



eco-INSTITUT Germany GmbH

Laborprüfung
Laboratory testing
Zertifizierung
Certification



eco-INSTITUT-Label

Test criteria: Bedding goods

(Status: May 2021)

A Basic requirements

- Full declaration of materials
- Minimisation requirements for substances with dangerous properties according to dangerous substances regulations.
- Compliance with requirements for dangerous substances (refer to **B laboratory examinations**)
- Compliance with the provisions of the European (e.g. REACH Regulation (EC) No. 1907/2006 and Biocidal Products Regulation (EU) 528/2012) and German chemicals legislation
- Materials with the following classifications may not be used in the product:

Substances according to Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B

Substances according to national law (TRGS 905): Category K1A and K1B, M1A and M1B, R1A and R1B

Substances according to MAK lists III1 and III2

Substances according to IARC groups 1 and 2A

Substances requiring official approval as per Appendix XIV of the REACH regulations

Substances of very high concern according to REACH Regulation (EC) No. 1907/2006, Article 59, paragraph 1 (SVHC, Candidate List)

POPs (Persistent Organic Pollutants) according to Regulation (EC) No 850/2004

Arsenic, lead, cadmium, mercury and compounds

Organic compounds of tin

Antimony trioxide

HFC

Organophosphates

Organic halogenated compounds

Pyrethroids

Phthalic acid esters, Terephthalic acid esters (apart from PET), DINCH

- Substances with the following classification (H-phrase) must not be used in the product¹:

Description	H-Statement	
Fatal	Fatal if swallowed.	H300
	Fatal in contact with skin.	H310
	Fatal if inhaled.	H330
Toxic	Toxic if swallowed.	H301
	Toxic in contact with skin.	H311
	Toxic if inhaled.	H331
Specific target organ toxicity	Cause damage to organs.	H370
	May cause damage to organs.	H371
	Causes damage to organs through prolonged or repeated exposure.	H372
	May cause damage to organs through prolonged or repeated exposure.	H373
Sensitization of respiratory tract	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	H334
Carcinogenicity	May cause cancer.	H350
	Suspected of causing cancer.	H351
Mutagenicity	May cause genetic defects.	H340
	Suspected of causing genetic defects.	H341
Reproductive toxicity	May damage fertility or the unborn child.	H360
	Suspected of damaging fertility or the unborn child.	H361
	May cause harm to breast-fed children.	H362
Acute hazardous to water	Very toxic to aquatic life.	H400
Chronically hazardous to water	Very toxic to aquatic life with long lasting effects.	H410
	Toxic to aquatic life with long lasting effects.	H411 (> 1 %)
Hazardous to ozone layer	Hazardous to the ozone layer.	EUH 059

Note:

Cushions with foams as paddings are tested like mattresses (see test criteria mattresses).

¹ For homogeneous substance mixtures, all input substances > 0.1 % (except for H411) are evaluated. For articles, the overall classification of the input substance or substance mixture (e.g. adhesive, varnish, etc.) is evaluated. Inputs that have critical hazard characteristics (H-phrase) due to respirable wood dusts or mineral dusts are allowed, provided the overall product does not have a critical hazard characteristic. Input materials with critical hazard characteristics (H-phrase) for which a requirement value is defined in the laboratory test are permissible, provided that the requirement for emission behavior or content is met.

B Laboratory examinations

P13 Complete product		
Test parameter	Requirements	Test method
Emission test		
Dimethylformamid (DMF)	≤ 5 µg/kg (3 days after test chamber loading)	DIN EN ISO 16516 DIN EN ISO 16000-6 DIN EN ISO 16000-9 Test chamber conditions: cf. testing manual

P2 covering materials	P21 Undyed textile covering materials	P22 Dyed textile covering materials	
Test parameter	Requirements	Requirements	Test method
Content analysis			
AOX (adsorbable organic halogenated compounds)	-	≤ 5.0 mg/kg	DIN EN ISO 9562
EOX (extractable organic halogenated compounds)	-	≤ 2.0 mg/kg	following DIN 38414-S17
Heavy metals			
Arsenic (As)	-	≤ 0.2 mg/kg	Eluate, analysis ICP/MS Cr(VI): DIN EN ISO 17075
Cadmium (Cd)	-	≤ 0.1 mg/kg	
Cobalt (Co)	-	≤ 1.0 mg/kg	
Chrome total (Cr)	-	≤ 3.0 mg/kg	
Chrome VI (Cr VI)	-	≤ 3.0 mg/kg	
Copper (Cu)	-	≤ 25 mg/kg	
Mercury (Hg)	-	≤ 0.02 mg/kg	
Nickel (Ni)	-	≤ 1.0 mg/kg	
Lead (Pb)	-	≤ 0.2 mg/kg	
Antimony (Sb)	≤ 5.0 mg/kg (only synthetic or blended fibres; covering material incl. filler and padding material)	≤ 5.0 mg/kg	

P2 covering materials	P21 Undyed textile covering materials	P22 Dyed textile covering materials	
Test parameter	Requirements	Requirements	Test method
Pesticids/Biocides			following DFG-S19, GC-ECD
Pyrethroids wool (sum) Cyfluthrin, Cyhalothrin, Cypermethrin, Deltamethrin, Esfenvalerat, Fenvalerat, Flumethrin, Permethrin, Transfluthrin	≤ 1.0 mg/kg	≤ 1.0 mg/kg	
Pyrethroids of other fibres (sum; only natural fibres or blended fabric)	≤ 0.5 mg/kg	≤ 0.5 mg/kg	
Pesticides without pyrethroids (sum; only natural fibres or blended fabric) 2,3,5,6-Tetrachlorphenol, 2,4,6-Tetrachlorphenol, 2,4,5-T, 2,4-D, Acetamepid, Aldrin, Atrazine, Azinophos-ethyl, Azinophos-methyl, Bendiocarb, Bifenthrin, Bioresmethrin, Bromophos-ethyl, Buprofezin, Captafol, Carbaryl, Carbosulfan, Clethodim, Chlordane, Chlordimeform, Chlorfenapyr, Chlorfenvinphos, Chlorfluzuron, Chlorpyrifos-ethyl, Chlorpyrifos-methyl, Coumaphos, Cyclanilide, DDD, DDE, DDT, DEF, Diafenthiuron, Diazinon, Dichlofenthion, Dichlorprop, Dichlorvos, Dicrotophos, Dieldrin, Diflubenzuron, Dimethoat, Dinoseb und Salze, Diuron, Empenthrin, α-Endosulfan, β-Endosulfan, Endosulfansulfat, Endrin, Ethion, Fenchlorphos, Fenitrothion, Fenthion, Fenpropathrin, Fipronil, Heptachlor, Heptachlorepoxyd, Hexachlorbenzol, α-HCH, β-HCH, δ-HCH, Imidacloprid, Isodrin, Kelevan, Kepon, Lindan, Lufenuron, Malathion, MCPA, MCPB, Mecoprop, Methamidophos, Methidathion, Methomyl, Methoxychlor, Metolachlor, Mevinphos, Mirex, Monocrotophos, Parathion-ethyl, Parathion-methyl, PCP, Pendimethalin, Perthan, Phosalon, Phosdrin, Phosmet, Phoxim, Pirimiphos-ethyl, Pirimiphos-methyl, Profenophos, Prometryn, Propetamphos, Pymethrozine, Quinalphos, Quintozin, Stroban, Teflubenzuron, Telodrin, Tetrachlorvinphos, Thiamethoxam, Thidiazuron, Thiodicarb, Toctofos-methyl, Toxaphen, Trifloxysulfuron-sodium, Triflumuron, Trifluralin	≤ 0.5 mg/kg	≤ 0.5 mg/kg	
Orthophenylphenol (OPP; only natural fibres or blended fabric)	≤ 1.0 mg/kg	≤ 1.0 mg/kg	Extraction, esterification, GC/MS
Chlorophenols (sum; only natural fibres or blended fabric) PCP, 2,3,4,5-TeCP, 2,3,4,6-TeCP, 2,3,5,6-TeCP, 2,3,5-Trichlorophenol, 2,3,6-Trichlorophenol, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol	≤ 0.1 mg/kg	≤ 0.1 mg/kg	CEN / TR 14823
Triclosan	≤ 0.5 mg/kg	≤ 0.5 mg/kg	CEN / TR 14823
Organotin compounds (requirements per single substance) TBT, DBT, TeBT, MBT, MOT, DOT, TcyT, TPHT	-	≤ 0.05 mg/kg	Extraction, analysis following DIN EN ISO 17353
Formaldehyde	≤ 20 mg/kg	≤ 20 mg/kg	DIN EN ISO 14184-1, LFGB § 64, 82.02-1
Amines (azo dyes)	-	≤ 20 mg/kg	DIN EN 14362-1, -3
Allergenic dyes materials (dispersion dyes materials; only synthetic fibres or blended fabric)	-	≤ 50 mg/kg	DIN 54231
Chloroorganic carriers (only synthetic fibres or blended fabric)	-	≤ 1.0 mg/kg	Extraction with acetone, GC/MS
Optical brighteners	no rating	no rating	UV light
pH value	4.5-7.5	4.5-7.5	DIN EN ISO 3071
Colour fastness	-	saliva/sweat fastness: 5 sweat fastness alcali/acidic: ≥ 3-4 rubbing fastness dry: ≥ 3-4 rubbing fastness wet: ≥ 2 water fastness: ≥ 3	LFGB
Alkylphenole/ Ethoxylate (only for animal hair)	≤ 20 mg/kg	≤ 20 mg/kg	HPLC-MS/MS, GC/MSD
Phthalates (sum, only printings) DMP, DEP, DPP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DNPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP	≤ 100 mg/kg	≤ 100 mg/kg	following DIN EN 15777
Terephthalate DEHT	≤ 100 mg/kg	≤ 100 mg/kg	following DIN EN 15777
Diisononyl cyclohexane-1,2-dicarboxylate, DINCH	≤ 100 mg/kg	≤ 100 mg/kg	following DIN EN 15777

P3 Upholstery / padding materials	P34 Synthetic fibres	P35 Plant & animal fibres	
Test parameter	Requirements	Requirements	Test method
Content analysis			
AOX (adsorbable organic halogenated compounds)	≤ 1.0 mg/kg	-	DIN EN ISO 9562
EOX (extractable organic halogenated compounds)	≤ 2.0 mg/kg	-	following DIN 38414-S17
Heavy metals			
Antimony (Sb) upholstery / padding material incl. covering material	≤ 5.0 mg/kg	-	Eluate, analysis ICP/MS
Pesticides/Biocides			
Pyrethroids wool (sum) Cyfluthrin, Cyhalothrin, Cypermethrin, Deltamethrin, Esfenvalerat, Fenvalerat, Flumethrin, Permethrin, Transfluthrin	-	≤ 1.0 mg/kg	following DFG-S19
Pyrethroids of other fibres (sum; only natural fibres or blended fabric)	-	≤ 0.5 mg/kg	
Pesticides without pyrethroids (sum; only natural fibres or blended fabric) 2,3,5,6-Tetrachlorphenol, 2,4,6-Tetrachlorphenol, 2,4,5-T, 2,4-D, Acetamepid, Aldrin, Atrazine, Azinophos-ethyl, Azinophos-methyl, Bendiocarb, Bifenthrin, Bioresmethrin, Bromophos-ethyl, Buprofezin, Captafol, Carbaryl, Carbosulfan, Clethodim, Chlordane, Chlordimeform, Chlorfenapyr, Chlorfenvinphos, Chlorfluazuron, Chlorpyrifos-ethyl, Chlorpyrifos-methyl, Coumaphos, Cyclanilide, DDD, DDE, DDT, DEF, Diafenthiuron, Diazinon, Dichlofenthion, Dichlorprop, Dichlorvos, Dicrotophos, Dieldrin, Diflubenzuron, Dimethoat, Dinoseb und Salze, Diuron, Empenthrin, α-Endosulfan, β-Endosulfan, Endosulfansulfat, Endrin, Ethion, Fenchlorphos, Fenitrothion, Fenthion, Fenpropathrin, Fipronil, Heptachlor, Heptachlorepoxyd, Hexachlorbenzol, α-HCH, β-HCH, δ-HCH, Imidacloprid, Isodrin, Kelevan, Kepon, Lindan, Lufenuron, Malathion, MCPA, MCPB, Mecoprop, Methamidophos, Methidathion, Methomyl, Methoxychlor, Metolachlor, Mevinphos, Mirex, Monocrotophos, Parathion-ethyl, Parathion-methyl, PCP, Pendimethalin, Perthan, Phosalon, Phosdrin, Phosmet, Phoxim, Pirimiphos-ethyl, Pirimiphos-methyl, Profenophos, Prometryn, Propetamphos, Pymethrozine, Quinalphos, Quintozin, Stroban, Teflubenzuron, Telodrin, Tetrachlorvinphos, Thiamethoxam, Thidiazuron, Thiodicarb, Toctofos-methyl, Toxaphen, Trifloxysulfuron-sodium, Triflumuron, Trifluralin	-	≤ 0.5 mg/kg	
Orthophenylphenol (OPP; only natural fibres or blended fabric)	-	≤ 1.0 mg/kg	
Chlorophenols (sum; only natural fibres or blended fabric) PCP, 2,3,4,5-TeCP, 2,3,4,6-TeCP, 2,3,5,6-TeCP, 2,3,5-Trichlorphenol, 2,3,6-Trichlorphenol, 2,4,5-Trichlorphenol, 2,4,6-Trichlorphenol	-	≤ 0.1 mg/kg	CEN / TR 14823
Organotin compounds (requirements per single substance) TBT, DBT, TeBT, MBT, MOT, DOT, TcT, TPhT	≤ 0.05 mg/kg	-	Extraction, analysis following DIN EN ISO 17353
Formaldehyde	-	≤ 20 mg/kg	DIN EN ISO 14184-1, LFGB § 64.82, 02-1
Optical brighteners	no rating	no rating	UV light
Alkylphenole/ Ethoxylate (only for animal hair)	-	≤ 20 mg/kg	HPLC-MS/MS, GC/MSD