

Hardware

2021-05-0008

For countries: EU (incl. CH, NO, UK)

Release date: 21.05.2021

Netto

Update recommended on: 31.05.2022

Hazardous Substances	Coatings (Varnish, polymer)	Printings	Fibres (Natural)	Fibres (Synthetic and blends)	Funct. finishings / Impregnation	Rubber and elastomers	Wood	Plastics	Leather	Metal	Paper / Paperboard	Foams	Packaging	Limit Children	Limit Adult	Unit
<b>Alkylphenols / Alkylphenoethoxylates (AP / APEO)</b>																
Nonylphenoethoxylates NPEO		X	X	X										100	100	mg/kg
<b>Aromatic amines</b>																
Free aromatic amines		X	X	X	X	X		X	X				X	30	30	mg/kg
<b>Azo dyes / Cleavable arylamines</b>																
Azo dyes / Cleavable arylamines		X	X	X					X					30	30	mg/kg
<b>Bisphenols</b>																
Bisphenol A / BPA											X			<0,02	<0,02	%
Bisphenol S / BPS											X			<0,02	<0,02	%
<b>Chlorinated benzenes and toluenes</b>																
α,α,α,4-Tetrachlorotoluene			X	X										1	1	mg/kg
Benzotrichloride			X	X										1	1	mg/kg
Benzyl chloride			X	X										1	1	mg/kg
<b>Chlorinated paraffins</b>																
Short-chain chlorinated paraffins C10 - C13 (SCCP)	X	X			X	X		X	X				X	1500	1500	mg/kg
<b>Chlorinated phenols</b>																
Pentachlorophenol (PCP)	X	X	X	X	X	X	X	X	X	X	X	X	X	0,5	0,5	mg/kg
Tetrachlorophenols, sum (TeCP)	X	X	X	X	X	X	X	X	X	X	X	X	X	5	5	mg/kg
<b>Chromium VI in leather</b>																
Chromium VI									X					<3	<3	mg/kg
<b>Dimethylfumarate</b>																
Dimethylfumarate			X	X	X		X		X		X			0,1	0,1	mg/kg
<b>Dyestuffs</b>																
Basic Red 9		X	X	X										3,3	3,3	mg/L
Basic Violet 3		X	X	X										3,3	3,3	mg/L
Disperse Blue 1		X		X										3,3	3,3	mg/L
Disperse dyestuffs, allergenic		X		X										5	5	mg/L
Dyestuffs, carcinogenic		X	X	X										no use		mg/L
<b>Flame retardants</b>																
Hexabromobiphenyl			X	X	X	X		X	X				X	not detectable	not detectable	mg/kg
Hexabromocyclododecane incl. α, β, γ (HBCDD)			X	X	X	X		X	X				X	0,01	0,01	%
Octabromodiphenyl ether			X	X	X	X		X	X				X	0,1	0,1	%
Tetra-, Penta-, Hexa-, Hepta-, Decabromodiphenyl ether - Sum			X	X	X	X		X	X				X	500	500	mg/kg
TRIS, TEPA, PBB			X	X	X									no use	no use	mg/kg
<b>Formaldehyde</b>																
Formaldehyde		X	X	X	X				X					20	75	mg/kg
Formaldehyde derived timber products								X						0,124	0,124	mg/m³
Formaldehyde derived timber products								X						0,1	0,1	ml/m³
<b>Harmful Substances</b>																
Harmful Substances acc. to CLP Regulation	X	X	X	X	X	X	X	X	X	X	X	X	X	no use	no use	%

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<b>Metals, extractable in perspiration</b>																
Antimony	X	X	X	X		X		X	X			X		30	30	mg/kg
Arsenic	X	X	X	X		X		X	X			X		0,2	0,2	mg/kg
Lead	X	X	X	X		X		X	X			X		0,2	0,8	mg/kg
Cadmium	X	X	X	X		X		X	X			X		0,1	0,1	mg/kg
Chromium	X	X	X	X		X		X				X		1	2	mg/kg
Chromium from leather									X					50	200	mg/kg
Chromium VI	X	X	X	X		X		X	X			X		not detectable	not detectable	mg/kg
Cobalt	X	X	X	X		X		X	X			X		1	4	mg/kg
Copper	X	X	X	X		X		X	X			X		25	50	mg/kg
Nickel	X	X	X	X		X		X	X			X		1	4	mg/kg
Mercury	X	X	X	X		X		X	X			X		0,02	0,02	mg/kg
<b>Metals, total content</b>																
Lead	X	X				X	X	X		X		X		100	100	mg/kg
Cadmium	X	X				X	X	X		X		X		75	75	mg/kg
Mercury	X	X				X	X	X		X		X		10	10	mg/kg
<b>Metal release / prolonged skin contact</b>																
Nickel										X				0,5	0,5	µg/cm²/week
<b>Organotin compounds</b>																
Dibutyltin DBT	X	X	X	X		X	X	X	X		X	X		1	2	mg/kg
Diocetyl tin DOT	X	X	X	X		X	X	X	X		X	X		1	2	mg/kg
Tributyltin TBT	X	X	X	X		X	X	X	X		X	X		0,5	1	mg/kg
Triphenyltin TPhT	X	X	X	X		X	X	X	X		X	X		0,5	1	mg/kg
Trisubstituted organotin compounds, sum	X	X	X	X		X	X	X	X		X	X		1000	1000	mg/kg
<b>Perfluorinated compounds (PFC)</b>																
Perfluorooctanoic acid PFOA (C8)			X	X	X				X		X			0,025	0,025	mg/kg
PFOA related substances, sum			X	X	X				X		X			1	1	mg/kg
PFOS (C8), its salts and derivatives, each			X	X	X				X		X			<1	<1	µg/m²
<b>Pesticides</b>																
Pesticides			X	X			X		X		X			not detectable	not detectable	mg/kg
<b>Phenylmercury compounds</b>																
Phenylmercury compounds	X	X				X		X				X		0,01	0,01	%
<b>Phthalates - Plasticizers</b>																
Phthalates, each	X	X				X	X	X				X		0,05		%
Phthalates, sum	X	X				X	X	X				X		0,1	0,1	%
<b>pH-value</b>																
pH-value in leather									X					3,5 - 8,5		pH
pH-value in textiles			X	X										4,0 - 7,5		pH

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<b>Polycyclic Aromatic Hydrocarbons PAH</b>																
Benzo(a)anthracene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Benzo(a)pyrene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Benzo(b)fluoranthene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Benzo(e)pyrene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Benzo(g,h,i)-perylene	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Benzo(j)fluoranthene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Benzo(k)fluoranthene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Chrysene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Dibenzo(a,h)anthracene*	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Indeno(1,2,3-cd)pyrene	X	X	X	X	X	X	X	X	X	X	X	X	X	<0,2	<0,5	mg/kg
Naphthalene	X	X	X	X	X	X	X	X	X	X	X	X	X	<1	<2	mg/kg
Sum 15 PAK	X	X	X	X	X	X	X	X	X	X	X	X	X	<1	<10	mg/kg
Sum 4 PAK	X	X	X	X	X	X	X	X	X	X	X	X	X	<1	<10	mg/kg
Sum PAH	X	X	X	X	X	X	X	X	X	X	X	X	X	10	10	mg/kg
<b>Quality - Color fastness</b>																
Fastness to rubbing, wet		X	X	X					X					3	2 - 3	Grade
Fastness to rubbing, perspiration									X					3 - 4	3	Grade
Fastness to rubbing, dry		X	X	X					X					4	3 - 4	Grade
Fastness to perspiration		X	X	X					X					3 - 4	3	Grade
<b>Quality - Odour</b>																
Odour	X	X	X	X	X	X	X	X	X	X	X	X	X	3	3	Grade
<b>Residual chemicals</b>																
Benzene	X	X			X	X		X					X	5	5	mg/kg
Quinoline	X	X	X	X		X		X	X		X	X		50	50	mg/kg
N,N-Dimethylacetamide	X	X		X	X	X		X					X	3000	3000	mg/kg
N,N-Dimethylformamide	X	X		X	X	X		X					X	3000	3000	mg/kg
N-Methyl-2-pyrrolidone (NMP)	X	X		X	X	X		X					X	3000	3000	mg/kg
<b>Fastness to saliva and perspiration</b>																
Fastness to saliva and perspiration	X	X	X	X		X	X	X	X		X	X		5		Grade
<b>Packaging, additional requirements</b>																
Cobalt dichloride in desiccation bags													X	no use	no use	%
Dimethylfumarat in desiccation bags													X	0,1	0,1	mg/kg
Sum Lead, Cadmium, Chromium VI, Mercury													X	100	100	mg/kg

**EU REACH - SVHC Substances**

EU, NO:  
 In case of contents > 0,1% per article weight (in consideration of subassemblies) substances of very high concern (SVHC) from the REACH Candidate List, the supplier is legally obligated to transmit this information (Regulation (EC) 1907/2006 Art. 33 and Annex XIV; Judgment of the Court (Third Chamber), 10 September 2015, C-106/14). SVHC-Substances, see <https://echa.europa.eu/en/candidate-list-table>

CH:  
 Analogous to EU, NO. Legal base is the chemical regulation ChemV Art. 71 and annex 3.

GB:  
 Analogous to EU, NO. Legal base is The REACH Enforcement Regulations 2008 (and amendments), schedule 1.

**EU SCIP Data Base**

According to EU Waste Framework Directive 2008/98/EC the supplier of an article is obligated to provide the information about SVHC substances, that exceed a content of 0,1% in one of his articles, pursuant to Article 33 (1) of REACH Regulation 1907/2006 to the European Chemicals Agency (ECHA) as from 5 January 2021 (SCIP data base).

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**EU Biocidal Products/Treated Articles**

**EU, NO:**  
 Products with biocidal finishing (treated articles) have to meet the Biocidal Regulation (EU) 528/2012 regarding admission and labeling.  
<https://www.echa.europa.eu/regulations/biocidal-products-regulation/understanding-bpr>

**CH:**  
 Analogous to EU, NO. Legal base is the biocidal products regulation VBP.

**GB:**  
 Analogous to EU, NO. Legal base is The Biocidal Products Regulations 2001

**EU Further Requirements for non electrical Hardware**

Mechanical Safety	Directive 2001/95/EG
In accordance with above mentioned directives EU harmonized and productspecific standards must be applied: <a href="http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards_en">http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards_en</a> For GB the designated standards may be deviant in future: <a href="https://www.gov.uk/guidance/designated-standards">https://www.gov.uk/guidance/designated-standards</a>	
Fluorinated greenhouse gases and ozone depleting substances	Regulation 517/2014, Regulation 1005/2009
Mercury containing products	Regulation 2017/852
Single-use plastic products	Directive 2019/904, Regulation 2020/2151 (from 03.07.2021)

**EU Further requirements for children**

Pull-off force of buttons and small parts	EN 71-1
Mechanical Safety	BS 7907/BS 4162, UNE 40902
Flammability	CEN/TR 13387

Articles that can be used as toys have to fulfill further requirements.

**EU Marking**

Name and complete contact address of EU distributor	Directive 2001/95/EC
Marking for identification (e.g. article number)	Directive 2001/95/EC

Depending on the product category further labelling according to special or national requirements must be considered if applicable.

GB: A separate contact address of the GB importer must be provided.

**EU Conformity**

Each article including the packaging has to comply to all mentioned requirements. The supplier assures that the delivered article meets all requirements under REACH Regulation 1907/2006 and Product Safety Directive 2001/95/EC.  
 By declaration of conformity acc. to ISO/IEC 17050 the supplier commits himself to deliver merchandise in conformity with the respective test sample.

**Definition of the Product Group: non-electrical Hardware**

This requirement sheet refers to hardware articles without electrical functions for domestic use. Following articles are excluded from this profile: electrical products, lighters, sun glasses, articles which have to comply with traffic rules, articles with food or mucosa contact, toys, construction products, personal protective equipment, pressure equipment/vessels, gas appliances, personal protective equipment.

**Alkylphenols / Alkylphenoethoxylates (AP / APEO)**

Test Method: EN ISO 18218-1 (mod.), EN ISO 18254-1 (mod.)

EU: Regulation (EC) No 1907/2006; Limit for mixtures: Nonylphenol and Nonylphenoethoxylates: 0,1%; Limit for textile articles: Nonylphenoethoxylates 0,01%

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Nonylphenoethoxylates NPEO					

**Aromatic amines**

Test Method: Inhouse-method: Extraction with dichloromethane or tetrahydrofurane, GC/MS and LC/MS (alternatively: EN ISO 14362 without cleavage)

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
2,4,5-Trimethylaniline	137-17-7	3,3'-Dimethylbenzidine	119-93-7	Aniline	62-53-3
2,4-Diaminoanisole	615-05-4	4,4'-Diaminodiphenylmethane	101-77-9	Benzidine	92-87-5
2,4-Toluylenediamine	95-80-7	4,4'-Methylene-bis-(2-chloroaniline)	101-14-4	o-Aminoazotoluene	97-56-3
2-Amino-4-nitrotoluene	99-55-8	4,4'-Oxydianilin	101-80-4	o-Anisidine	90-04-0
2-Naphthylamine	91-59-8	4,4'-Thiodianiline	139-65-1	o-Toluidine	95-53-4
3,3'-Dichlorobenzidine	91-94-1	4-Aminoazobenzene	60-09-3	p-Chloroaniline	106-47-8
3,3'-Dimethoxybenzidine	119-90-4	4-Aminobiphenyle	92-67-1	p-Cresidine	120-71-8
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	4-Chloro-o-toluidine	95-69-2	p-Phenylenediamine	106-50-3

**Azo dyes / Cleavable arylamines**

Test Method: Leather: EN ISO 17234-1; Textiles: EN ISO 14362-1; 4-Aminoazobenzene: Leather: EN ISO 17234-2 and Textiles: EN ISO 14362-3; Navy Blue: DIN 54231

EU: Regulation (EC) 1907/2006; Limit valid for textiles and leather with skin contact: 30 mg/kg;

EU: Regulation 1907/2006; Limit: 30 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
2,4,5-Trimethylaniline	137-17-7	3,3'-Dimethoxybenzidine	119-90-4	4-Chloro-o-toluidine	95-69-2
2,4,5-Trimethylaniline hydrochloride	21436-97-5	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	4-Chloro-o-toluidine chloride	3165-93-3
2,4-Diaminoanisole	615-05-4	3,3'-Dimethylbenzidine	119-93-7	Benzidine	92-87-5
2,4-Diaminoanisole sulphate	39156-41-7	4,4'-Diaminodiphenylmethane	101-77-9	o-Aminoazotoluene	97-56-3
2,4-Toluylenediamine	95-80-7	4,4'-Methylene-bis-(2-chloroaniline)	101-14-4	o-Anisidine	90-04-0
2-Amino-4-nitrotoluene	99-55-8	4,4'-Oxydianilin	101-80-4	o-Toluidine	95-53-4
2-Naphthylamine	91-59-8	4,4'-Thiodianiline	139-65-1	p-Chloroaniline	106-47-8
2-Naphthylammoniumacetate	553-00-4	4-Aminoazobenzene	60-09-3	p-Cresidine	120-71-8
3,3'-Dichlorobenzidine	91-94-1	4-Aminobiphenyle	92-67-1		

**Bisphenols**

Test Method: ASTM D 7574 (mod.)

CH: ChemRRV; Limit for Bisphenol A and Bisphenol S in thermal paper: &lt;0,02%

EU: Regulation (EC) No 1907/2006; Limit for Bisphenol A in thermal paper: &lt;0,02%

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Bisphenol A / BPA	80-05-7	Bisphenol S / BPS	80-09-1		

**Chlorinated benzenes and toluenes**

Test Method: DIN 54232; EN 17137

EU: Regulation (EC) 1907/2006; Limit for Trichlorobenzenes (1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and 1,3,5-Trichlorobenzene) in mixtures: 0,1 %; no limit for articles

EU: Regulation 1907/2006; Limit for 4-Tetrachlorotoluene, Benzenetrichloride, Benzyl chloride: 1 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Benzotrchloride	98-07-7	Benzyl chloride	100-44-7	α,α,α,4-Tetrachlorotoluene	5216-25-1

**Chlorinated paraffins**

Test Method: EN ISO 18219 (mod.)

EU: Regulation 2019/1021; Limit SCCPs: 0,15 %

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Short-chain chlorinated paraffins C10 - C13 (SCCP)	85535-84-8				

**Chlorinated phenols**

Test Method: EPA 3545A or KOH-extraction, EN ISO 17070 (mod.)

AT: Chem-VerbotsV 2003; Limit for PCP in finished goods: 5 mg/kg

CH: ChemRRV 814.81; Limit: no use of PCP and TeCP in textile or leather articles; 5 mg/kg for timber products

DE: ChemVerbotsV; Limit for PCP incl. salts and esters in articles: 5 mg/kg

DK: BEK nr 854 af 5 September 2009, Bekendtgørelse om forbud mod import, salg og eksport af varer, der indeholder pentachlorphenol: Limit for PCP incl. salts and esters in Verbraucherprodukten: 5 mg/kg

EU: Regulation 2019/1021; Limit Pentachlorphenol: 5 mg/kg

NL: Besluit van 23 september 1997, houdende vaststelling van het Warenwetbesluit Pentachloorfenol; Limit for PCP incl. salts and esters in articles: 5 mg/kg

NO: Regulation No. 922 of 1 June 2004, Forskrift om begrensning i bruk av helse- og miljøfarlige kjemikalier og andre produkter (produktforskriften); Limit PCP incl. salts and esters in textiles and leather: 5 mg/kg

SK: Decree 635/2005; Limits: PCP in textiles: 0,5 mg/kg; PCP in leather: adult 5 mg/kg, baby 0,5 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
2,3,4,5-Tetrachlorophenol	4901-51-3	2,3,5,6-Tetrachlorophenol	935-95-5	Pentachlorophenol (PCP)	87-86-5
2,3,4,6-Tetrachlorophenol	58-90-2				

**Chromium VI in leather**

Test Method: EN ISO 17075-1/-2

EU: Regulation (EC) No 1907/2006; Limit for leather articles and leather parts of articles with skin contact: <3 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Chromium VI					

**Dimethylfumarate**

Test Method: CEN ISO/TS 16186 (mod.)

EU: Regulation (EC) 1907/2006; Limit: 0,1 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Dimethylfumarate	624-49-7				

**Dyestuffs**

Test Method: DIN 54231

CZ: Act No 84/2001; Limit for toys and baby products: no use of Acid Red 26, Basic Red 9, Disperse Blue 1, Solvent Yellow 1, Solvent Yellow 2, Solvent Yellow 3

DE: ProdSG, LFGB §30; BfR Recommendation No. 041/2012; Limit: 5 mg/L (75 mg/kg)

EU: Regulation 1907/2006; Limits: Disperse Blue 1, Basic Red 9, Basic Violet 3: 50 mg/kg (3,3 mg/L)

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Acid Red 26	3761-53-3	Disperse Blue 124	61951-51-7	Disperse Yellow 3	2832-40-8
Basic Red 9	569-61-9	Disperse Blue 35	12222-75-2	Solvent Yellow 1	60-09-3
Basic Violet 3	548-62-9	Disperse Orange 3	730-40-5	Solvent Yellow 2	60-11-7
Disperse Blue 1	2475-45-8	Disperse Orange 37/59/76	13301-61-6	Solvent Yellow 3	97-56-3
Disperse Blue 106	12223-01-7	Disperse Red 1	2872-52-8		

**Flame retardants**

Test Method: EN ISO 17881-1; EN ISO 17881-2; EN 62321-6 (mod.)

EU: Regulation (EC) 1907/2006; Limits: TRIS, TEPA, PBB in textiles: no use; Octabromodiphenyl ether in articles: 0,1%

EU: Regulation 2019/1021; Limits: Sum Tetra-, Penta-, Hexa-, Hepta-, Decabromo diphenylether: 500 mg/kg; Hexabromocyclododecane (incl.  $\alpha$ ,  $\beta$ ,  $\gamma$ ): 0,01%; SCCP: 0,15%; Hexabromobiphenyl containing items are prohibited

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Decabromodiphenyl ether	1163-19-5	Hexabromodiphenyl ether	36483-60-0 et al.	Tetrabromodiphenyl ether	40088-47-9 et al.
Heptabromodiphenyl ether	68928-80-3 et al.	Octabromodiphenyl ether	32536-52-0 et al.	Tri-(2,3-dibromopropyl)-phosphate (TRIS)	126-72-7
Hexabromobiphenyl	36355-01-8 et al.	Pentabromodiphenyl ether	32534-81-9 et al.	Tris-(azoridinyl)-phosphinoxid (TEPA)	545-55-1
Hexabromocyclododecane incl. $\alpha$ , $\beta$ , $\gamma$ (HBCDD)	25637-99-4	Polybrominated Biphenyls (PBB)	59536-65-1		

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**Formaldehyde**

Test Method: EN ISO 14184-1; EN ISO 17226-1/-2 (textile and leather); EN 717-3, EN 717-1, EN 16516 (derived timber products); EN 645 and EN 1541 (paper)

AT: Formaldehydverordnung; Limit in timber products (Emission): 0,1 ml/m<sup>3</sup> (ppm)

AT: Formaldehydverordnung; Mandatory labelling of textiles with skin contact at > 1500 mg/kg

CZ: Act No 84/2001; Limit for toys and children's products with intended mouth contact, food contact or for children <3 years: 30 mg/kg

DE: BedGgStV; Mandatory labelling of textiles with skin contact at > 1500 mg/kg

DE: ChemVerbotsV; Limit in timber products (Emission): 0,1 ml/m<sup>3</sup> (ppm)

DK: BEK 289 af 22/06/1983; Limit in timber products 0,15 mg/m<sup>3</sup>

EU: Regulation 1907/2006; Limit: 75 mg/kg; Transitional period for jackets, coats, upholstery: Limit 300 mg/kg valid from 01.11.2020 till 01.11.2023

FI: Decree 233/2012; Limit in textile articles for children < 2 years (e.g. bedding, napkins, garments, toys): 30 mg/kg; Limit in textiles for children > 2 Jahren and adults with skin contact: 100 mg/kg; Limit for textiles without direct skin contact: 300 mg/kg

NL: Decree formaldehyde in textiles (Warenwetbesluit formaldehyde in textiel), Decision of 22. March 2001; Limit for articles with skin contact: 120 mg/kg

NO: Forskrift om begrensning i bruk av helse- og miljøfarlige kjemikalier og andre produkter (produktforskriften); Limits: textiles with skin contact: 100 mg/kg, textiles for children < 3 years: 30 mg/kg

SE: KIFS 2017:7; Limit in timber products: 0,124 mg/m<sup>3</sup>

SK: Decree 635/2005; Limits adults: leather: 150 mg/kg, textile: 75 mg/kg; Limits children <3 years: leather: 50 mg/kg, textile: 20 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Formaldehyde	50-00-0				

**Harmful Substances**

Test Method: inhouse-method; Extraction in organic solvent, detection by GC-MSD, identification of gc-capable organic compounds after alignment in a reference mass spectra library, semi quantitative determination

EU: Regulation (EC) 1907/2006; Substances and mixtures which are classified as harmful under regulation (EC) 1272/2008 shall not be used in ornamental articles, tricks, jokes and games.

EU: Regulation (EC) 1907/2006; Substances which are classified as carcinogenic, mutagenic or toxic for reproduction of categorie 1A, 1B or 2 under regulation (EC) 1272/2008 shall not be used as substance, part of other substances or in mixtures above the specific or general concentration limit.

**Metals, extractable in perspiration**

Test Method: EN 16711-2 / EN ISO 17072-1; ISO 11083 / EN ISO 105-E04 (Chromium VI in textile)

CZ: Act No 84/2001; Limits are valid for toys and baby products  
Plastic, elastomers, textile: Arsenic 0,2 mg/kg, Lead 0,2 mg/kg, Cadmium 0,1 mg/kg, Mercury 0,02 mg/kg, Chromium total 1 mg/kg, Chromium VI not detectable, Cobalt 1 mg/kg, Copper 25 mg/kg, Nickel 1 mg/kg;  
Leather, fur: Arsenic 0,2 mg/kg, Lead 0,2 mg/kg, Cadmium 0,1 mg/kg, Mercury 0,02 mg/kg, Cobalt 1 mg/kg, Copper 25 mg/kg, Nickel 1 mg/kg

EU: Regulation 1907/2006; Limit: Cadmium, Chromium VI, Arsenic, Lead: 1 mg/kg each

SK: Decree 635/2005; Limits:  
Textile (resp. children/adult): Arsenic 0,2 mg/kg / 1 mg/kg, Cadmium 0,1 mg/kg, Lead 0,2 mg/kg / 1 mg/kg, Copper 25 mg/kg / 50 mg/kg, Chromium 1 mg/kg / 2 mg/kg, Cobalt 1 mg/kg / 4 mg/kg, Nickel 1 mg/kg / 4 mg/kg, Mercury 0,02 mg/kg, Antimon 30 mg/kg  
Leather (resp. children/adult): Arsenic 0,2 mg/kg, Cadmium 0,1 mg/kg, Lead 0,8 mg/kg, Mercury 0,02 mg/kg, Chromium total 50 mg/kg / 200 mg/kg, Chromium VI not detectable

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Antimony	7440-36-0	Chromium from leather	7440-47-3	Lead	7439-92-1
Arsenic	7440-38-2	Chromium VI		Mercury	7439-97-6
Cadmium	7440-43-9	Cobalt	7440-48-4	Nickel	7440-02-0
Chromium	7440-47-3	Copper	7440-50-8		

**Metals, total content**

Test Method: EPA 3015A, EN ISO 17294-2, EN 16711-1

DK (Cadmium): BEK 858 af 05/09/2009; general ban of cadmium containing products, Limit: 75 mg/kg

DK (Lead): BEK 856 af 05/09/2009; general ban of lead containing products, Limit: 100 mg/kg

DK (Mercury): BEK nr 73 af 25/01/2016; general ban of mercury containing products, Limit: 100 mg/kg

EU (Cadmium): Regulation (EC) 1907/2006; Limits: in varnish and paints (on article): 0,1%; in plastics: 100 mg/kg, in metal/alloys of jewellery/decorative elements: 100 mg/kg

EU (Lead): Regulation (EC) 1907/2006; no use of lead carbonates and sulfates; no use of lead in wood preservatives; Limits: in jewellery: 0,05%; articles or accessible parts thereof, which can be placed in the mouth by children: 0,05% or ≤ 0,05 µg/cm<sup>2</sup>/h

NO (Mercury): Regulation No. 922 of 1st June 2004 (Produktforskriften); Limit 10 mg/kg

SE (Mercury): Förordning SFS 1998:944; Prohibition of products in which mercury was used or intentionally added

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Cadmium	7440-43-9	Lead	7439-92-1	Mercury	7439-97-6

## Hardware

2021-05-0008

For countries: EU (incl. CH, NO, UK)

Release date: 21.05.2021

Netto

Update recommended on: 31.05.2022

**Metal release / prolonged skin contact**

Test Method: EN 1811; EN 12472; EN 16128

EU: Definition prolonged skin contact: 10 minutes on three or more occasions within two weeks respectively 30 minutes on one or more occasions within two weeks.

 EU: Regulation (EC) 1907/2006; Limit for articles with direct and prolonged skin contact: 0,5 µg/cm<sup>2</sup>/week

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Nickel	7440-02-0				

**Organotin compounds**

Test Method: CEN/TS 16179 (mod.)

EU: Regulation (EC) 1907/2006; DBT: Limit: 0,1 % tin; DOT: Limit for textile articles with skin contact, gloves, shoes, wall and floor covering, baby articles, women care articles, nappies: 0,1 % tin; Trisubstituted organostannic compounds (i.a. TBT, TPhT): Limit: 0,1 % tin

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Dibutyltin DBT		Tributyltin TBT		Triphenyltin TPhT	
Diocetyl tin DOT					

**Perfluorinated compounds (PFC)**

Test Method: CEN/TS 15968 (mod.); Extraction with organic solvent, GC/MS/PCI

EU: Regulation 2019/1021; Limits: PFOA 0,025 mg/kg; Sum PFOA related substances (non exhaustive list): 1 mg/kg

 EU: Regulation 2019/1021; Limits: PFOS, its salts and derivatives (non exhaustive list) for textiles and coated materials: < 1 µg/m<sup>2</sup>, for other articles: 0,1%

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
1-Decanaminium, N-decyl-N,N-dimethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptafluoro-1-octanesulfonate	251099-16-8	Ethyl perfluorooctanoate Et-PFOA	3108-24-5	N-Methyl perfluorooctanesulfonamide MeFOSA (C8)	31506-32-8
1H,1H,2H,2H-Perfluoro-1-decanol 8:2 FTOH	678-39-7	Methyl perfluorooctanoate Me-PFOA	376-27-2	Perfluorooctane sulfonate PFOS (C8)	1763-23-1
1H,1H,2H,2H-Perfluorodecanesulfonic acid 8:2 FTS	39108-34-4	N-(2-Hydroxyethyl)-N-methylperfluorooctanesulfonamide MeFOSE	24448-09-7	Perfluorooctane sulfonate PFOS-X (salt or alcohol)(detected as PFOS)	2795-39-9 et al.
1H,1H,2H,2H-Perfluorodecyl acrylate 8:2 FTA	27905-45-9	N-Ethyl-N-(2-hydroxyethyl)perfluorooctylsulfonamide EtFOSE	1691-99-2	Perfluorooctanesulfonamide PFOSA (C8)	754-91-6
1H,1H,2H,2H-Perfluorodecyl methacrylate 8:2 FTMA	1996-88-9	N-Ethyl-Perfluorooctansulfonamid EtFOSA (C8)	4151-50-2	Perfluorooctanesulfonyl fluoride PFOSF (C8)	307-35-7

**Pesticides**

Test Method: EPA M 8270C; EPA 3545A (mod.)

CH: ChemRRV 814.81; Consumer products that contain DDT are not marketable

EU: Regulation 2019/1021; Articles may not contain substances from annex I

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
1,1,1-Trichlor-2,2-bis-(4-chlorophenyl)ethane (DDT) und isomeres	50-29-3	Dicofol	115-32-2	Kepone / Chorodecone	143-50-0
a-Hexachlorocyclohexane	319-84-6	Dieldrine	60-57-1	Lindan	58-89-9
Aldrine	309-00-2	Endosulfan alpha	959-98-8	Mirex	2385-85-5
b-Hexachlorocyclohexane	319-85-7	Endosulfan beta	33213-65-9	other Hexachlorocyclohexane (isomers)	608-73-1
Chlordane cis	5103-71-9	Endrine	72-20-8	Pentachlorobenzene	608-93-5
Chlordane trans	5103-74-2	Heptachlor	76-44-8	Polychlorinated naphthalenes	
DDT ortho, para	789-02-6	Hexachlorobenzene	118-74-1	Toxaphene	8001-35-2
d-Hexachlorocyclohexane	319-86-8	Hexachlorobutadiene	87-68-3		

**Phenylmercury compounds**

Test Method: EPA 3015 A, EN ISO 17294-2, EN 16711-1; solvent extraction GC/MS

EU: Regulation (EC) 1907/2006; Limit 0,01% (calculated in mercury)

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Phenylmercury 2-ethylhexanoate	13302-00-6	Phenylmercury neodecanoate	26545-49-3	Phenylmercury propionate	103-27-5
Phenylmercury acetate	62-38-4	Phenylmercury octanoate	13864-38-5		



Hardware

2021-05-0008

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**Phthalates - Plasticizers**

Test Method: EN ISO 14389 (mod.)

DK: BEK nr 947 af 20/06/2020; Limits for child products and toys for children <36 months: 0,05% (Except DEHP, BBP, DBP, DIBP, DNOP, DIDP, DINP)

EU: Directive 2011/65/EU (RoHS); Limit for DEHP, BBP, DBP, DIBP: each 0,1%

EU: Regulation (EC) 1907/2006; Limit for toys and childcare articles; Sum (DEHP, BBP, DBP, DIBP) = 0,1%; Sum (DNOP, DIDP, DINP) = 0,1%

EU: Regulation 1907/2006; Limit DIHP, DMEP, DIPP, DPP, DHP: 0,1% (each and sum of all limited phthalates through REACh annex XVII)

EU: Regulation 1907/2006; Limit for phthalates in articles: DEHP, BBP, DBP, DIBP: 0,1% (individually or in combination)

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Butylbenzyl phthalate / BBP	85-68-7	Di-C6-8-branched alkylphthalates, C7-rich / DIHP	71888-89-6	Diisopentylphthalate / DIPP	605-50-5
Di-(2-ethylhexyl)-phthalate / DEHP	117-81-7	Di-iso-butylphthalate / DIBP	84-69-5	Di-n-hexylphthalate / DnHP	84-75-3
Di-(2-methoxyethyl)-phthalate / DMEP	117-82-8	Di-iso-decylphthalate / DIDP	26761-40-0 et al	Di-n-octylphthalate / DNOP	117-84-0
Dibutyl phthalate / DBP	84-74-2	Di-iso-nonylphthalate / DINP	28553-12-0 et al	Di-n-pentylphthalate / DNPP	131-18-0

**pH-value**

Test Method: EN ISO 3071 (textiles, down and feathers); EN ISO 4045 (leather)

CZ: Act No 84/2001; Limit for toys and baby products: textile: 4,0 - 7,5; leather: 3,5 - 8,5

**Polycyclic Aromatic Hydrocarbons PAH**

Test Method: AfPS GS 2019:01 PAK

AfPS GS 2019:01 PAK: The AfPS document classifies applicable limits in 3 categories for children and adult. The evaluation into these categories results on the basis of the AfPS document. Limits: 11 limits for PAH single substances, sum limit of 4 PAH's (Phenanthrene, Pyrene, Anthracene, Fluoranthene) and sum limit of all 15 PAH's

AT: Chem-VerbotsV; Limit for clay targets: Sum 10 mg/kg

DE: ProdSG; LFGB §30; BfR-Recommendation No. 025/2009: PAH content in consumer goods should be as low as possible; For products with GS-certification the product has to comply with document AfPS GS 2019:01 PAK.

EU: Regulation (EC) 1907/2006; Limits for articles with direct and prolonged or short-term repetitive skin/oral cavity contact. Adults: 1 mg/kg; Children: 0,5 mg/kg (8 cancerogenic PAHs marked with \*)

EU: Regulation 1907/2006; Limit: 1 mg/kg (8 cancerogenic PAHs marked with \*)

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Acenaphthene	83-32-9	Benzo(e)pyrene*	192-97-2	Fluoranthene	206-44-0
Acenaphthylene	208-96-8	Benzo(g,h,i)-perylene	191-24-2	Fluorene	86-73-7
Anthracene	120-12-7	Benzo(j)fluoranthene*	205-82-3	Indeno(1,2,3-cd)pyrene	193-39-5
Benzo(a)anthracene*	56-55-3	Benzo(k)fluoranthene*	207-08-9	Naphthalene	91-20-3
Benzo(a)pyrene*	50-32-8	Chrysene*	218-01-9	Phenanthrene	85-01-8
Benzo(b)fluoranthene*	205-99-2	Dibenzo(a,h)anthracene*	53-70-3	Pyrene	129-00-0

**Quality - Color fastness**

Test Method: EN ISO 105 X12, E01, E04; Leather: EN ISO 11641 / 11642 / 11640; dry: 50 cycles, wet and perspiration solution: 20 cycles; grade 5 = no staining / no colour change, grade 1 = very strong staining / very strong colour change (grey scale acc. to EN 20105-A02/03; ISO 105-A02/03)

CZ: Act No 84/2001; Limit for toys and children products made of textile or leather: fastness to rubbing, dry: grade: 4; fastness to rubbing, wet: grade 3; fastness to perspiration: grade 3 - 4

SK: Decree 635/2005; Limits for textiles with skin contact: fastness to rubbing, dry: grade 3-4; fastness to rubbing, wet: grade 2-3; fastness to rubbing, sweat: grade 3; fastness to perspiration: grade 3

**Quality - Odour**

Test Method: SNV 195 651; Inhouse method: Storage of article (time and temperature according to intended use) and subsequent odour evaluation by 6 test persons.

**Residual chemicals**

Test Method: CEN ISO/TS 16189 (mod); GC-MSD Screening after extraction; solvent extraction GC-MS; EN ISO 13365 (o-Phenylphenol); DIN 54231 (mod.) (Quinoline)

EU: Regulation 1907/2006; Limits: N-Methyl-2-pyrrolidone, Dimethylacetamide, Dimethylformamide: 3000 mg/kg each; Quinoline: 50 mg/kg; Benzene: 5 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Benzene	71-43-2	N,N-Dimethylformamide	68-12-2	Quinoline	91-22-5
N,N-Dimethylacetamide	127-19-5	N-Methyl-2-pyrrolidone (NMP)	872-50-4		

**Fastness to saliva and perspiration**

Test Method: DIN 53160; grade 5 = no staining / no colour change, grade 1 = very strong staining / very strong colour change (grey scale acc. to EN 20105-A02/03; ISO 105-A02/03)

CZ: Act No 84/2001; Limit is valid for toys and baby products: resistant against saliva and perspiration

DE: Recommendation of BfR XLVII (Federal Institute for Risk Assessment) for toys: Limit: Grade 5

SK: Decree 635/2005; Limit for baby textiles with skin contact: resistant against saliva and perspiration

Hardware

2021-05-0008

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**Packaging, additional requirements**

Test Method: EN 62321 / EPA 3050B / EN ISO 17294-2 / EN ISO 17075 (Heavy metals); CEN ISO/TS 16186 (mod.) (Dimethylfumarate); X-ray fluorescence analysis (RFA) (Cobalt dichloride)

EU (Cobaltdichloride): Directive 2001/95/EC

EU (Dimethylfumarate): Regulation (EC) 1907/2006; Limit 0,1 mg/kg

EU (Heavy metals): Directive 94/62/EC; Limit: sum lead, cadmium, mercury, chromium VI: 100 mg/kg

Parameter	CAS No	Parameter	CAS No	Parameter	CAS No
Cadmium	7440-43-9	Cobalt dichloride	7646-79-9	Lead	7439-92-1
Chromium VI		Dimethylfumarate	624-49-7	Mercury	7439-97-6

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 The substances or groups of substances are specifically named in laws, ordinances, or other regulations and are subject to corresponding limit values.  
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