

A Basic requirements

- Full declaration of materials
- Minimisation requirements for substances with dangerous properties according to dangerous substances regulations.
- Compliance with requirements for harmful substances, proven by laboratory tests (refer to **C requirement values**)
- 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
- The use of substances with the following classifications is strictly limited. If a requirement value is defined (refer to C), the substance in question may be contained in the product or emitted from the product up to this value. Otherwise use is excluded.

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 2019/1021

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

Per- and polyfluoroalkyl substances

- The use of substances with the following classification (H-phrased) is strictly limited. If a requirement value is defined (refer to C), the substance in question may be contained in the product or may be emitted from the product up to this value (provided the requirement value was derived based on the property that the H-statement also addresses).
- Otherwise, the following applies to products that are present as a homogeneous mixture of substances: all input materials that are classified with the H statements listed in the table and whose content in the product is above the concentration limit values are excluded.
- For articles that are made up of several different components, the following applies: all input materials that are classified with the H statements listed in the table and whose content in a homogeneous component (e.g. paint, adhesive, coating component) of the product is above the concentration limit values are excluded.
- Substances whose properties change during production (e.g. through reaction/chemical change) in such a way that the danger in question no longer applies are exempt from the restriction. Likewise, input materials that have critical hazard characteristics (H phrase) due to respirable wood dust or mineral dust are permitted, provided that the overall product does not have any critical hazard characteristics.

Description		H-Statement	Concentration limit in %
Fatal	Fatal if swallowed.	H300	0.1
	Fatal in contact with skin.	H310	0.1
	Fatal if inhaled.	H330	0.1
Toxic	Toxic if swallowed.	H301	0.1
	Toxic in contact with skin.	H311	0.1
	Toxic if inhaled.	H331	0.1
Specific target organ toxicity	Cause damage to organs.	H370	1
	May cause damage to organs.	H371	1
	Causes damage to organs through prolonged or repeated exposure.	H372	1
	May cause damage to organs through prolonged or repeated exposure.	H373	1
Sensitization of respiratory tract	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Category 1/1B	H334	0.1
	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Category 1A	H334	0.01
Carcinogenicity	May cause cancer.	H350	0.1
	Suspected of causing cancer.	H351	0.1
Mutagenicity	May cause genetic defects.	H340	0.1
	Suspected of causing genetic defects.	H341	1
Reproductive toxicity	May damage fertility or the unborn child.	H360	0.1
	Suspected of damaging fertility or the unborn child.	H361	0.1
	May cause harm to breast-fed children.	H362	0.1
Acute hazardous to water	Very toxic to aquatic life.	H400	0.1
Chronically hazardous to water	Very toxic to aquatic life with long lasting effects.	H410	0.1
	Toxic to aquatic life with long lasting effects.	H411	1
Hazardous to ozone layer	Hazardous to the ozone layer.	H420	0.1

B Special requirements¹

- The use of the following vulcanization agents in latex production is permitted: ZnO (CAS: 1314-13-2), ZMBT / MBT (CAS: 155-04-4/149-30-4), ZDEC (CAS: 14324-55-1), ZBEC (CAS: 14726-36-4), ZDBC (CAS: 136-23-2), sodium hexafluorosilicate (CAS: 16893-85-9), 1,3-diphenylguanidine (CAS: 102-06-7), poly-(dicyclopentadiene-co-p-cresol) (CAS: 68610-51-5).

Prerequisite: Wastewater must be treated in internal or external wastewater treatment plants before being discharged into the environment. Wastewater analyses must be performed and documented regularly.

- The use of chloroprene containing adhesives is permitted.
- Compliance with the following quality criteria:
 - Loss of strength: < 20 %
(Verification: submission of a test report according to DIN EN 1957 or comparable, not older than 5 years).
 - Loss of height: < 15 mm
(Verification: presentation of a test report according to DIN EN 1957 or comparable, not older than 5 years).
- The product designation "100 % Natural Latex" is not permitted on the certificate.
- The use of recycled materials is only permitted after approval by the criteria commission of the certification body of eco-INSTITUT Germany GmbH. Additional tests may be required.

¹ If there are indications that materials used are classified as critical from an ecological point of view or cannot be produced consistently with the same properties, they can be excluded from certification.

C Requirement values

P11 Complete mattress		
Test parameter	Requirements	Test method
Emission test		
TVOC (total volatile organic compounds)	$\leq 400 \mu\text{g}/\text{m}^3$ (2 days after test chamber loading) $\leq 200 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	DIN EN 16516, DIN ISO 16000-3, DIN ISO 16000-6, DIN EN ISO 16000-9 Test chamber conditions: cf. testing manual
VOC (incl. VVOC and SVOC) with the following categorisations ² : Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B; TRGS 905: K1A, K1B, M1A, M1B, R1A, R1B; IARC: Group 1 and 2A; DFG (MAK list): Categories III1, III2	$\leq 1 \mu\text{g}/\text{m}^3$ (2 and 7 days after test chamber loading)	
Dimethylformaldehyd (DMF, only covering materials)	$\leq 5 \mu\text{g}/\text{m}^3$ (2 days after test chamber loading)	
VOC (sum) without NIK	$\leq 100 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
VOC (individual values):		
Sum of bicyclic terpenes	$\leq 200 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum of sensitising materials with the following categorisations: DFG (MAK lists): Category IV, TRGS 907	$\leq 100 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum of VOC (incl. VVOC and SVOC) with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2; TRGS 905: K2, M2, R2; IARC: Group 2B; DFG (MAK list): III3	$\leq 50 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum C9 - C14 Alkanes / Isoalkanes	$\leq 200 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum C4 - C11 Aldehydes, acyclic, aliphatic	$\leq 100 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum C6 - C15 Alkyl benzenes	$\leq 100 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum Cresols	$\leq 5 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum Xylenes	$\leq 100 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Sum Naphthalene and naphthalene-like subst.	$\leq 10 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
VOC (individual substances):		
Methylisothiazolinone (MIT)	$\leq 1 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Octylisothiazolinone (OIT)	$\leq 1 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Benzaldehyde	$\leq 20 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
2-Ethyl-1-hexanol, Ethylene glycol mono-butyl ether, 2-Hexoxyethanol (Requirement per single substance)	$\leq 100 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
2-Butoxyethyl acetate	$\leq 200 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Glycol ethers with insufficient data ³ (Requirement per single substance)	0.005 ppm (7 days after test chamber loading)	
Propane-1,2-diol	$\leq 60 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
2-Phenoxyethanol	$\leq 30 \mu\text{g}/\text{m}^3$ (28 days after test chamber loading)	
Phenol	$\leq 20 \mu\text{g}/\text{m}^3$ (28 days after test chamber loading)	
Benzothiazole ⁴	$\leq 15 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	

² does not apply for Dimethylformamid (DMF) for mattresses with covering materials

³ cf. announcement of the Ad-hoc Working Group on Indoor Guidelines of the Indoor Air Hygiene Committee and of the Supreme State Health Authorities: Richtwerte für Glykolether und Glykolester in der Innenraumluft, Bundesgesundheitsblatt, February 2013, Volume 56, Issue 2, pp 286-320

⁴ preliminary, exceeding the limit does not lead to devaluation at present

P11 Complete mattress		
Test parameter	Requirements	Test method
Emission test		
Acetophenone	$\leq 66 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
Ethyl acetate (VVOC)	$\leq 600 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	
TSVOC (total semi-volatile organic compounds)	$\leq 40 \mu\text{g}/\text{m}^3$ (7 Tage nach Prüfkammerbeladung)	
R value	≤ 1.0 (7 days after test chamber loading)	
Disulphide (only latex products)	$\leq 50 \mu\text{g}/\text{m}^3$ (2 days after test chamber loading)	
Nitrosamines (only latex products)	$\leq 0.1 \mu\text{g}/\text{m}^3$ (2 days after test chamber loading)	BGI 505.23
Ammonia (only latex products)	$\leq 200 \mu\text{g}/\text{m}^3$ (7 days after test chamber loading)	DIN EN 16516, ISO 7150-1
Formaldehyde	$\leq 24 \mu\text{g}/\text{m}^3$ (2 days after test chamber loading)	DIN EN 16516
Acetaldehyd	$\leq 24 \mu\text{g}/\text{m}^3$ (2 days after test chamber loading)	DIN EN ISO 16000-3
Odour	\leq Grade 4 (2 days after test chamber loading)	cf. testing manual
	\leq Grade 3 (7 days after test chamber loading at the latest)	

P2 Covering materials	P21 Undyed textile covering materials	P22 Dyed textile covering materials	
Test parameter	Requirements	Requirements	Test method
Content analysis⁵			
AOX (adsorbable organic halogenated compounds)	-	$\leq 5.0 \text{ mg/kg}$	DIN EN ISO 9562
Heavy metals			Eluate, analysis ICP/MS Cr(VI): DIN EN ISO 17075
Arsenic (As)	-	$\leq 0.2 \text{ mg/kg}$	
Cadmium (Cd)	-	$\leq 0.1 \text{ mg/kg}$	
Cobalt (Co)	-	$\leq 1.0 \text{ mg/kg}$	
Chrome sum (Cr)	-	$\leq 3.0 \text{ mg/kg}$	
Chrome VI (Cr VI)	-	$\leq 3.0 \text{ mg/kg}$	
Copper (Cu)	-	$\leq 25 \text{ mg/kg}$	
Mercury (Hg)	-	$\leq 0.02 \text{ mg/kg}$	
Nickel (Ni)	-	$\leq 1.0 \text{ mg/kg}$	
Lead (Pb)	-	$\leq 0.2 \text{ mg/kg}$	
Antimony (Sb)	$\leq 5.0 \text{ mg/kg}$ (only synthetic or blended fibres; does not apply for accessories)	$\leq 5.0 \text{ mg/kg}$	
Pesticides/Biocides			following DFG-S19, GC- ECD
Pyrethroids (animal fibres; sum) <small>Cyfluthrin, Cyhalothrin, Cypermethrin, Deltamethrin, Esfenvalerat, Fenvalerat, Flumethrin, Permethrin, Transfluthrin</small>	1.0 mg/kg	$\leq 1.0 \text{ mg/kg}$	
Pyrethroids other fibres (sum; only natural fibres or blended fabric; except animal fibres)	0.5 mg/kg	$\leq 0.5 \text{ mg/kg}$	

⁵ If there are indications that the basic requirements (exclusion of the substance groups listed there) are not met or if there is insufficient information on the substances used, additional content analysis may be necessary.

P2 Covering materials	P21 Undyed textile covering materials	P22 Dyed textile covering materials	
Test parameter	Requirements	Requirements	Test method
Content analysis⁵			
Pesticides without pyrethroids (sum; only natural fibres or blended fabric) 2,4,5-T, 2,4-D, Acetameprid, 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, Emperthrin, α -Endosulfan, β -Endosulfan, Endosulfansulfate, 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, Pendimethalin, Perthan, Phosalon, Phosdrin, Phosmet, Phoxim, Pirimiphos-ethyl, Pirimiphos-methyl, Profenophos, Prometryn, Propetamphos, Pymethrozine, Quinalphos, Quintozin, Strobac, Teflubenzuron, Telodrin, Tetrachlorvinphos, Thiamethoxam, Thidiazuron, Thiodicarb, Toclufos-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, TcT, 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 carrier (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	4.0-7.5 (skin contact) 4.0-9.0 (no skin contact)	4.0-7.5 (skin contact) 4.0-9.0 (no skin contact)	DIN EN ISO 3071
Colour fastness	-	perspiration fastness (shade change), alkaline/acidic: $\geq 3-4$ perspiration fastness (staining), alkaline/acidic: $\geq 3-4$ rubbing fastness, dry: $\geq 3-4$ rubbing fastness, wet: ≥ 2 light fastness: 3-4	LFGB
Alkylphenol(ethoxylates) (sum; only animal fibres) NP, OP, HpP, PeP, NPEO, OPEO	≤ 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, DIHP	≤ 100 mg/kg	≤ 100 mg/kg	following DIN EN 15777
Terephthalate DEHT (only printings)	≤ 100 mg/kg	≤ 100 mg/kg	following DIN EN 15777
Diisononyl cyclohexane-1,2-dicarboxylate DINCH (only printings)	≤ 100 mg/kg	≤ 100 mg/kg	following DIN EN 15777

P3 Upholstery / padding materials	P31 Latex	P32 Latexed fibres	P33 Pure / cold foam	P34 Synthetic fibres	P35 Plant & animal fibres	
Test parameter	Requirements	Requirements	Requirements	Requirements	Requirements	Test method
Content analysis⁵						
AOX (adsorbable organic halogenated compounds)	-	-	≤ 1.0 mg/kg	≤ 1.0 mg/kg	-	DIN EN ISO 9562
EOX (extractable organic halogenated compounds)	-	-	≤ 2 mg/kg	≤ 2.0 mg/kg	-	following DIN 38414-S17
Heavy metals						Eluate, analysis ICP/MS
Antimony (Sb; does not apply for accessories)	-	-	-	≤ 5.0 mg/kg	-	
Pesticides/Biocides						following DFG-S19
Pyrethroids (animal fibres; sum) Cyfluthrin, Cyhalothrin, Cypermethrin, Deltamethrin, Esfenvalerat, Fenvalerat, Flumethrin, Permethrin, Transfluthrin	-	-	-	-	≤ 1.0 mg/kg	
Pyrethroids (sum; only natural fibres or blended fabric; except animal fibres)	-	≤ 1.0 mg/kg	-	-	≤ 0.5 mg/kg	
Pesticides without pyrethroids (sum; only natural fibres or blended fabric) 2,4,5-T, 2,4-D, Acetameprid, 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, Endosulfansulfate, Endrin, Ethion, Fenchlorphos, Fenitrothion, Fenthion, Fenpropathrin, Fibronil, 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, Pendimethalin, Perthan, Phosalon, Phosdrin, Phosmet, Phoxim, Pirimiphos-ethyl, Pirimiphos-methyl, Profenophos, Prometryn, Propetamphos, Pymethrozine, Quinalphos, Quintozin, Stroban, Teflubenzuron, Telodrin, Tetrachlorvinphos, Thiamethoxam, Thidiazuron, Thiodicarb, Tociofos-methyl, Toxaphen, Trifloxysulfuron-sodium, Triflumuron, Trifluralin	-	-	-	-	≤ 0.5 mg/kg	
Orthophenylphenol (OPP; only natural fibres or blended fabric)	-	≤ 1.0 mg/kg	-	-	≤ 1.0 mg/kg	Extraction, DFG/S19, 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-Trichlorphenol, 2,3,6-Trichlorphenol, 2,4,5-Trichlorphenol, 2,4,6-Trichlorphenol	-	≤ 0.1 mg/kg	-	-	≤ 0.1 mg/kg	CEN / TR 14823

P3 Upholstery / padding materials	P31 Latex	P32 Latexed fibres	P33 Pure / cold foam	P34 Synthetic fibres	P35 Plant & animal fibres	
Test parameter	Requirements	Requirements	Requirements	Requirements	Requirements	Test method
Content analysis⁵						
Organotin compounds (requirements per single substance) TBT, DBT, TeBT, MBT, MOT, DOT, TcYt, TPhT	-	-	≤ 0.05 mg/kg	≤ 0.05 mg/kg	-	Extraction, analysis following DIN EN ISO 17353
Phthalates (sum) DMP, DEP, DPP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DNPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP, DIHxP	-	-	≤ 100 mg/kg	-	-	following DIN EN 15777
Terephthalate DEHT	-	-	≤ 100 mg/kg	-	-	following DIN EN 15777
Diisononyl cyclohexane-1,2-dicarboxylate, DINCH	-	-	≤ 100 mg/kg	-	-	following DIN EN 15777
Formaldehyde	-	-	-	-	≤ 20 mg/kg	DIN EN ISO 14184-1, LFGB § 64.82, 02-1
Optical brighteners	-	-	-	no rating	no rating	UV light
Organophosphorous flame retardants (sum) TMP, TEP, TPP, TIBP, TBP, TDBPP, TCEP, TCPP, TDCPP, TEHP, TBEP, TPhP, TKP	-	-	≤ 10 mg/kg	-	-	following DFG S 19
Alkylphenol(ethoxylates) (sum; only animal fibres) NP, OP, HpP, PeP, NPEO, OPEO	-	-	-	-	≤ 20 mg/kg	HPLC-MS/MS, GC/MSD
Aniline	10 mg/kg	-	-	-	-	Extraction, LC-MS/MS
Natural latex content	no rating	no rating	-	-	-	IR/ATR
Filler content	≤ 5 %	-	-	-	-	Thermo-gravimetry IR/ATR