment of functional characteristics and the respect of thermo-hygrometric wellness requirements.

12.2. *Durability*

Mattresses shall present the following functional characteristics:

— Loss of height < 15 %

— Loss of firmness < 20 %

Assessment and verification: the applicant shall provide a test report describing the results obtained following the test method EN 1957. The losses of height and firmness refer to the difference between the measurements made initially (at 100 cycles) and after the completion (30 000 cycles) of the durability test.

12.3. *Warranty*

A list of recommendations on how to use, maintain and dispose the mattress shall be reported in the warranty documentation. The warranty for the mattress shall be valid for a period of at least 10 years. This prescription shall not be required for cot mattresses.

Assessment and verification: the applicant shall provide documentation attesting the implementation of the warranty scheme.

Criterion 13. Design for disassembly and recovery of materials

The manufacturer shall demonstrate that the mattress can be dismantled for the following purposes:

— undertaking repairs and replacements of worn-out parts,

— upgrading older or obsolete parts,

— separating parts and materials for the potential recycle of them.

Assessment and verification: a report shall be submitted with the application detailing the dismantling of the mattress and the possible disposal of each part. For instance, the following actions could facilitate the dismantling of the mattress: preferring sewing to the application of glue; using removable covers; using single and recyclable materials for each homogeneous part.

Criterion 14. Information appearing on the EU Ecolabel

The EU Ecolabel can be applied both on the packaging and on the product. If the optional label with text box is used, it shall contain the following text:

— 'High-quality long-lasting product'

— 'Hazardous substances restricted'

— 'Indoor air pollution reduced'

The following text shall moreover appear:

'For more information on why this product has been awarded the EU Ecolabel, please visit http://ec.europa.eu/environment/ecolabel/'

Assessment and verification: the applicant shall provide a declaration of compliance and visual evidence.

Criterion 15. Additional information to consumers

The applicant shall provide consumers in written or audiovisual form with a list of recommendations on how to use, maintain and dispose the mattress.

Assessment and verification: the applicant shall provide a declaration of compliance and visual evidence.