EUROPEAN
COMMISSION

Brussels, XXX
[…](2012) XXX draft

COMMISSION DECISION

of XXX

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

(Text with EEA relevance)

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of XXX

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(Text with EEA relevance)

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) Since the market volume of bed mattresses in the EU27 is significant and since impacts to the environment and risks for the human health may be associated with manufacturing materials and with the use and disposal of the mattress after its lifetime, it is appropriate to revise and keep the EU Ecolabel criteria for this product group.

Comment [c1]: to be checked with D ENV

(4) 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.

[1] OJ L 27, 30.1.2010, p. 1.

HAS ADOPTED THIS DECISION:

Article 1

1. The product group “bed mattresses” shall comprise products providing a surface to sleep or rest upon for indoor use.

2. The products consist 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. Materials filling and covering the bed mattresses may include latex and polyurethane foam, metal parts, textile fibres and fabrics.

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

Article 2

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

1. "Volatile organic compound (VOC)" means any organic compound having an initial boiling point less than or equal to 250°C, measured at a standard pressure of 101.3 kPa.

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2. Inherently biodegradable substance means a substance that:

- shows a percentage degradation of at least 60% within 28 days, when tested with one of the methods OECD 301 B, EN ISO 9439, OECD 301 C, OECD 302 C, OECD 301 D, EN ISO 10707, OECD 301 F, EN ISO 9408, EN ISO 10708 or EN ISO 14593; or

3. Non-biodegradable substance means a substance that does not fall into the definition of inherently or readily biodegradable substance.

4. ~~Non-biodegradable and bioaccumulative substance~~

5. Readily biodegradable substance means a substance that:

- shows a percentage degradation of at least 70% within 28 days, when tested with one of the methods OECD 301 A, OECD 301 E, EN ISO 7827, OECD 302 A, EN ISO 9887,OECD 302 B, or EN ISO 9888; or

- that shows a percentage degradation of at least 80% within 28 days, when tested with one of the methods OECD 303 or EN ISO 11733; or

- for which evidence of an equivalent level of biodegradation or elimination is presented, when these test methods are inapplicable.

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 to this Decision.

[2] OJ L 169, 12.7.1993, p. 1.

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 .

Comment [c2]: Four?

Article 5

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

Comment [c3]: 014?

Article 6

Decision 2009/598/EC is repealed.

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 from the date of adoption of this Decision but by xxxxx at the latest may be based either on the criteria set out in Decision 2009/598/EC or on the criteria set out in this Decision.

Comment [c4]: To be completed

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

3. Where the Ecolabel is awarded on the basis of an application evaluated in accordance with the criteria set out in Decision 2009/598/EC, that Ecolabel 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, [insert date - the date of adoption of this Decision]

Comment [c5]: To be completed

For the Commission
Janez POTOČNIK
Member of the Commission

ANNEX

FRAMEWORK

The aims of the criteria

These criteria aim at:

- using of materials produced in a more sustainable way (considering a life cycle analysis approach),
- limiting the use of eco-toxic compounds,
- limiting the levels of toxic residues,
- limiting the contribution of mattresses to indoor air pollution,
- promoting a more durable product that follows the six RE principles from UNEP[3]:
  - RE-think the product and its functions. For example, the product may be used more efficiently,
  - RE-place harmful substances with safer alternatives,
  - RE-duce energy, material consumption and socioeconomic impacts throughout a product's life cycle,
  - RE-pair. Make the product easy to repair e.g. via modules that can easily be changed,
  - RE-use. Design the product for disassembly so parts can be reused
  - RE-cycle. Select materials that can be recycled

The criteria are set at levels that promote the labelling of bed mattresses that are produced with a low environmental impact.

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.

Where possible, the testing shall be performed by laboratories that meet the general requirements of EN ISO 17025[4] or equivalent.

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.

[3] http://www.unep.org/pdf/dtie/DTI0889PA.pdf

[4] ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories

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EU ECOLABEL CRITERIA

Criteria

1. Latex foam
2. PUR foam
3. Spring and wires
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. Exclude or limited substances and mixtures
11. Emission of Volatile Organic Compounds (VOCs) from the mattress
12. Technical performance
13. Design for disassembly and recovery of materials
14. Information appearing on the EU Ecolabel

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

(a) Restricted substances

The concentrations 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

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	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
	Heptachlorepoxide	0.04	C
	Hexachlorbenzene	0.04	C
	Hexachlorcyclohexane	0.04	C
	Lindane	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
Others	Butadiene	1	D
* Only for foams composed of natural latex for at least 20% by weight			

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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 extracs shall be analysed by means of gas chromatography (GC). Detection shall be made with mass spectrometer or electron capture detector (ECD).

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B. For heavy metals the applicant shall provide a report presenting the results of the following test procedure: Milled sample material is eluted in accordance with DIN 38414-S4 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 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) Emission of Volatile Organic Compounds (VOCs)

The room concentrations of the substances reported below, calculated through the test chamber method, shall not exceed the following values after a period of 30 hours.

Substance	Limit value (mg/m³)
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)	0.30
VOCs (total)	0.5
* Alternatively, the concentration of formaldehyde shall not exceed 20 ppm as measured with EN ISO 14184-1.	
** 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),	

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Comment [MC6]: 0.010 in the EuroLatexECO-Standard. According to LATEX industry 0.0050 (a in old criteria) is always achieved

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Comment [MC7]: The limit values f Europur can be lower for styrene (ar others) since this is not present in that material.

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Comment [MC8]: The limit values f Europur can be different because of different nature of the material

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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 EN ISO 16000-9. The wrapped sample should be stored at room temperature at least for 24 hours. After this period the sample will be unwrapped and immediately transferred into the test chamber. The sample will be placed on a sample holder, which allows air access from all sides. The climatic factors should be adjusted according to EN ISO 16000-9. For comparison of test results, the area specific ventilation rate (q=n/l) should be 1. The ventilation rate should be between 0,5 and 1. The air sampling will be started 24 hours after chamber loading and finished latest 30 hours.

The analysis of formaldehyde and other aldehydes shall comply with the standard EN ISO 16000-3. Alternatively, formaldehyde emissions shall be determined following the test method EN ISO 14184-1. 5 g of sample shall be sunk into 100 g of water and heated to 40°C for 1 hour. Formaldehyde shall be extracted with acetylacetone and analysed colorimetrically.

The analysis of nitrosamines shall comply with the BGI 505-23 method (formerly: ZH 1/120.23) by using a thermal energy analyser (GC-TEA) coupled with a chemiluminescence detector. Alternative methods can also be used, such as gas chromatography in combination with high-resolution mass spectrometry and positive chemical ionization (GC-HRMS CI-POS). The following nitrosamines shall be tested: 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).

The analysis of the other VOCs shall comply with the standard EN ISO 16000-6.

(c) Dyes and pigments

Should dyes and or pigments be used, criterion 5(e) shall be respected.

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

Criterion 2. 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

(a) Restricted substances

The concentrations 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 meeting requirement of criterion 8(a)	Not added intentionally	A

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Comment [MC9]: If needed, in the us manual it can be said that when available the standard CEN/TS 16516 (2013) shall applied in analogy.

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Comment [MC10]: To be verified

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Comment [MC11]: Apparently not u but included in the old criteria.

Heavy Metals	As (Arsenic)	0.2 ppm	B
	Cd (Cadmium)	0.1 ppm	B
	Co (Cobalt)	0.5 ppm	B
	Cr (Chromium), total	1 ppm	B
	Cr VI (Chromium VI)	0.01 ppm	B
	Cu (Copper)	2 ppm	B
	Hg (Mercury)	0.02 ppm	B
	Ni (Nickel)	1 ppm	B
	Pb (Lead)	0.2 ppm	B
	Sb (Antimony)	0.5 ppm	B
	Se (Selenium)	0.5 ppm	B
~~Isocyanates~~	~~Total chlorine content~~	~~0.07 % w/w~~	~~tbc~~
Plasticizers	Di-iso-nonylphthalate (DINP, 28553-12-0)	-	-
	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 (DIBP, 84-74-2)	-	-
	Sum	0.01 % w/w	C
	Phthalate plasticizers	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)	-	-

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Comment [MC12]: CertiPUR makes reference to ASTM D46661-93. Howeve industry association reported that:
• free isocyanates which are not present untreated samples can be artificially produced during their analysis
• no bioavailable isocyanate is present in PU foams.
Based on that it is proposed to abstain fr any specific limits as long as reliable tes methods become available.

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	Monooctyltin (MOT)	-	-
	Dioctyltin (DOT)	-	-
	Tricyclohexyltin (TcyT)	-	-
	Triphenyltin (TPhT)	-	-
	Sum	500 ppb	E
Others	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
	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
	Tri-(2,3-dibromo-propyl)-phosphate (TRIS, 126-72-7)	Not added intentionally	A
	Trimethylphosphate (512-56-1)	Not added intentionally	A
	Tris-(aziridinyl)-phosphinoxide (TEPA, 5455-55-1)	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 specific substances restriced 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 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 must 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 GC/MS or HPLC/UV.

D. For TDA and MDA the applicant shall provide a a report presenting the results of the following test procedure. The sample must 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 HPLC-UV or HPLC-MS. If HPLC-UV shall be performed and interference shall be suspected, reanalysis with HPLC-MS should be performed.

E. For tinorganic substances the applicant shall provide a report presenting the results of the following test procedure. The sample must 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: 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 200 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 sodium tetraethylborate solution in 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) Emission of Volatile Organic Compounds (VOCs)

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 (µg/m³)**
Formaldehyde (50-00-0)	5

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Comment [MC13]: 10 in CertiPUR b 5 in old criteria

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Toulene (108-88-3)	100
Styrene (100-42-5)	50
Each detectable compound classified as categories C1A or C1B according to the Regulation (EC) No 1272/2008	5
Sum of all detectable compound classified as categories C1A or C1B according to the Regulation (EC) No 1272/2008	40
Aromatic hydrocarbons	500
VOCs (total)	500
~~* According to EU legislation:~~ ~~http://www.dguv.de/ifa/de/fac/kmr/kmr_neue_bezeichnungen.pdf~~	

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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, applying an air exchange rate n of 0.5 per hour and a chamber loading L of 0.4 m²/m³ (= total exposed surface of sample in relation to chamber dimensions without sealing edges and back) in accordance with EN ISO 16000-9 and EN ISO 16000-11. Sampling will 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 volatile organic compounds (VOC) are being trapped on Tenax TA sorbent tubes and subsequently analysed by means of thermo-desorption-GC-MS in accordance to EN ISO 16000-6. Results are semi-quantitatively expressed as toluene equivalents. All specified individual components are reported from a concentration limit ≥ 1 µg/m³. TVOC value is the sum of all components with a concentration ≥ 1µg/m³ and eluting within the retention time window from n-hexane (C6) to n-hexadecane (C16) inclusive. The sum of all CMR substances class 1a and 1b 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 EN ISO 16000-3.

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Comment [MC14]: If needed, in the user manual it can be said that when available, the standard CEN/TS 16516 (2013) shall be applied in analogy.

Note:

- Chamber volume has to be 0.5 or 1 m³.
- 1 sample (25 cm x 20 cm x 15 cm) is used in a test chamber of 0.5 m³ standing vertically on one 20 cm x 15 cm side.
- 2 samples (25 cm x 20 cm x 15 cm) are used in a 1 m³ test chamber standing vertically on one 20 cm x 15 cm side; in this case both samples are placed in the test chamber with 15 cm distance in between.

(c) Dyes and pigments

Should dyes and or pigments be used, criterion 5(e) shall be respected.

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

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Comment [MC15]: For PU foam the is no problem, declaration of non-use or compliance with the relevant EU docum

(d) 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 that these blowing agents have not been used.

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.

(a) 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.

(b) Galvanisation

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

Assessment and verification: The applicant shall provide a corresponding declaration.

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 that rubberised coconut fibres are not used, or provide the test reports required in criterion 1 for latex foam.

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

Note: All the following requirements shall be respected for the mattress cover (i.e. ticking). Filling materials (i.e. padding) shall respect requirements 5(a), 5(d), 5(e), Where wool is used as filling material, requirements 5(a), 5(b), 5(d), 5(e) and 5(f) must be respected.

a) General requirements on hazardous substances (including flame retardants, biocides and plasticizers) (all)

Criteria 7 (flame retardants), 8 (biocides) 9 (plasticizers) and 10 (hazardous substances) shall be respected.

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

Comment [MC16]: Accordingly with industry, coconut fibres are rubberised o with latex emulsions. Some clarification wording has been made.

Deleted: *Note:* If coconut fibre materia rubberised, it shall comply with the

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5(a) on hazardous substances, ¶
5(b) on auxiliary chemicals, ¶
5(c) on detergents, fabric softeners and complexing agents, ¶
5(d) on bleaching agents, ¶
5(e) on dyes and pigments, ¶
5(f) on wastewater discharges from dyei processes, ¶
5(g) on wastewater discharges from wet processing, ¶
5(h) on durability, ¶
5(i) on dimensional change. ¶
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(b) Auxiliary chemicals (cover and wool)

The following substances shall not be used in any textile preparations or formulations and are subject to limit values for the presence of substances on the final product:

Substance (CAS number / Acronym)	Limit value (mg/kg)
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)	50 (sum)
Alkylphenolethoxylates (APEOs) and their derivatives • Polyoxyethylated octyl phenol (CAS: 9002-93-1) • Polyoxyethylated nonyl phenol (CAS: 9016-45-9) • Polyoxyethylated p-nonyl phenol (CAS: 26027-38-3)	
~~linear alkylbenzene sulfonates (LAS)~~	
bis(hydrogenated tallow alkyl) dimethyl ammonium chloride (DTDMAC)	~~100~~
distearyl dimethyl ammonium chloride (DSDMAC)	~~100~~
di(hardened tallow) dimethyl ammonium chloride (DHTDMAC)	~~100~~
ethylene diamine tetra acetate (EDTA)	~~100~~
diethylene triamine penta acetate (DTPA)	~~100~~
4-(1,1,3,3-tetramethylbutyl)phenol	~~100~~
1-Methyl-2-pyrrolidone	~~100~~
Nitrilotriacetic acid (NTA)	~~100~~

Assessment and verification: The applicant shall provide a declaration of non-use supported by safety data sheets for all production stages. Final product testing shall be also performed for alkyphenols and APEOs through solvent extraction followed by LCMS and results of the rests shall be presented.

(c) Surfactants, fabric softeners and complexing agents (cover)

At least 95% by weight of fabric softeners, complexing agents and surfactants shall be:

- readily biodegradable under aerobic conditions or

- inherently biodegradable and eliminable in wastewater treatment plants.

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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¶

Comment [MC17]: Testing or declaration?

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<#>Polyoxyethylated octyl phenol 9002-93-1¶
<#>Polyoxyethylated nonyl phenol 9016-45-9¶
<#>Polyoxyethylated p-nonyl phenol 26027-38-3¶
<#>linear alkylbenzene sulfonates (LAS
<#>bis(hydrogenated tallow alkyl) dime ammonium chloride (DTDMAC), ¶
<#>distearyl dimethyl ammonium chlori (DSDMAC), ¶
<#>di(hardened tallow) dimethyl ammonium chloride (DHTDMAC), ¶
<#>ethylene diamine tetra acetate (EDT
<#>diethylene triamine penta acetate (DTPA) ¶
<#>4-(1,1,3,3-tetramethylbutyl)phenol¶
<#>1-Methyl-2-pyrrolidone¶
<#>Nitrilotriacetic acid (NTA)¶

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¶

Deleted: Detergents

Deleted: At each dyeing, printing and finishing stage in production of the matt ticking, at least 95 % by weight of fabric softeners, complexing agents and deterg by weight shall be readily biodegradable under aerobic conditions. ¶
All non-ionic and cationic surfactants present in detergents and fabrics softene must also be readily biodegradable unde anaerobic conditions.

All non-ionic and cationic surfactants must also be readily biodegradable under anaerobic conditions

Assessment and verification: The applicant shall provide appropriate documentation through safety data sheets and/or declarations from suppliers supported by results of appropriate OECD or ISO tests:

- All surfactants: ISO 7827, ISO 9408, ISO 9439, ISO 9887, ISO 9888, ISO 10707, ISO 10708, ISO 14593, OECD 301 A, OECD 301 B, OECD 301 C , OECD 301 D, OECD 301 E, OECD 301 F, OECD 302 A, OECD 302 B, OECD 302 C,
- Non-ionic and cationic surfactants EN ISO 11734, ECETOC No 28 (June 1988), OECD 311

Where a substance is listed in the Detergents Ingredients Database then this shall provide the reference point for biodegradability:

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

(d) Bleaching agents (all)

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 fibres (OX) shall not exceed 150 ppm or in the wastewater (AOX) shall not exceed 100 kg/ADt pulp.

Assessment and verification: The applicant shall provide a declaration of non-use of chlorinated bleaching agents. 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 11480.97 (controlled combustion and microcoulometry)
- AOX: ISO 9562:2004

(e) Dyes and pigments (all)

The following sub-criteria apply to the use of dyes. Additional requirements are also contained within derogation conditions for dyes under sub-criteria 10 on hazardous substances. These conditions relate to the handling of dyes in the dye house and colour removal from wastewater from dye houses.

Group of substances	Criterion	Assessment and verification
i. Chrome	Chrome mordant dyes shall not be used	A

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Deleted: For man-made cellulose fibre the level of organically bound halogens (OX) in the fibres shall not exceed 150 ppm. ¶
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mordant dyes		
ii. Metal complex dyes	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, modal, lyocell, cupro).	B
iii. Azo dyes	Azo dyes shall not be used that may cleave to one of the following carcinogenic aromatic amines.	C

Aryl amine	CAS number
4-aminodiphenyl	92-67-1
Benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphtylamine	91-59-8
o-amino-azotoluene	97-56-3
2-amino-4-nitrotoluene	99-55-8
p-chloroaniline	106-47-8
2,4-diaminoanisol	615-05-4
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

Deleted: 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, modal, lyocell, cupro). Metal complex dyes based on cadmium, mercury and lead shall not be used.¶

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An indicative list of dyes is provided to assist with self-declaration:

Comment [MC18]: To be included h or in the user manual

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	

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	
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		

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iv. Dyes that are carcinogenic, mutagenic or toxic to reproduction

The following dyes shall not be used:

D

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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	

v. Potentially sensitising dyes	The following dyes shall not be used:	D

Disperse dyes that are potentially sensitising	**CAS number**
C.I. Disperse Blue 1	2475-45-8
C.I. Disperse Blue 3	2475-46-9
C.I. Disperse Blue 7	3179-90-6
C.I. Disperse Blue 26	3860-63-7
C.I. Disperse Blue 35	12222-75-2
C.I. Disperse Blue 102	12222-97-8
C.I. Disperse Blue 106	12223-01-7
C.I. Disperse Blue 124	61951-51-7
C.I. Disperse Brown 1	23355-64-8
C.I. Disperse Orange 1	2581-69-3
C.I. Disperse Orange 3	730-40-5
C.I. Disperse Orange 37	12223-33-5
C.I. Disperse Orange 76	13301-61-6
C.I. Disperse Red 1	2872-52-8
C.I. Disperse Red 11	2872-48-2
C.I. Disperse Red 17	3179-89-3
C.I. Disperse Yellow 1	119-15-3
C.I. Disperse Yellow 3	2832-40-8
C.I. Disperse Yellow 9	6373-73-5
C.I. Disperse Yellow 39	12236-29-2
C.I. Disperse Yellow 49	54824-37-2

vii. Halogenated carriers	Halogenated dyeing acceletants (carriers) shall not be used to dye polyester fibres and fabrics containing polyester. Examples of carriers include: 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, chlorophenoxyethanol.	E
vi. Extractable	The following limit values shall apply;	F

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heavy metals (impurities)

Metal	Limit values (mg/kg)	
	Mattress covers for babies and children under 3 years old	All products
Antimony (Sb)	30	30
Arsenic (As)	0.2	1
Cadmium (Cd)	0.1	0.1
Chromium (Cr):		
- Textiles dyed with metal complex dyes	1	2
- All other textiles	0.5	1
Cobalt (Co):		
- Textiles dyed with metal complex dyes	1	4
- All other textiles	1	1
Copper (Cu)	25	50
Lead (Pb)	0.2	1
Nickel (Ni):		
- Textiles dyed with metal complex dyes	1	1
- All other textiles	0.5	1
Mercury (Hg)	0.02	0.02

Assessment and verification:

A. The applicant shall provide a declaration of non-use of chrome mordant dyes. Should this declaration be subject to verification, the final product will be tested according to EN ISO 17075:2007 and a report will be provided that shows the test results. Limit value is 3 ppm.

B. The applicant shall provide a declaration of non use of metal complex dyes dyes.

C. Content of azo dyes in the final product shall be tested according to EN 14362-1 and 14362-1:3 and a report will be provided that shows the test results. Limit value is 30 mg/kg for each amine. (Note: false positives may be possible with respect to the presence of 4-aminoazobenzene, and confirmation is therefore recommended)

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Antimony (Sb) ¶
Arsenic (As) ¶
Cadmium (Cd) ¶
Chromium (Cr) ¶
- Textiles dyed with metal complex dyes
- All other textiles¶
Cobalt (Co) ¶
Copper (Cu) ¶
Lead (Pb) ¶
Nickel (Ni) ¶
Textiles dyed with metal complex dyes
All other textiles¶
Mercury (Hg) ¶
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The following limit values apply to all o
mattress covers: ¶
Metal
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declaration of non-use ¶
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declaration of non-use of these dyes.
Should this declaration be subject to
verification
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used: BS EN 14362-1 and 2.

D. The applicant shall provide a declaration of non-use of CMR and potentially sensitising dyes. Should this declaration be subject to verification, the final product will be tested according to DIN 54231 and a report will be provided that shows the test results. Limit value is 50 mg/kg for each dye.

E. The applicant shall provide a declaration of non-use of halogenated carriers. Should this declaration be subject to verification, the final product will be tested according to DIN 54232 or solvent extraction and GCMS. Limit value is 1.0 mg/kg.

F. For extractable heavy metals (impurities) the applicant shall provide final product testing as verification for the limit values. The tests used should be: 1) Extraction: DIN EN ISO 105-E04-2013 (Acid sweat solution) and 2) Detection: ICP-MS, ICP-OES, GC-ICP-MS

~~(f) Wastewater discharges from dyeing processes~~

~~Emissions to water after treatment shall not exceed: Cr 50 mg/kg; Cu 75 mg/kg; Ni 75 mg/kg~~

~~Assessment and verification: The applicant shall provide a declaration of non-use or documentation and test reports using the following test methods: EN ISO 8288 for Cu and Ni, BS EN 1233 for Cr.~~

(f) Wastewater discharges from wet processing (cover and wool)

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

Special treatment systems shall be required in order to remove hardly (inherently) biodegradable substances for which biodegradability is required (see Criterion 6(c)) or non-biodegradable substances which are subject to derogation conditons in Criteria 10. In this case removal should be at least 90%.

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 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).

Where used in dyeing processes salt shall either be recycled or diluted so as to be less than xx mg/l in final discharges to the environment.

Assessment and verification:

The applicant shall provide detailed documentation and test reports, using ISO 6060 and ISO 7887:2011 as relevant, 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.

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For sub-criteria iii/iv/v/vi Oeko-tex 100 certification shall be accepted as demonstrating compliance.

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(g) Durability (Mechanical resistance) (cover)

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

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Property	Requirement	Test method
Tear strength	Woven fabrics ≥ 15 N Nonwoven fabrics ≥ 20 N Knitted fabrics: not applicable	EN ISO 13937-2 (woven fabrics) EN 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	EN 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	EN ISO 13934-1

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

(h) Dimensional change (removable cover)

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

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- Woven fabrics: +/- 3%
- Nonwoven and knitted fabrics: +/- 5%

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This criterion does not apply to:

a) fibres or yarn,

b) products clearly labelled "dry clean only" or equivalent (insofar as it is normal practice for suchproducts to be so labelled),

c) furniture fabrics that are not removable and washable.

Assessment and verification:

The applicant shall provide test reports using the standards appropriate for the product. For domestic washing EN ISO 6330:2012 in combination with EN ISO 5077:2008 shall be used as follows: 3 washes at temperatures as indicated on the product, with tumble drying after each washing cycle. For commercial washing in industrial laundries ISO 15797 in combination with EN ISO 5077:2008 shall be used at a minimum of 75 °C or as indicated in

the standard for the fibre and bleaching combination. Drying shall be as indicated on the product.

Criterion 6. Glues and adhesives

Glues containing organic solvents shall not be used. Glues and adhesives used for assembling shall also respect Criterion 10 on hazardous substances.

Assessment and verification: The applicant shall provide a declaration that glues and adhesives used comply with this criterion, together with supporting documentation.

Criterion 7. Flame retardants

Criterion 10 on hazardous substances shall be respected. In addition, the following flame retardants shall not be added intentionally to the product or to 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	PBB
Short chain chlorinated paraffins (C10-C13)	85535-84-8	SCCP
Tri-(2,3-dibromopropyl)-phosphate	126-72-7	TRIS
Tris(2-chloroethyl)phosphate	115-96-8	TCEP
Tris-(aziridinyl)-phosphinoxide	545-55-1	TEPA

Assessment and verification: The applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product. A list of substances added to enhance the flame retarding properties of the mattress is to be provided with concentrations and related H statements / R phrases.

Criterion 8. Biocides

(a) Production

Criterion 10 on hazardous substances shall be respected. In addition, the following biocides shall not be added intentionally to the product or to any homogeneous part of it:

1. Biocidal products that do not contain biocidal active substances authorised under Biocides Directive 98/8/EC and Biocides Regulation (EC) No 528/2012. Applicants should consult the following listing of authorised biocides:

Deleted: for mattress ticking or additio covers that are washable and removable. ¶ This criterion does not apply to products clearly labelled "dry clean only" or equivalent (insofar as it is normal practic for such products to be so labelled).¶ ***Assessment and verification:*** For mattre covers to be cleaned in a domestic washi machine applicants shall provide test reports describing the results of the tests performed according to the standards EN ISO 6330, EN ISO 5077 and as follows: washes at temperatures as indicated on th product, with tumble drying after each washing cycle unless other drying procedures are indicated on the product. mattress covers that are to be washed in industrial laundries ISO 15797 shall be u at a minimum of 75 °C or as indicated on the product.¶

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http://ec.europa.eu/environment/biocides/annexi_and_ia.htm

2. Biocides included in the following list:

Name	CAS number	Name	CAS number
2,4,5-T	93-76-5	Fenvalerate	51630-58-1
2,4-D	94-75-7	Heptachlor	76-44-8
Azinophosmethyl	86-50-0	Heptachloroepoxide	1024-57-3
Azinophosethyl	2642-71-9	Hexachlorobenzene	118-74-1
Aldrine	309-00-2	Hexachlorcyclohexane, α-	319-84-6
Bromophos-ethyl	4824-78-6	Hexachlorcyclohexane, β-	319-85-7
Captafol	2425-06-1	Hexachlorcyclohexane, δ-	319-86-8
Carbaryl	63-25-2	Isodrine 6	465-73-6
Chlordane	57-74-9	Kelevane 1	4234-79-1
Chlordimeform	6164-98-3	Kepone	143-50-0
Chlorfenvinphos	470-90-6	Lindane	58-89-9
Coumaphos	56-72-4	Malathion	121-75-5
Cyfluthrin	68359-37-5	MCPA	94-74-6
Cyhalothrin	9 1465-08-6	MCPB	94-81-5
Cypermethrin	52315-07-8	Mecoprop	93-65-2
DEF	78-48-8	Metamidophos	10265-92-6
Deltamethrin	52918-63-5	Methoxychlor	72-43-5
DDD	53-19-0, 72-54-8	Mirex	2385-85-5
DDE	3424-82-6, 72-55-9	Monocrotophos	6923-22-4
DDT	50-29-3, 789-02-6	Parathion	56-38-2
Diazinon	333-41-5	Parathion-methyl	298-00-0
Dichlorprop	120-36-2	Phosdrin/Mevinphos	7786-34-7
Dicrotophos	141-66-2	Perthane	72-56-0
Dieldrine	60-57-1	Propethamphos	31218-83-4
Dimethoate	60-51-5	Profenophos	41198-08-7
Dinoseb and salts	88-85-7	Quinalphos	13593-03-8
Endosulfan, α-	959-98-8	Strobane	8001-50-1
Endosulfan, β-	33213-65-9	Telodrine	297-78-9
Endrine	72-20-8	Toxaphene	8001-35-2

Deleted: 2. Chlorophenols (their salts and esters), polychlorinated biphenyl (PCB), organo-tin compounds and diemthyl fumarate (DMFu).¶

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Esfenvalerate	66230-04-4	Trifluralin	1582-09-8

Assessment and verification: The applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product. A list of biocidal products added is to be provided with concentrations and related H statements / R phrases.

(b) Transportation

Chlorophenols (their salts and esters), polychlorinated biphenyl (PCB), organo-tin compounds (including including TBT, TPhT, DBT and DOT) and diemthyl fumarate (DMFu) shall not be used during the transportation or storage of mattresses and semi-manufactured mattresses.

Assessment and verification: The applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been used during the transportation or storage of the product. A list of biocidal products added is to be provided with concentrations and related H statements / R phrases.

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<#>for Chlorophenols (their salts and esters), polychlorinated biphenyl (PCB), organo-tin compounds by derivatisation with acetic anhydride, determination by capillary gas-liquid chromatography wit an electron capture detector (sum limit value: 0.05 mg/kg).¶
<#>for diemthyl fumarate (DMFu) by solvent extraction and gas chromatograp mass spectrometry (limit value: 0.1 mg/k Oeko-tex 100 certification shall be accep as demonstrating compliance.¶

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Criterion 9. Plasticizers

Criterion 10 on hazardous substances shall be respected. In addition, the following plasticizers shall not be added intentionally to the product or 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
Dibutuylphthalate	84-74-2	DBP
Di-iso-butylphthalate	84-69-5	DIBP
Di-C6-8-branched alkyphthalates	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 baby mattresses

The sum of the prohibited plasticizers shall be lower than 0.1% by weight.

Assessment and verification: The applicant shall provide a declaration supported by declarations from manufacturers of substances based on SDS for the formulation of the polymer, as appropriate, confirming that the listed substances have not been included in the product. A list of plasticizers added is to be provided with concentrations and related H statements / R phrases. Additional verification tests may be required in accordance with EN ISO 14389.

Criterion 10. Excluded or limited substances and mixtures

(a) Hazardous substances and mixtures

According to Article 6(6) of Regulation (EC) No 66/2010 the EU Ecolabel may not be awarded to the product if the product or any article of it as defined in Article 3(3) of Regulation (EC) No 1907/2006 or homogenous part of it contains substances 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 of the European Parliament and of the Council or Council Directive 67/548/EC, nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. In case the threshold for classification of a substance or mixture with a hazard class differs from the one of a risk phrase then the former prevails. 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. Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazards are exempted from this requirement.

Hazard Statement [1]	**Risk Phrase** [2]
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
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49

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Deleted: (a) Substances of Very High Concern that may be contained within the bed mattress¶ The mattress or any homogenous components of the mattress shall not contain substances that meet the criteria Article 57 of Regulation (EC) No 1907/2006 and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation a Restriction of Chemicals (REACH) or ha been identified according to the procedu described in Article 59(1) which establis the Candidate List for Substances of Ver High Concern. ¶ No derogation shall be given concerning substances identified as substances of ve high concern and included in the list foreseen in Article 59 of Regulation (EC No 1907/2006, or substances meeting criteria of Article 57 of Regulation (EC) 1907/2006, which are present in an articl or in any homogenous part of a complex article in concentrations higher than 0.1 w/w. The specific concentration limits o substances determined in accordance wit Article 10 of Regulation (EC) No1272/2 shall be applied when they are lower tha 0.1 %.¶ *Assessment and verification:* Applicants shall screen the Candidate List that is current at the time of application for substances that may be present in the fin product. The applicant shall provide a declaration of non-use for relevant Candidate List and SVHC substances. T list of substances identified as substance very high concern in accordance with Article 59 of Regulation (EC) No 1907/2006 are included in the Candidate List is available at: ¶ http://echa.europa.eu/chem_data/authoris on_process/candidate_list_table_en.asp. ¶

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Deleted: The mattress and any homogenous components of the mattress (including substances applied to padding mattress ticking and removeable covers during textile dyeing, printing and finish processes) shall not contain substances o mixtures that meet the criteria for

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

EUH070 Toxic by eye contact	R39-41
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Notes

1. According to Regulation (EC) No 1272/2008 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

2. According to Directive 67/548/EEC and the REACH Directive 2006/121/EC and Directive 1999/45/EC as amended

Concentration limits for substances or mixtures which may be or have been assigned the hazard statements or risk phrases listed above, meeting the criteria for classification in the respective hazard classes or categories, and for substances meeting the criteria set out in points (a), (b) or (c) of Article 57 of Regulation (EC) No 1907/2006, shall not exceed the generic or specific concentration limits determined in accordance with Article 10 of Regulation (EC) No 1272/2008. Where specific concentration limits are determined they shall prevail over the generic ones.

Concentration limits for substances meeting the criteria set out in points (d), (e) or (f) of Article 57 of Regulation (EC) No 1907/2006 shall not exceed 0.1% by weight.

~~The final product shall not be labelled with an hazard statement.~~

The following substances groups of substances are specifically exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation:

Substances / Groups of substances (hazard statements of concern)	**Derogation conditions**
Antimony Trioxide - ATO (H351)	The substance must be used as catalyst in polyester or as flame retardant synergist in textiles
Nickel (H317, H351, H372)	The substance must be contained in stainless steel
Functional substances used in textiles:	

Deleted: The hazard classes statements and risk phrases generally apply to substances. However, where information substances cannot be obtained, the classification rules for mixtures shall be applied. The use of substances or mixtu in the manufacturing of a mattress which upon processing change their properties way that the identified hazard no longer applies is exempted from the above requirement.¶

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Dyes and pigments (H301, H311, H331, H317, H334, H411, H412, H413,)	H301, H311, H331, H317, H334: Dust free dye formulations and/or automatic dosing and dispensing of dyes shall be used to minimise worker exposure when handling dyes in powder form; H411, H412, H413 Reactive, direct, vat, sulphur dyes: Dye houses using these dyes must meet one of the following requirements: - Use of high affinity dyes - Use of colour matching instrumentation - Use of standard Operating Procedures for dyeing - Wastewater treatment to achieve colour removal (see criteria 5(f)).
~~Cross-linking agents (where used for easy-care finishes and printing) (H351, H317)~~	~~All derogated hazards: The function must be verified to be durable according to the test method and grading in criteria 24~~ ~~H351: Emissions to air in the workplace where the easy-care finish is applied to the textile product must not be higher than an eight hour occupational exposure limit value of 0.2 ppm.~~
Flame retardants (H317, H373, H411, H412, H413)	All derogated hazards: The product must be designed in order to meet ISO, EN, Member State or public sector procurement standards and regulations. ~~H351 antimony trioxide: 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 0.5 mg/m^3.~~ ~~All derogated hazards: The function must be verified to be durable according to the test method and grading in criteria 5(f).~~
~~Optical brighteners (H411, H412, H413)~~	~~All derogated hazards: Optical brighteners may only be applied in the form of additives during the production of polyamide, polyester and acrylic fibres.~~
~~Fabric softeners (H317, H334)~~	~~No specific conditions apply~~

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~~Water, dirt and stain repellents (H411, 412, 413)~~	~~All derogated hazards: The function must be verified to be durable according to the test method and grading in criteria 5(f).~~
Auxilliaries (comprising: Carriers, Levelling agents, Dispersing agents, Surfactants, Thickeners, Binders) (H301, H331, EUH070, H371, H373, H317, H334, H411, H412, H413)	All derogated hazards: Recipes shall be formulated using automatic dosing systems and processes shall follow Standard Operating Procedures. H411, H412, H413: Substances discharged to wastewater at the factory that are non-biodegradable shall be treated according to the additional requirements in Criteria 5(f).
Glues and adhesives	The substances must not be classified as H351, H350, H340, H350i, H360F, H360D, H361f, H361d H360FD, H361fd, H360Fd, H360Df, H331, H330, H311, H301, H310, H300, H370, H372

Assessment and verification:

For the product or any article of it or any homogenous part of it, the applicant shall provide a declaration of compliance with requirement 10(a), together with related documentation, such as declarations of compliance signed by their suppliers, on the non-classification of the substances or materials with any of the hazard classes associated to the hazard statements 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. This declaration shall be supported by summarized information on the relevant characteristics associated to the hazard statements referred to in the list above, to the level of detail specified in Sections 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006.

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.

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

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration by the applicant or its suppliers shall suffice to comply with requirement 10(a).

(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

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list provided for in Article 59(1) of Regulation (EC) No 1907/2006[5], present in mixtures, in an article or in any homogeneous part of a complex article in concentrations > 0.1% by weight. Specific concentration limits determined in accordance with Article 10 of Regulation (EC) No1272/2008 shall apply in cases where the concentration is lower than 0.1% by weight.

Assessment and verification:

Reference to the list of substances identified as 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 for substances or mixtures. 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 Volatile Organic Compounds (VOCs) 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/produkte-e/bauprodukte/archive/agbb_evaluation_scheme_2012.pdf).

Substance	**Final value 7th day**	**Final value 28th day**
Formaldehyde	< 60 µg/m^3 (< 0.05 ppm)	< 60 µg/m^3 (< 0.05 ppm)
Other aldehydes	< 60 µg/m^3 (< 0.05 ppm)	< 60 µg/m^3 (< 0,05 ppm)
VOCs with retention range within C6-C16 (total)	< 500 µg/m^3	< 200 µg/m^3
VOCs with retention range above C16 (total)	< 100 µg/m^3	< 40 µg/m^3
Each detectable compound classified as categories C1A or C1B according to the Regulation (EC) No 1272/2008	< 1 µg/m³	< 1 µg/m³

Assessment and verification: The applicant shall perform a test chamber analysis based on the standard EN ISO 16000-9. The analysis of formaldehyde and other aldehydes shall comply with the standard ISO 16000-3; the analysis of the other VOCs shall comply with the standard ISO 16000-6.

Comment [MC23]: If needed, in the user manual it can be said that when available, the standard CEN/TS 16516 (2013) shall be applied in analogy.

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[5] http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

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 will 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 will 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 are summed up without taking into account any adsorption or barrier effects (worst-case approach).

Criterion 12. Technical performance

(a) Quality

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

Assessment and verification: The applicants shall provide a report describing the approach followed and the actions taken in order to ensure the quality of the product, the fulfillment 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 fulfillment of functional characteristics and the respect of of thermo-hygrometric wellness requirements.

(b) Durability

The lifetime of a household mattress is expected to be 10 years; this can vary depending on application. 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 BS 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.

(c) 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 must be valid for a period of at least 10 years. This prescription shall not be required for baby 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 purpose of:

- undertaking repairs and replacements of worn-out parts,

- upgrading older or obsolete parts, and

- 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. Box 2 of the EU Ecolabel shall contain the following text:

- 'Durable and high quality product'

- 'It restricts hazardous substances and minimises indoor air pollution'

- 'Environmental issues taken into account in the design stage'

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.

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~~CRITERIA AREA "C": End of life~~¶

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~~CRITERIA AREA "D": Consumer information~~¶

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