
# RESTRICTED SUBSTANCES LIST HEMA

("RSL") 4.0

NOVEMBER 2022

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## INTRODUCTION RSL VERSION 4.0

The production of textiles and apparel from raw materials to finished products is a long process. It starts with fibres via spinning, weaving or knitting, bleaching, dyeing, printing, washing, cutting and sewing to a garment. The processes are not only mechanical but they can be considered as chemical intensive and complex.

HEMA has committed itself to developing responsible chemical management procedures for all products, including accessories attached to garments, prints and packaging materials. HEMA expects the same commitment from its suppliers and has therefore developed a Restricted Substances List (HEMA RSL 4.0) to inform all suppliers on all chemicals that are banned or restricted in HEMA's production processes and finished products. The purpose of a Restricted Substances List (RSL) is to reduce the use of hazardous substances in the textile and apparel supply chain.

**With this update HEMA has added the GOTS requirements for GOTS certified products.**

Suppliers that participate in the Global Organic Textile Standard (GOTS) certification program (www.global-standard.org), with completion of GOTS certification, use only GOTS accepted chemical inputs such as dyestuffs, prints and auxiliary agents and therefore meet the requirements of the GOTS (M) RSL. **Please be aware that the requirements as specified in the GOTS standard 6.0 always prevail over the requirements mentioned in this RSL.** P**roducts that are not GOTS certified shall be subject to the HEMA requirements.**

Our RSL includes:

1. All legal textile related requirements inside the EU
2. Upcoming European legislation
3. Attention points from Eco label organisations or mentioned by NG's such as Greenpeace
4. GOTS requirements (only for GOTS certified products)

A valid OEKO-TEX® Standard 100 product certificate issued by the OEKO-TEX® Association (www.oeko-tex.com) covers most of the requirements of this RSL. The Sustainable Textile Production (STeP) is an OEKO-TEX® certification that has a wider scope which includes an analysis of a production facility's management and performance with respect to certain environmental considerations. Certification based on the Oeko-Tex® Standard 100 or STeP can be sometimes more cost effective than carrying out single tests.

Please be prepared that your contact person could request a signature for each order to declare that the specific order complies with our RSL requirements. Also it can be possible that one of your styles will be selected for pre-delivery testing at a certified laboratory.

As matter of general principle, HEMA reserves the right to select styles to be (counter) tested upon arrival in our warehouse. If this post-test is a "FAIL", all the cost incurred in this testing procedure shall be borne by the supplier, including all additional cost for non-marketable styles.

As a result of a dynamic process this RSL will be updated on a regular basis in order to assist in the development of responsible entrepreneurship and they can be used as a basis for the development of Quality Management Systems.

Should you have any questions, please do not hesitate to contact Cornelie Terlouw at the HEMA Quality Department (Textiles):

Cornelie.Terlouw@hema.nl

**Risk matrix version 4.0**

●●● indicates that a chemical has been in widespread use and/or frequently detected in a particular material.

●● indicates that a chemical has been deliberately used and/or detected in a particular material occasionally.

No dot indicates that we believe there is an almost negligible risk of a chemical being used and/or detected.

| CHEMICAL | NATURAL FIBERS | SYNTHETIC FIBERS | BLENDED FIBERS | ARTIFICIAL LEATHER | NATURAL LEATHER | NATURAL MATERIALS | METAL | FEATHER & DOWN | POLYMERS | | | | | | | | COATING AND PRINTS | GLUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | EVA | PU Foams | All other PU & TPU | Rubber excludes latex and sillicon rubbers | Polycarbonate | ABS | PVC | All Other foams, plastics & Polymer | | |
| ACIDIC AND ALKALINE SUBSTANCES (Ph) | ●●● | ●●● | ●●● | ●●● | ●●● | | | | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | | |
| ALKYLPHENOLS (AP) | | | | | | | | | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | | |
| ALKYPHENOL ETHOXYLATES (APEO) | ●●● | ●●● | ●●● | ●●● | ●●● | ●●● | | ●●● | | | | | | | | | ●●● | ●●● |
| AZO AMINES AND ARYLAMINE SALTS | ●●● | ●●● | ●●● | ●●●/A | ●●● | ●●●/A | | ●●●/A | | | | | | | | | ●●● | |
| CHLORINATED PARAFFINS | | | | ●● | ●●● | | | | ●● | ●● | ●●● | ●●● | ●● | ●● | ●●● | ●● | | |
| CHLORINATED BENZENES AND TOLUENES | | ●● | ●● | ●● | | | | | | | | | | | | | | |
| CHLOROPHENOLS | ●● | ●● | ●● | | ●● | | | | | | | | | | | | | |
| DIMETHYLFUMURATE (DMFu) | | | | | ●● | | | | | | | | | | | | | |
| DISPERSE DYES CLASSIFIED TO BE ALLERGENIC | | ●●● | ●●● | ●●● | | | | | | | | | | | | | ●● | |
| DYES CLASSIFIED TO BE CARCINOGENIC | | ●●● | ●●● | ●●● | | | | | | | | | | | | | ●● | |
| DYES NAVY BLUE | | ●● | ●● | | | | | | | | | | | | | | | |
| FLAME RETARDANTS | ●●/B | | | | | | | | | | | | | | | | | |
| FORMALDEHYDE | ●●● | ●●● | ●●● | ●● | ●●● | ●●●/C | | | | | | ●● | | | | | ●●● | ●●● |
| HEAVY METALS CHROMIUM VI | ●●/D | ●●/E | | | ●●● | | | | | | | | | | | | | |
| HEAVY METALS EXTRACTABLE | ●●● | ●●● | ●●● | ●● | ●●● | | ●●/F | | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | |

**A** Level 1 for dyed/colored materials.

**B** Level 2 if Flame Retardants are applied.

**C** Level 1 for Wood, Paper, and Straw materials.

**D** Level 2 for Wool materials.

**E** Level 2 if extractrable Chrome above 1 ppm.

**F** Copper is exempt from restriction limits in Metal parts.

**G** Level 2 for plant-based fibers; N/A for animal-based fibers.

**H** Level 1 if a Fluorinated finish is applied.

**I** Level 1 if Rubber or black Polymeric materials.

**J** Level 1 for PU-based materials.

**Risk matrix version 4.0**

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| CHEMICAL | NATURAL FIBERS | SYNTHETIC FIBERS | BLENDED FIBERS | ARTIFICIAL LEATHER | NATURAL LEATHER | NATURAL MATERIALS | METAL | FEATHER & DOWN | POLYMERS | | | | | | | | COATING AND PRINTS | GLUE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | EVA | PU Foams | All other PU & TPU | Rubber excludes latex and sillicon rubbers | Polycarbonate | ABS | PVC | All Other foams, plastics & Polymer | | |
| HEAVY METALS RELEASABLE NICKLE | | | | | | | ●●● | | | | | | | | | | | |
| HEAVY METALS TOTAL CONTENT | ●●/G | | ●●/G | ●●● | ●● | | ●●● | | ●●● | ●●● | ●●● | ●●● | ●●● | ●●● | ●●● | ●●● | ●●● | ●● |
| ORGANOTIN COMPOUNDS | | ●● | ●● | ●●● | ●● | | | | | ●●● | ●●● | ●●● | | | ●●● | ●●● | ●●● | ●●● |
| PERFLUORINATED CHEMICALS | ●●●/H | | | | | | | | | | | | | | | | | |
| PESTICIDES | | | | | | | | | | | | | | | | | | |
| PHTHALATES | | | | ●●● | | | | | ●●● | ●●● | ●●● | ●●● | ●● | ●● | ●●● | ●●● | ●●● | ●●● |
| POLYCYCLIC AROMATIC HYDROCARBONS | | | | ●● | | | | | ●●●/I | ●●●/I | ●●●/I | ●●● | | | ●●●/I | ●●●/I | ●●●/I | ●●●/I |
| QUINOLINE | | ●● | ●● | | | | | | | | | | | | | | | |
| SOLVENTS/RESIDUALS DMFa | | | | ●●● | | | | | | ●●● | ●●● | | | | | | ●●●/J | ●●●/J |
| SOLVENTS/RESIDUALS DMAC AND NMP | | | | ●●● | | | | | | ●● | ●● | | | | | ●● | ●● | ●● |
| SOLVENTS/RESIDUALS FORMAMIDE | | | | | | | | | ●● | | | | | | | | ●● | |
| UV STABILISERS | | | | | | | | | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | | |
| VOLATILE ORGANIC COMPOUNDS (VOCs) | | | | ●● | | | | | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●● | ●●● |

| | | | |
|---|---|---|---|
| **A** Level 1 for dyed/colored materials | **D** Level 2 for Wool materials | **G** Level 2 for plant-based fibers; N/A for animal-based fibers. | **J** Level 1 for PU-based materials. |
| **B** Level 2 if Flame Retardants are applied | **E** Level 2 if extractrable Chrome above 1 ppm | **H** Level 1 if a Fluorinated finish is applied. | |
| **C** Level 1 for Wood, Paper, and Straw materials | **F** Copper is exempt from restriction limits in Metal parts. | **I** Level 1 if Rubber or black Polymeric materials. | |

| Restricted Substances List version 4.0 | | | | | | |
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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **ADSORBABLE HALOGENIC COMPOUNDS (AOX)** | | | | | | |
| AOX | Several | GOTS | Extraction with boiling water, adsorption on charcoal; AOX analyser based on ISO 9562<br><br>Alternatively: HJ/T 83-2001 | | < 5 mg/kg | Adsorbable Organic Halides (AOX) is a measure of the organic halogen load at a sampling site such as soil from a land fill, water, or sewage waste.<br><br>The procedure measures chlorine, bromine, and iodine as equivalent halogens, but does not measure fluorine levels in the sample. AOX is permanent, if the halogen is permanently bound to the molecule (e.g. in the chromophore of a dyestuff or pig- ment) and cannot get hydrolysed or released during fibre processing. |
| **ALKYLPHENOLS (AP) AND ALKYLPHENOL ETHOXYLATES (APEO)** | | | | | | |
| Nonylphenols (NP), mixed isomers | Various | EU: REACH Regulation 1907/2006 Annex XVII entry No. 46 | Textiles and Leather: EN ISO 21084:2019<br><br>Polymers and all other materials:<br><br>1 g sample/20 mL THF, sonication for 60 minutes at 70 degrees C, analysis according to EN ISO 21084:2019 | Total APs: < 10 mg/kg<br><br>Total APs + APEOs: < 100 mg/kg | Usage ban<br><br>Sum of NP, OP, BP, HpP, PeP: < 10 mg/kg | APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings.<br><br>APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers. Biodegradation of APEOs into APs is the main source of APs in the environment.<br><br>APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes. We acknowledge that residual or trace concentrations of APEOs may still be ound at levels exceeding 100 mg/kg and that more time is necessary for the supply chain to phase them out completely.<br><br>Recycled products: Contact the HEMA contact person mentioned in the introduction for information about potential exemptions from the limit on NPEOs in recycled textile products. |
| Octylphenols (OP), mixed isomers | Various | | | | | |
| Nonylphenol ethoxylates (NPEOs) | Various | EU: REACH Regulation 1907/2006 Annex XVII entry No. 46 + 46a | All materials except leather: EN ISO 18254- 1:2016, determination of APEO using LC/MS or LC/MS/MS<br><br>Leather: Sample prep and analysis using EN ISO 18218-1:2015 with quantification according to EN ISO 18254-1:2016 | | Usage ban<br><br>Sum of NP, OP, BP, HpP, PeP, NPEO, OPEO: < 20 mg/kg | |
| Octylphenol ethoxylates (OPEOs) | Various | | | | | |

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| **AZO AMINES AND ARYLAMINE SALTS** | | | | | | |
| Benzidine | 92-87-5 | EU: REACH Regulation 1907/2006 Annex XVII entry No. 43 + appendix 8 | All materials except leather: EN 14362-1:2017<br><br>Leather: EN ISO 17234-1:2015<br><br>4-Aminoazobenzene (4AAB): All materials except leather: EN 14362-3: 2017<br><br>Leather: EN ISO 17234-2:2011 | < 20 mg/kg | Arylamines with carcinogenic properties (amine releasing azo dyes mak III, category 1,2,3)<br><br>< 20 mg/kg | Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds.<br><br>Thousands of azo dyes exist, but only those which degrade to form the listed cleaved amines are restricted.<br><br>Azo dyes that release these amines are regulated and should no longer be used for dyeing textiles. |
| 4-Chloro-o-toluidine | 95-69-2 | | | | | |
| 2-Naphtylamine | 91-59-8 | | | | | |
| 2-Amino-4-nitrotoluene | 99-55-8 | | | | | |
| p-Chloraniline | 106-47-8 | | | | | |
| 2,4-Diaminoanisole | 615-05-4 | | | | | |
| 3,3'-Dichlorobenzidine | 91-94-1 | | | | | |
| 3,3'-Dimethoxybenzidine | 119-90-4 | | | | | |
| 3,3'-Dimethylbenzidine | 119-93-7 | | | | | |
| 4,4'-Thiodianiline | 139-65-1 | | | | | |
| 2,4,5-Trimethylaniline | 137-17-7 | | | | | |
| 4,4'-Diaminodiphenylmethane (4,4'-MDA) | 101-77-9 | EU: REACH Regulation 1907/2006 Annex XVII entry No. 43 + appendix 8<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | | | | |
| 4-Aminobiphenyl | 92-67-1 | | | | | |
| o-Aminoazotoluene | 97-56-3 | | | | | |
| 3,3'-dimethyl-4,4'-diaminodiphenylmethane | 838-88-0 | | | | | |
| p-Cresidine | 120-71-8 | | | | | |
| 4,4'-Methylen-bis(2-chloraniline) | 101-14-4 | | | | | |
| 4,4'-Oxydianiline | 101-80-4 | | | | | |
| o-Toluidine | 95-53-4 | | | | | |
| 2,4-Toluylendiamine (2,4-TDA) | 95-80-7 | | | | | |
| 2-Methoxyaniline (= o-Anisidine) | 90-04-0 | | | | | |
| 4-Aminoazobenzene (4-AAB) | 60-09-3 | | | | | |
| 2,4-Xylidine | 95-68-1 | Oekotex 100 | | | | |
| 2,6-Xylidine | 87-62-7 | | | | | |
| 4-Chloro-o-toluidinium chloride | 3165-93-3 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12 | | | | |
| 2-Naphthylammoniumacetate | 553-00-4 | | | | | |
| 4-Methoxy-m-phenylene diammonium sulphate | 39156-41-7 | | | | | |
| 2,4,5-Trimethylaniline hydrochloride | 21436-97-5 | | | | | |
| Para-phenylenediamine (PPD) | 106-50-3 | | | < 250 mg/kg | | |
| Aniline, free (MAK III category 4) | 62-53-3 | GOTS | Textiles: EN ISO 14362-1:2017 (HPLC/GCMS) without reductive cleavage | | < 100 mg/kg | |

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| **BIOCIDES** | | | | | | |
| Dimethylfumarate (DMFu) | 624-49-7 | EU: REACH Regulation 1907/2006 Annex XVII entry No.61 | All materials: ISO 16186:2021 | < 0.1 mg/kg | < 0.1 mg/kg | DMFu is an anti-mold agent that may be used in sachets in packaging to prevent the buildup of mold, especially during shipping. |
| o-Phenylphenol (OPP) | 90-43-7 | Oekotex 100 | All materials: DIN 50009:2021 | < 3 years < 10 mg/kg<br>> 3 years < 25 mg/kg<br>Leather: < 750 mg/kg | < 1 mg/kg | OPP is used for its preservative properties in leather or as a carrier in polyester dyeing processes. |
| **CHLORINATED PARAFFINS** | | | | | | |
| Short-chain chlorinated paraffins (SCCP) (C10-C13) | 85535-84-8 | EU:Regulation 2019/1021 on Persistant Organic Pollutants<br>EU: REACH Regulation 1907/2006 SVHC Candidate List | Leather: ISO 18219-1:2021 (SCCP) ISO 18219-2:2021 (MCCP)<br>Textiles: ISO 22818:2021 (SCCP + MCCP) | < 1000 mg/kg | Sum parameter:<br>< 50 mg/kg | May be used as softeners, flame retardants, or fat-liquoring agents in leather production; also as a plasticizer in polymer production. |
| Medium chain chlorinated paraffins (MCCP) (C14-C17) | 85535-85-9<br>198840-65-2<br>1372804-76-6 | EU: REACH Regulation 1907/2006 SVHC Candidate List | | < 1000 mg/kg | | |

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| **CHLORINATED BENZENES AND TOLUENES** | | | | | | |
| Hexachlorobenzene (HCB) | 118-74-1 | EU:Regulation 2019/1021 on Persistant Organic Pollutants | All materials: EN 17137:2018 | < 1 mg / kg (total) | < 1 mg/kg | Chlorobenzenes and Chlorotoluenes (Chlorinated Aromatic Hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/ polyester fibers.<br><br>They can also be used as solvents.<br><br>Cross-contamination from anti-moth agents and poly shipping bags may cause failures. |
| Pentachlorobenzenes (PCB) | 608-93-5 | | | | | |
| α,α,α,4-tetrachlorotoluene; p-chlorobenzotrichloride | 5216-25-1 | EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12 | | | | |
| α,α,α-trichlorotoluene; benzotrichloride | 98-07-7 | | | | | |
| α-chlorotoluene; benzyl chloride | 100-44-7 | | | | | |
| 1,2,3-Trichlorobenzene<br>1,2,4-Trichlorobenzene<br>1,3,5-Trichlorobenzene | 87-61-6<br>120-82-1<br>108-70-3 | SWITZERLAND: ORRChem annex 1.2 (Art.3) | | | | |
| 1,2,3,4-Tetrachlorobenzene<br>1,2,3,5-Tetrachlorobenzene<br>1,2,4,5-Tetrachlorobenzene | 634-66-2<br>634-90-2<br>95-94-3 | Oekotex 100 | | | | |
| 1,3-Dichlorobenzene<br>1-4-Dichlorobenzene | 541-73-1<br>106-46-7 | | | | | |
| 2-Chlorotoluene<br>3-Chlorotoluene<br>4-Chlorotoluene | 95-49-8<br>108-41-8<br>106-43-4 | | | | | |
| 2,3-Dichlorotoluene<br>2,4-Dichlorotoluene<br>2,5-Dichlorotoluene<br>2,6-Dichlorotoluene<br>3,4-Dichlorotoluene | 32768-54-0<br>95-73-8<br>19398-61-9<br>118-69-4<br>95-75-0 | | | | | |
| 2,3,6-Trichlorotoluene<br>2,4,5-Trichlorotoluene | 2077-46-5<br>6639-30-1 | | | | | |
| 2,3,4,5-Tetrachlorotoluene<br>2,3,4,6-Tetrachlorotoluene<br>2,3,5,6- Tetrachlorotoluene | 76057-12-0<br>875-40-1<br>1006-31-1 | | | | | |
| Pentachlorotoluenes | 877-11-2 | | | | | |
| 1,2-Dichlorobenzene | 95-50-1 | | | < 10 mg/kg | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **CHLOROPHENOLS** | | | | | | |
| Pentachlorophenol (PCP) | 87-86-5 | EU:Regulation 2019/1021 on Persistant Organic Pollutants | All materials: DIN 50009:2021 | < 0.5 mg/kg each | < 0.01 mg/kg | Chlorophenols are polychlorinated compounds used as preservatives or pesticides.<br><br>Pentachlorophenol (PCP), Tetrachlorophenol (TeCP), and Trichlorophenols (TriCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing/transporting fabrics.<br><br>PCP, TeCP, and TriCP can also be used as in-can preservatives in print pastes and other chemical mixtures. |
| Tetrachlorophenol (TeCP) | Multiple<br>4901-51-3<br>58-90-2<br>935-95-5 | Switzerland: Chemical Risk Reduction (ChemRRV) (SR 814.81) | | | < 0.01 mg/kg | |
| 2,4,6-Trichlorophenol (TriCP) | 88-06-2 | Oekotex 100 | | | < 0.2 mg/kg | |
| 2,4,5-Trichlorophenol (TriCP) | 95-95-4 | | | | | |
| 2,3,4-Trichlorophenol (TriCP) | 15950-66-0 | | | | | |
| 3,4,5-Trichlorophenol (TriCP) | 609-19-8 | | | | | |
| 2,3,5-Trichlorophenol (TriCP) | 933-78-8 | | | | | |
| 2,3,6-Trichlorophenol (TriCP) | 933-75-5 | | | | | |
| Dichlorophenol (DCP) | Various | | | | < 0.5 mg/kg | |
| Chlorophenol (MCP) | Various | | | | < 0.5 mg/kg | |

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| **DISPERSE DYES WHICH ARE CLASSIFIED TO BE ALLERGENIC** | | | | | | |
| C.I. Disperse Blue 1* | 2475-45-8 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12 | DIN 54231:2005 | < 30 mg/kg<br><br>* should also be included in carcinogenic dye test. | Prohibited are colourants classified carcinogenic (H350/H351)<br><br>< 30 mg/kg | Disperse dyes are a class of water-insoluble dyes that penetrate synthetic fibers and are held in place by physical forces without forming chemical bonds.<br><br>Within the apparel and footwear supply chains, disperse dyes are often found in the dyeing process for synthetic textiles, including polyester, acetate, and polyamide.<br><br>Restricted disperse dyes are suspected of causing allergic reactions and are prohibited from use for dyeing of textiles. |
| C.I. Disperse Blue 3 | 2475-46-9 | Oekotex 100 | | | | |
| C.I. Disperse Blue 7 | 3179-90-6 | | | | | |
| C.I. Disperse Blue 26 | 3860-63-7 | | | | | |
| C.I. Disperse Blue 35 | 12222-75-2<br>56524-77-7<br>56524-76-6 | | | | | |
| 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 11* | 82-28-0 | | | | | |
| C.I. Disperse Orange 37/59/76 | 51811-42-8<br>12223-33-5<br>13301-61-6 | | | | | |
| C.I. Disperse Orange 149* | 85136-74-9 | | | | | |
| 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 Red 151 | 61968-47-6 | | | | | |
| C.I. Disperse Yellow 1 | 119-15-3 | | | | | |
| C.I. Disperse Yellow 3* | 2832-40-8 | | | | | |
| C.I. Disperse Yellow 7 | 6300-37-4 | | | | | |
| C.I. Disperse Yellow 9 | 6373-73-5 | | | | | |
| C.I. Disperse Yellow 23* | 6250-23-3 | | | | | |
| C.I. Disperse Yellow 39 | 12236-29-2 | | | | | |
| C.I. Disperse Yellow 49 | 54824-37-2 | | | | | |
| C.I. Disperse Yellow 56 | 54077-16-6 | | | | | |
| C.I. Disperse Violet 1 | 128-95-0 | GOTS | | | | |
| C.I. Disperse Violet 93 | 66557-45-7 | | | | | |
| C.I. Disperse Yellow 54 | 12223-85-7 | | | | | |
| C.I. Disperse Red 23 | | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **DYES WHICH ARE CLASSIFIED TO BE CARCINOGENIC** | | | | | | |
| C.I. Basic Red 9 | 569-61-9 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12 | DIN 54231: 2005 | < 30 mg/kg | Prohibited are colourants classified carcinogenic (H350/H351)<br><br>< 30 mg/kg | Basic dyes are water- soluble cationic dyes mainly used on acrylic fibers. |
| C.I. Basic Violet 3 (with ≥ 0.1 % Michler's ketone or base)* | 548-62-9 | | | | | |
| C.I. Basic Violet 14 | 632-99-5 | The dyes marked* are included in EU: REACH Regulation 1907/2006 SVHC Candidate List<br><br>Oeko-tex 100 Standard | | | | |
| C.I. Basic Blue 26 (with ≥ 0.1 % Michler's ketone or base)* | 2580-56-5 | | | | | |
| C.I. Basic Green 4 (oxalate, chloride or free) | 2437-29-8<br>569-64-2<br>10309-95-2<br>18015-76-4 | | | | | |
| C.I. Acid Red 26 | 3761-53-3 | | | | | Acid dyes are water-soluble anionic dyes mainly used on fibers such as wool, silk, and nylon. |
| C.I. Acid Red 114 | 6459-94-5 | | | | | |
| C.I. Direct Black 38* | 1937-37-7 | | | | | Direct dyes are used on natural fibers such as cotton, linen, cellulose and in special treatments such as dip dyes. |
| C.I. Direct Blue 6 | 2602-46-2 | | | | | |
| C.I. Direct Blue 15 | 2429-74-5 | | | | | |
| C.I. Direct Brown 95 | 16071-86-6 | | | | | |
| C.I. Direct Red 28* | 573-58-0 | | | | | |
| C.I. Solvent Yellow 1 (4-Aminoazobenzene / Aniline Yellow)* | 60-09-3 | | | | | Solvent dyes are dyes which are soluble in organic solvents, and can be used on natural and synthetic fibers. |
| C.I. Solvent Yellow 3 (o-Aminoazotoluene / o-Aminoazotoluol)* | 97-56-3 | | | | | |
| C.I. Solvent Blue 4* | 6786-83-0 | | | | | |
| 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol* | 561-41-1 | | | | | |
| C.I. Pigment Red 104* | 12656-85-8 | | | | | Pigment dyes are widely used in a variety of fiber and material types. |
| C.I. Pigment Yellow 34* | 1344-37-2 | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **DYESTUFFS CARCINOGENIC AND WITH ENVIRONMENTAL PROBLEMS** | | | | | | |
| Navy Blue is a mixture of: disodium (6-(4-anisidino)-3- sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1- naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5- dinitro-2-oxidophenylazo)-1-naphtholato)- chromate(1-) | Component 1: 118685-33-9 Component 2: Not allocated | EU: REACH Regulation 1907/2006 Annnex XVII entry no.43 + appendix 9 | DIN 54231: 2005 | Not used | Prohibited are colourants classified carcinogenic (H350/H351)<br><br>< 30 mg/kg | Navy Blue Dye is a specific dye mixture used to dye leather and textiles. |
| **FLAME RETARDANTS** | | | | | | |
| Tri(2,3-dibromopropyl)phosphate (TRIS) | 126-72-7 | EU: REACH Regulation 1907/2006 Annex XVII entry No. 4 | ISO 17881-1 (2016) for brominated flame retardants<br><br>ISO 17881-2 (2016) for phosphorus flame retardants | < 10 mg/kg; each<br><br>Sum of all < 50 mg/kg | Prohibited are:<br><br>- Chlorinated flame retardants<br><br>- Brominated flame retardants<br><br>- Phosphate based flame retardants<br><br>- Flame retardants containing Antimony or Antimony Trioxide<br><br>- Disodium Octaborate | With very limited exceptions, flame retardant substances, including the entire class of organohalogen flame retardants, should no longer be applied to materials during production.<br><br>Listed here are examples of flame-retardant substances used historically across the apparel and footwear industry. It is not intended to be a complete list. Other flame retardants not applicable to this industry are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation. |
| Tris(aziridinyl)phosphinoxide (TEPA) | 545-55-1 | EU: REACH Regulation 1907/2006 Annex XVII entry No. 7 | | | | |
| Polybrominated biphenyls (PBBs) | 59536-65-1 | EU: REACH Regulation 1907/2006 Annex XVII entry No.8 | | | | |
| Monobromobiphenyls (MonoBB) | Various | | | | | |
| Dibromobiphenyls (DiBB) | Various | | | | | |
| Tribromobiphenyls (TriBB) | Various | | | | | |
| Tetrabromobiphenyls (TetraBB) | Various | | | | | |
| Pentabromobiphenyls (PentaBB) | Various | | | | | |
| Hexabromobiphenyls (HexaBB) | Various | | | | | |
| Heptabromobiphenyls (HeptaBB) | Various | | | | | |
| Octabromobiphenyls (OctaBB) | Various | | | | | |
| Nonabromobiphenyls (NonaBB) | Various | | | | | |
| Decabromobiphenyl (DecaBB) | 13654-09-06 | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **FLAME RETARDANTS CONTINUED** | | | | | | |
| Octabromodiphenylethers (OctaBDEs) | Various<br>32536-52-0 | EU: REACH Regulation 1907/2006 Annex XVII entry No.45 | ISO 17881-1 (2016) for brominated flame retardants<br><br>ISO 17881-2 (2016) for phosphorus flame retardants | < 10 mg/kg; each<br><br>Sum of all < 50 mg/kg | Prohibited are:<br><br>- Chlorinated flame retardants<br><br>- Brominated flame retardants<br><br>- Phosphate based flame retardants<br><br>- Flame retardants containing Antimony or Antimony Trioxide<br><br>- Disodium Octaborate | With very limited exceptions, flame retardant substances, including the entire class of organohalogen flame retardants, should no longer be applied to materials during production.<br><br>Listed here are examples of flame-retardant substances used historically across the apparel and footwear industry. It is not intended to be a complete list. Other flame retardants not applicable to this industry are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation. |
| Decabromodiphenylether (DecaBDE) | 1163-19-5 | EU:Regulation 2019/1021 on Persistant Organic Pollutants<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | | | | |
| Hexabromocyclododecane and all main diastereomeres identified (alpha-, beta-, gamma-) (HBCDD) | various<br>3194-55-6<br>134237-50-6<br>134237-51-7<br>134237-52-8<br>25637-99-4 | | | | | |
| Heptabromodiphenylethers (HeptaBDEs) | Various<br>68928-80-3 | EU:Regulation 2019/1021 on Persistant Organic Pollutants | | | | |
| Tetrabromodiphenylethers (TetraBDEs) | Various<br>40088-97-1 | | | | | |
| Pentabromodiphenylethers (PentaBDEs) | Various<br>32534-81-9 | | | | | |
| Hexabromodiphenylethers (HexaBDEs) | Various<br>36483-60-0 | | | | | |
| Polybrominated diphenyl ethers (PBDEs) | Various | | | | | |
| Monobromodiphenylethers (MonoBDEs) | Various | | | | | |
| Dibromodiphenylethers (DiBDEs) | Various | | | | | |
| Tribromodiphenylethers (TriBDEs) | Various | | | | | |
| Nonabromodiphenylethers (NonaBDEs) | Various<br>63936-56-1 | | | | | |
| Tetrabromobisphenol A (TBBPA) | 79-94-7 | Oekotex 100 | | | | |
| Bis(2,3-dibromopropyl)phosphate (BIS) | 5412-25-9 | | | | | |
| 2,2-Bis(bromomethyl)-1,3-propanediol (BBMP) | 3296-90-0 | | | | | |
| Tris(1,3-dichloro-iso-propyl)phosphate (TDCPP) | 13674-87-8 | | | | | |
| Zinc borate salts | 1332-07-6<br>12767-90-7 | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **FLAME RETARDANTS CONTINUED** | | | | | | |
| Diboron trioxide | 1303-86-2 | EU: REACH Regulation 1907/2006 SVHC Candidate List | ISO 17881-1 (2016) for brominated flame retardants<br><br>ISO 17881-2 (2016) for phosphorus flame retardants | < 10 mg/kg; each<br><br>Sum of all < 50 mg/kg | Prohibited are:<br><br>- Chlorinated flame retardants<br><br>- Brominated flame retardants<br><br>- Phosphate based flame retardants<br><br>- Flame retardants containing Antimony or Antimony Trioxide<br><br>- Disodium Octaborate | With very limited exceptions, flame retardant substances, including the entire class of organohalogen flame retardants, should no longer be applied to materials during production.<br><br>Listed here are examples of flame-retardant substances used historically across the apparel and footwear industry. It is not intended to be a complete list. Other flame retardants not applicable to this industry are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation. |
| Tris(2-chloroethyl)phosphate (TCEP) | 115-96-8 | | | | | |
| Disodium tetraborate, anhydrous | 1303-96-4<br>1330-43-4<br>12179-04-3 | | | | | |
| Disodium octaborate | 12008-41-2 | | | | | |
| Tetraboron disodium heptaoxide, hydrate | 12267-73-1 | | | | | |
| Trixylylphosphate / Trixylylphosphat (TXP) | 25155-23-1 | | | | | |
| Boric Acid | 10043-35-3<br>11113-50-1 | | Acid digestion followed by ICP analysis | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **FORMALDEHYDE** | | | | | | |
| Formaldehyde | 50-00-0 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12 | All materials except Leather:<br>JIS L 1041-2011 A (Japan Law 112) or EN ISO 14184-1:2011<br><br>Leather:<br>EN ISO 17226-2:2019 with EN ISO 17226-1:2021 confirmation method in case of interferences.<br><br>Alternatively, EN ISO 17226-1:2021 can be used on its own. | < 3 years: n.d. (< 16 mg/kg)<br><br>> 3 years: < 75 mg/kg | < 16 mg/kg | Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins. |
| **GLYOXAL** | | | | | | |
| Glyoxal and other short- chain aldehydes (mono- & dialdehydes up to C6) | 107-22-2 | | Extraction (acc. to ISO 14184-1), ISO 17226-1 (HPLC) | | < 20 mg/kg | Coated paper and textile finishes use large amounts of glyoxal as a crosslinker for starch-based formulations. Used for wrinkle-resistant chemical treatments. |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **HEAVY METALS EXTRACTABLE** | | | | | | |
| Chromium VI (Cr VI) | 18540-29-9 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12 | EN 16711-2:2016<br><br>EN ISO 17075-1:2017 if Cr is detected | < 0.5 mg/kg | < 0.5 mg/kg | Though typically associated with leather tanning, Chromium VI also may be used in the “after-chroming” process for wool dyeing (Chrome salts applied to acid-dyed wool to improve fastness). |
| Arsenic (As) | 7440-38-2 et.al. | | All materials except Leather:<br><br>DIN EN 16711-2:2016<br><br>Leather: DIN EN ISO 17072-1:2019<br><br>* No requirement for accessories made from glass<br><br>**No requirement for accessories and yarns made from inorganic materials, respecting the requirements regarding biological active products | < 3 years: < 0.2 mg/kg<br><br>> 3 years: 1.0 mg/kg | < 0.2 mg/kg | Arsenic and its compounds can be used in preservatives, pesticides, and defoliants for cotton, synthetic fibers, paints, inks, trims, and plastics. |
| Cadmium (Cd) | 7440-43-9 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | | < 0.1 mg/kg | < 0.1 mg/kg | Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides, and paints. |
| Lead (Pb) | 7439-92-1 et.al | | | < 3 years: < 0.2 mg/kg<br><br>> 3 years: < 1.0 mg/kg* | < 0.2 mg/kg | Lead may be associated with plastics, paints, inks, pigments and surface coatings. |
| Antimony (Sb) | 7440-36-0 et.al. | Oekotex 100 | | < 30 mg/kg | < 0.2 mg/kg | Antimony can be found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments, and alloys. |
| Cobalt (Co) | 7440-48-4 et.al. | | | < 3 years: < 1.0 mg/kg<br><br>> 3 years: < 4.0 mg/kg | < 1.0 mg/kg | Cobalt and its compounds can be used in alloys, pigments, dyestuff, and the production of plastic buttons. |
| Copper (Cu) | 7440-50-8 et.al. | | | < 3 years: < 25 mg/kg**<br><br>> 3 years: < 50 mg/kg** | < 25.0 mg/kg | Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent. |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **HEAVY METALS EXTRACTABLE CONTINUED** | | | | | | |
| Barium (Ba) | 7440-39-3 et.al. | Oekotex 100 | All materials except Leather:<br><br>DIN EN 16711-2:2016<br><br>Leather: DIN EN ISO 17072-1:2019<br><br>***For metallic accessories and metallized surfaces: < 0.5 mg/kg<br><br>****For metallic accessories and metallized surfaces: < 1.0 mg/kg | < 1000 mg/kg | < 1000 mg/kg | Barium and its compounds can be used in pigments for inks, plastics, and surface coatings, as well as in dyeing, mordants, filler in plastics, textile finishes, and leather tanning. |
| Chromium (Cr) | 7440-47-3 et.al. | | | < 3 years: < 1.0 mg/kg<br><br>> 3 years: < 2.0 mg/kg | < 1.0 mg/kg | Chromium compounds can be used as dyeing additives; dye-fixing agents; color-fastness after-treatmnts; dyes for wool, silk, and polyamide (especially dark shades); and leather tanning. |
| Nickel (Ni) | 7440-02-0 et.al. | | | < 3 years: < 1.0 mg/kg***<br><br>> 3 years: < 4.0 mg/kg**** | < 1.0 mg/kg | Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys. |
| Mercury (Hg) | 7439-97-6 et.al. | | | < 0.02 mg/kg | < 0.02 mg/kg | Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints. |
| Selenium (Se) | 7782-49-2 et.al. | | | < 100 mg/kg | < 0.2 mg/kg | Selenium may be found in synthetic fibres, paints, inks, plastics and metal trims. |
| Tin (Sn) | 7440-31-5 | GOTS | | | < 2.0 mg/kg | Many heavy metals are bio accumulative when absorbed by the human body through perspiration and give cause for concern in health terms such as chronic toxicity, allergenic reactions and cancer |
| Manganese | 7439-96-5 | | | | < 90 mg/kg | |
| Zinc | 7440-66-6 | | | | < 750 mg/kg | |
| **APPLICABLE FOR LEATHER** | | | | | | |
| Chromium VI (Cr VI) | 18540-29-9 | EU: REACH Regulation 1907/2006 ANNEX XVII entry No.47 | EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case the extract causes interference.<br><br>Alternatively, EN ISO 17075-2:2017 may be used on its own.<br><br>Ageing test: ISO 10195:2018 Method A2 | Not detected Detection Limit: 3 mg/kg | Legal requirement | Many heavy metals are bio accumulative when absorbed by the human body through perspiration and give cause for concern in health terms such as chronic toxicity, allergenic reactions and cancer. |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **HEAVY METALS RELEASABLE NICKEL** | | | | | | |
| Nickel | 7440-02-0 | EU:REACH Regulation 1907/2006 ANNEX XVII entry No.27 | Nickel release EN 1811: 2011 + A1: 2015<br><br>and<br><br>Abrasion of coated items EN 12472: 2020 | In metal products or parts of products intented to be used for body piercings must not release more than ≤ 0.2 µg nickel per cm² per week | < 0.28 µg/cm2/week | Nickel and its compounds can be used for plating alloys and improving corrosion- resistance and hardness of alloys.<br><br>Nickel can cause extreme allergies and is released through skin contact.<br><br>* Prolonged contact with the skin is defined as contact with the skin of potentially more than<br>▯ 10 minutes on three or more occasions within two weeks, or<br>▯ 30 minutes on one or more occasions within two weeks.<br>The skin contact time of 10 minutes applies when there are three or more occasions of skin contacts within a two-week time period. The skin contact time of 30 minutes applies when there is at least one occasion within a two-week time period. |
| | | | | Consumer goods such as jewellery, snap fasteners, press buttons, zip fasteners, etc., which can come into contact with the human skin for a longer period must not release more than 0.5 µg nickel per cm² per week. | | |
| | | | For spectacle frames and sunglasses:<br><br>Release EN 16128: 2016 | In spectacle frames and sunglasses intended to come into close and prolonged contact with the skin must not release more than ≤ 0.5 µg nickel per cm² per week | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **HEAVY METALS TOTAL CONTENT** | | | | | | |
| Cadmium and its compounds | 7440-43-9 | EU: REACH Regulation 1907/2006 ANNEX XVII entry No.23<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | All materials except Leather: DIN EN 16711-1:2016<br><br>Leather: DIN EN ISO 17072-2:2019 | < 40 mg/kg | < 45 mg/kg | Heavy metals, including arsenic, cadmium, lead, and mercury may be found in pigments and dyes, metal alloys and coating, and in the PVC stabilization process.<br><br>Cadmium may be found in low quality dyes. Arsenic, cadmium, lead, and mercury may be found in pigments, but have largely been phased out. Metal alloys and coatings may contain arsenic, cadmium, and lead.<br><br>PVC stabilization may be accomplished with the use of cadmium or lead. |
| Lead and its compounds | 7439-92-1 | EU: REACH Regulation 1907/2006 ANNEX XVII entry No.63<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | | < 90 mg/kg | < 50 mg/kg | |
| Mercury (Hg) | 7439-97-6 | Oekotex 100 | | < 0.5 mg/kg | | |
| Arsenic (As) | 7440-38-2 | | | < 100 mg/kg | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **ORGANOTIN COMPOUNDS** | | | | | | |
| Tributyltin (TBT) | Various | EU: Regulation 1907/2006 REACH ANNEX XVII entry No.20 | EN ISO/TS 16179: 2012 followed by GC-MS | < 3 years: < 0.5 mg/kg<br><br>> 3 years: < 1 mg/kg | < 0.05 mg/kg<br>Additional materials and accessories TBT & TPhT: < 1.0 mg/kg<br>Additional materials and accessories DBT & DOT: < 2.0 mg/kg | Class of chemicals combining tin and organics such as butyl and phenyl groups.<br><br>Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilizers in plastics/rubber.<br><br>In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material. |
| Triphenyltin (TPhT) | Various | | | | | |
| Dibutyltin (DBT) | Various | | | | | |
| Dioctyltin (DOT) | Various | | | | | |
| Monobutyltin (MBT) | Various | Oekotex 100 | | | < 0.1 mg/kg<br>Additional materials and accessories: < 2.0 mg/kg | |
| Monooctyltin (MOT) | Various | | | < 3 years: < 1 mg/kg<br><br>> 3 years: < 2 mg/kg | < 0.1 mg/kg<br>Additional materials and accessories: < 2.0 mg/kg | |
| Monomethyltin (MMT) | Various | | | | | |
| Monophenyltin (MPhT) | Various | | | | | |
| Diphenyltin (DPhT) | Various | | | | | |
| Dimethyltin (DMT) | Various | | | | | |
| Dipropyltin (DPT) | Various | | | | | |
| Tricyclohexyltin (TCyHT) | Various | | | | | |
| Trioctyltin (TOT) | Various | | | | | |
| Tripropyltin (TPT) | Various | | | | | |
| Trimethyltin (TMT) | Various | | | | | |
| Tetraethyltin (TeET) | Various | | | | | |
| Tetrabutyltin (TebT) | Various | | | | | |
| Tetraoctyltin (TeOT) | Various | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **OTHER CHEMICAL RESIDUES** | | | | | | |
| Quinoline | 91-22-5 | EU: REACH Regulation 1907/2006 Annex XVII entry No.72 + appendix 12 | DIN 54231:2005 with methanol extraction at 70 degrees C. | < 50 mg/kg | Legal requirement | Quinolines are used in the manufacture of dyes. |
| Bisphenol-A (BPA) | 80-05-7 | EU REACH Regulation 1907/2006 SVHC Candidate List | All materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, analysis with LC/MS | < 1 mg/kg | Prohibited | Used in the production of epoxy resins, polycarbonate plastics, flame retardants, PVC, polyamide dye-fixing agents, and sulfone- and phenol based leather tanning agents.<br><br>BPA is formally restricted in items intended to come in contact with the mouth. |
| Diazene-1,2-dicarboxamide (ADCA) | 123-77-3 | GOTS | Solvent extraction followed by LC-MS/MS | | < 0.1% (< 1000 mg/kg) | Diazene-1,2-dicarboxamide can be used specifically for the production of foams, thermoplastics and epoxy resins as blowing agent. |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFAS)** | | | | | | |
| Perfluoroctane Sulfonates (PFOS) and related substances | Various | EU:Regulation 2019/1021 on Persistant Organic Pollutants | All materials EN 23702-1 | < 1µg / m² total | Individually: absent<br><br>PFOA, PFOS:<br>< 1 µg/m²<br><br>FTOH:<br>< 0.01 mg/kg | PFAS may be present as unintended by-products in long-chain and short-chain commercial water-, oil-, and stain-repellent agents.<br><br>PFAS may also be used in polymers like Polytetrafluoroethylene (PTFE).<br><br>In addition to this list, all PFAS-related substances are prohibited from use and are regulated worldwide by the Stockholm Convention and the Aarhus Protocol, which have been implemented in the European Union under the POPs Regulation. |
| Perfluoroctane Acid (PFOA) and it salts | Various | | | < 25 ppb total | | |
| PFOA-related substances | Various | | | < 1000 ppb total | | |
| Perfluorocarboxylic Acids and PFCA-related substances (PFCA C9-C14) | Various | EU: REACH Regulation 1907/2006 Annex XVII entry No.68*<br><br>*** going into force February 25,2023** | | C9-C14 PFCAs and their salts Σ < 25 ppb C9-C14 PFCA-related substances Σ < 260 ppb | | |
| Perfluorohexane- 1-sulphonic acid (PFHxS), its salts and related substances | Various | SWITZERLAND: ORRChem annex 1.16 (Art.3) | | PFHxS < 25 ppb related substances < 1000 ppb | | |
| Perfluorohexanoic acid (PFHxA) and related substances | Various | **EU REACH regulation going into force 2025-2026** | | PFHxA < 25 ppb related substances < 1000 ppb | | |
| The Netherlands together with Germany, Denmark, Norway and Sweden agreed early 2020 to prepare a joint REACH restriction proposal to limit the risk to the environment and human health from the manufacture and use of a wide range of PFAS chemicals. The rectriction is expected to enter into force in 2025. The widely used PFHxA (C6) chemistry that has replaced the C8 chemistry will be restricted in REACH legislation from 2023 onwards. Suppliers providing products to HEMA with water or stain repellent functions must inform HEMA on the chemistry used to realize this claim. | | | | | | |

| Restricted Substances List version 4.0 | | | | | | |
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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **PESTICIDES** | | | | | | |
| See Appendix A for the complete list<br><br>For GOTS restricted Pesticides see GOTS implementation manual 6.0 (page 26-28) | Various | EU:Regulation 2019/1021 on Persistant Organic Pollutants<br><br>SWITZERLAND: ORRChem annex 1.1 (Art.3) | All materials: ISO 15913/DIN 38407 F2 or EPA 8081/EPA 8151A or BVL L 00.00-34:2010-09 | Not detected (detection limit 0.5 mg/kg each) | Pesticides, sum parameters:<br><br>All natural fibres (except shorn wool) < 0.1 mg/kg<br><br>Shorn wool: < 0.5 mg/kg | May be found in natural fibers, primarily cotton. |
| **PHTHALATES** | | | | | | |
| Bis(2-ethylhexyl) phthalate (DEHP) | 117-81-7 | EU:REACH Regulation 1907/2006 Annex XVII entry No. 51<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | Textiles: GC/MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed).<br><br>All materials except textiles: GC/MS | < 3 years: < 500 mg/kg each<br><br>The sum of all Phthalates; < 500 mg/kg<br><br>> 3 years: < 1000 mg/kg each<br><br>The sum of all Phthalates; < 1000 mg/kg | Sum parameter: < 100 mg/kg | Phthalates encompass many esters of phthalic acid. Phthalates are incorporated into plastics to improve durability, flexibility, and transparency. Phthalates are typically mixed into polymers as an external plasticizer with no chemical bonding. As a result, phthalates may migrate out of the material resulting in exposure to people or the environment. Phthalates are a class of chemicals that may be blended as an additive into plastics to manipulate the performance of the material.<br><br>They are used to soften plastics to make them more flexible or more durable.<br><br>Phthalates are also sometimes used to decrease the melting temperature of plastics to aid the molding process.<br>Phthalates are used in hundreds of products, such as adhesives, detergents, lubricating oils, footwear, plastic clothes (raincoats).<br><br>Phthalates are used widely in polyvinyl chloride plastics, which are used to make products such as plastic packaging film and sheets. They can be used in screen print, heat transfer inks, and plastisol inks. |
| Butylbenzyl phthalate (BBP) | 85-68-7 | | | | | |
| Dibutyl phthalate (DBP) | 84-74-2 | | | | | |
| Di-isobutyl phthalate (DIBP) | 84-69-5 | | | | | |
| Di-“isononyl” phthalate (DINP) | 28553-12-0<br>68515-48-0 | EU: REACH Regulation 1907/2006 Annex XVII entry No.52 a,b,c | | | | |
| Di-“isodecyl phthalate (DIDP) | 26761-40-0<br>68515-49-1 | | | | | |
| Di-n-octyl phthalate (DNOP) | 117-84-0 | | | | | |
| 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) | 71888-89-6 | EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | | | | |
| Di-isopentylphthalate (DIPP) | 605-50-5 | | | | | |
| Dipentyl phthalate (DPP) | 131-18-0 | | | | | |

| Restricted Substances List version 4.0 | | | | | | |
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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **PHTHALATES CONTINUED** | | | | | | |
| Bis(2-methoxyethyl) phthalate (DMEP) | 117-82-8 | EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12<br><br>EU: REACH Regulation 1907/2006 SVHC Candidate List | Textiles: GC/MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed).<br><br>All materials except textiles: GC/MS | < 3 years: < 500 mg/kg each<br><br>The sum of all Phthalates; < 500 mg/kg<br><br>> 3 years: < 1000 mg/kg each<br><br>The sum of all Phthalates; < 1000 mg/kg | Sum parameter: < 100 mg/kg | Phthalates encompass many esters of phthalic acid. Phthalates are incorporated into plastics to improve durability, flexibility, and transparency. Phthalates are typically mixed into polymers as an external plasticizer with no chemical bonding. As a result, phthalates may migrate out of the material resulting in exposure to people or the environment. Phthalates are a class of chemicals that may be blended as an additive into plastics to manipulate the performance of the material.<br><br>They are used to soften plastics to make them more flexible or more durable.<br><br>Phthalates are also sometimes used to decrease the melting temperature of plastics to aid the molding process. Phthalates are used in hundreds of products, such as adhesives, detergents, lubricating oils, footwear, plastic clothes (raincoats).<br><br>Phthalates are used widely in polyvinyl chloride plastics, which are used to make products such as plastic packaging film and sheets. They can be used in screen print, heat transfer inks, and plastisol inks. |
| Di-n-hexyl phthalate (DnHP) | 84-75-3 | | | | | |
| 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear | 84777-06-0 | EU: Regulation 1907/2006 Candidate List. | | | | |
| Diisohexyl phthalate | 71850-09-4 | | | | | |
| 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) | 68515-42-4 | | | | | |
| N-pentyl-isopentyl phthalate (NPIPP) | 776297- 69-9 | | | | | |
| Di-cyclohexylphthalate (DCHP) | 84-61-7 | | | | | |
| 1,2- Benzenedicarboxylic acid. Dihexyl ester. Branched and linear (DHxP) | 68515-50-4 | | | | | |
| 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5) | 68515-51-5<br>68648-93-1 | | | | | |
| Di-n-propylphthalate (DPrP) | 131-16-8 | Oekotex 100 | | | | |
| Diethyl phthalate (DEP) | 84-66-2 | | | | | |
| Dimethyl phthalate (DMP) | 131-11-3 | | | | | |
| Di-iso-octyl phthalate (DIOP) | 27554-26-3 | | | | | |
| Di-n-nonyl phthalate (DNP) | 84-76-4 | | | | | |

| Restricted Substances List version 4.0 | | | | | | |
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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)** | | | | | | |
| Benzo(a)pyrene [BaP]* | 50-32-8 | EUROPE: Regulation 1907/2006 REACH ANNEX XVII No.50<br><br>*EU: REACH Regulation 1907/2006 SVHC Candidate List | AfPS GS 2019:01 PAK | < 0.5 mg/kg each for toys and childcare articles<br><br>< 3 years: < 0.5 mg/kg each<br><br>> 3 years: < 1 mg/kg each | < 0.5 mg/kg each<br><br>Sum of all 24 PAHs < 5 mg/kg | Polycyclic Aromatic Hydrocarbons (PAHs) are naturally occurring substances composed of multiple carbon and hydrogen aromatic rings.<br><br>They are found in fossil fuels and are often formed during incomplete combustion of organic materials. PAHs have a characteristic smell similar to that of car tires or asphalt.<br><br>PAHs are typically present in final products as impurities and are not intentionally added.<br>Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings.<br><br>PAHs are often found in the outsoles of footwear and in printing pastes for screen prints.<br>PAHs can be present as impurities in carbon black dyestuffs.<br><br>They also may be formed from thermal decomposition of recycled materials during reprocessing.<br><br>Naphthalene is often present as an impurity from low-quality raw materials used as intermediates in the production of textile dye dispersing agents and may be found in textiles. |
| Benzo(b)fluoranthene | 205-99-2 | | | | | |
| Benzo(k)fluoranthene* | 207-08-9 | | | | | |
| Dibenzo(ah)anthracene | 53-70-3 | | | | | |
| Benzo(e)pyrene | 192-97-2 | | | | | |
| Benzo(j)fluoranthene | 205-82-3 | | | | | |
| Anthracene | 120-12-7 | EU: REACH Regulation 1907/2006 SVHC Candidate List | | < 3 years: Limit Value 24 PAHs: ∑ 5 mg/kg<br><br>> 3 years: Limit Value 24 PAHs: ∑ 10 mg/kg | < 1 mg/kg each<br><br>Sum of all 24 PAHs < 5 mg/kg | |
| Benzo(ghi)perylene | 191-24-2 | | | | | |
| Fluoranthene | 206-44-0 | | | | | |
| Phenanthrene | 85-01-8 | | | | | |
| Naphthalene | 91-20-3 | Oekotex 100 | | | | |
| Acenaphtene | 83-32-9 | | | | | |
| Acenaphthylene | 208-96-8 | | | | | |
| Fluorene | 86-73-7 | | | | | |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | | | | |
| Pyrene | 129-00-0 | | | | | |
| Cyclopenta[c,d]pyrene | 27208-37-3 | | | | | |
| Dibenzo[a,e]pyrene | 192-65-4 | | | | | |
| Dibenzo[a,h]pyrene | 189-64-0 | | | | | |
| Dibenzo[a,i]pyrene | 189-55-9 | | | | | |
| Dibenzo[a,l]pyrene | 191-30-0 | | | | | |
| 1-Methylpyrene | 2381-21-7 | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **PVC** | | | | | | |
| Polyvinylchloride | 9002-86-2 | | Beilstein test/Infrared Spectroscopy (FTIR) | n.d. | Prohibited | The use of PVC is voluntarily restricted because it is claimed that dioxins are produced as a byproduct of vinyl chloride manufacture and from burning of waste PVC |
| **RESTRICTION ON PACKAGING** | | | | | | |
| Cadmium (Cd) | Various | EU Directive 94/62/EC | CEN/TR 13695-1 Acid digestion with ICP analysis | The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium present in packaging or packaging components shall not exceed 100 mg/kg | Legal requirement | Packaging means transportation packaging as well as product packaging, i.e., any material used for the containment, protection, handling, delivery, and presentation of finished goods (article). |
| Lead (Pb) | | | | | | |
| Chromium (Cr6+)— hexavalent | | | | | | |
| Mercury (Hg) | | | | | | |
| **SILOXANES** | | | | | | |
| Octamethylcyclotetrasiloxane (D4) | 556-67-2 | EU: Regulation 1907/2006 Candidate List | Solvent extraction, GC-MS analysis | < 0.1 (w-%) (< 1000 mg/kg) | < 1000 mg/kg | From today's point of view the siloxanes can be relevant for silicones, silicone finishing, silicone coatings, silicone prints, softener relevant samples, samples with soft gripe, water, soil or oil repellent finish, etc. |
| Decamethylcyclopentasiloxane (D5) | 541-02-6 | | | | | |
| Dodecamethylcyclohexasiloxane (D6) | 87-68-3 | | | | | |
| **UV STABILISERS** | | | | | | |
| 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) | 3846-71-7 | EU: Regulation 1907/2006 Candidate List | DIN EN 62321-6:2016-05 (Extraction in THF, analysis by GC/MS) | < 0.1 (w-%) (< 1000 mg/kg) | Legal requirement | UV Stabilisers might be used as UV-protection agents in coatings, plastics, rubber and polyurethanes.<br><br>These stabilisers are very persistent and very bioaccumulative. |
| 2,4-di-tert-butyl-6-(5- chlorobenzotriazol-2-yl)phenol (UV- 327) | 3864-99-1 | | | | | |
| 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) | 25973-55-1 | | | | | |
| 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)- 6-(sec-butyl)phenol (UV-350) | 36437-37-3 | | | | | |

| Restricted Substances List version 4.0 | | | | | | |
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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **VOLATILE ORGANIC COMPOUNDS AND SOLVENTS** | | | | | | |
| Benzene | 71-43-2 | EU: REACH Regulation 1907/2006 Annex XVII entry 72 + appendix 12<br><br>*EU: Regulation 1907/2006 Candidate List | Headspace-GC-MS (120°C/45 min) | < 5 mg/kg | Legal requirement | VOCs should not be used in textile auxiliary chemical preparations.<br><br>They are associated with solvent- based processes such as solvent- based polyurethane coatings and glues/adhesives.<br><br>They should not be used for any kind of facility cleaning or spot cleaning. |
| DMFa (N,N Dimethylformamide)* | 68-12-2 | | Textiles: EN 17131:2019<br><br>All other materials: DIN CEN ISO/TS 16189:2013 | < 500 mg/kg | Additional materials and accessories: 0.05% by weight (< 500 mg/kg) | DMFa is a solvent used in plastics, rubber, and polyurethane (PU) coating. Water-based PU does not contain DMFa and is therefore preferable. |
| 1-Methyl-2pyrrolidone (NMP)* | 872-50-4 | | | < 1000 mg/kg | | Industrial solvent used in production of water-based Polyurethanes and other polymeric materials. May also be used as a surface treatment for textiles, resins, and metal-coated plastics, or as a paint stripper. |
| DMAC (N,N-dimethylacetamide)* | 127-19-5 | | | | | DMAC is a solvent used in the production of elastane fibres and sometimes as substitute for DMFa. |
| Formamide | 75-12-7 | EU: Regulation 1907/2006 Candidate List | | < 1000 mg/kg | Additional materials and accessories: 0.02% by weight (< 200 mg/kg) | Byproduct in the production of EVA foams. |
| Trichloroethylene | 79-01-6 | | Headspace-GC-MS (120°C/45 min) | | Aromatic and Halogenated solvents are prohibited | Volatile Organic Compounds (VOCs) are chemicals that easily enter the air as gases or vapors from solid materials or liquids.<br>VOCs are ingredients in a wide variety of commercial, industrial, and residential products. |
| 1,2-Dichloroethane | 107-06-2 | | | | | |

| Restricted Substances List version 4.0 | | | | | | |
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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **VOLATILE ORGANIC COMPOUNDS AND SOLVENTS CONTINUED** | | | | | | |
| Carbon Disulfide | 75-15-0 | | Headspace-GC-MS (120°C/45 min) | < 1000 mg/kg | Aromatic and Halogenated solvents are prohibited | Some VOCs are used in adhesives, fabric and leather coatings, screen print inks, and synthetic leather.<br><br>VOCs may be found as impurities in polystyrene-based resins used in the production of plastic trims.<br><br>In addition, VOCs may be used in processes such as dry cleaning, as well as finishing and degreasing or cleaning operations. |
| Carbon Tetrachloride | 56-23-5 | | | | | |
| Chloroform | 67-66-3 | | | | | |
| Cyclohexanone | 108-94-1 | | | | | |
| 1,1-Dichloroethylene | 75-35-4 | | | | | |
| Ethyl benzene | 100-41-4 | | | | | |
| Pentachloroethane | 76-01-7 | | | | | |
| 1,1,1,2- Tetrachloroethane | 630-20-6 | | | | | |
| 1,1,2,2- Tetrachloroethane | 79-34-5 | | | | | |
| Tetrachloroethylene (PERC) | 127-18-4 | | | | | |
| Toluene | 108-88-3 | | | | | |
| 1,1,1- Trichloroethane | 71-55-6 | | | | | |
| 1,1,2- Trichloroethane | 79-00-5 | | | | | |
| Xylenes (meta-, ortho-, para-) | 1330-20-7<br>108-38-3<br>95-47-6<br>106-42-3 | | | | | |

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| **CHEMICAL SUBSTANCE** | **CAS NUMBER** | **REGULATION** | **TEST METHOD** | **HEMA RESTRICTED LIMIT** | **GOTS REQUIREMENT VERSION 6.0** | **RELEVANCE OF RESTRICTION** |
| **OTHER ATTENTION POINTS** | | | | | | |
| pH value<br>(Acidic and Alkaline substances) | | | Textiles: ISO 3071:2006<br><br>Leather: ISO 4045:2018 | Textiles: 4.0–7.5<br><br>Leather: 3.5–7.0 | No skin contact:<br>4.5- 9.0<br><br>All others:<br>4.5 – 7.5 | pH is a measure of the acidity or basicity of a solution.<br><br>A solution with pH is 7 is neutral. pH values that do not fall within the specified limits can cause skin irritation |
| Odour | | | SNV 195651:1968 | No abnormal odour allowed. If odour rating > 3, VOC test to be performed | | |

| Appendix version 4.0 | | | | | |
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| **APPENDIX A. PESTICIDES AND HERBICIDES, AGRICULTURAL** | | | | | |
| **SUBSTANCE** | **CAS NUMBER** | **SUBSTANCE** | **CAS NUMBER** | **SUBSTANCE** | **CAS NUMBER** |
| 1,1,1-Trichlor-2,2-bis-(4-chlorophenyl)ethane (DDT) | 50-29-3<br>789-02-6 | Chlorfenvinphos | 470-90-6 | (2-Methyl-4-Chlorophenoxy)butyric acid MCPB | 94-81-5 |
| Aldrin | 309-00-2 | Clothianidin | 210880-92-5 | Mecoprop | 93-65-2 |
| Chlordane | 57-74-9 | Coumaphos | 56-72-4 | Metamidophos | 10265-92-6 |
| Dieldrin | 60-57-1 | Cyfluthrin | 68359-37-5 | Methoxychlor | 72-43-5 |
| Endosulfan | 115-29-7<br>959-98-8<br>33213-65-9 | Cyhalothrin | 91465-08-6 | Monocrotophos | 6923-22-4 |
| Endrine | 72-20-8 | Cypermethrin | 52315-07-8 | Nitenpyram | 150824-47-8<br>120738-89-8 |
| Heptachlor | 76-44-8 | 1,2,4-Tributylphosphorotrithioate DEF | 78-48-8 | Parathion | 56-38-2 |
| Hexachlorbenzene | 118-74-1 | Deltamethrin | 52918-63-5 | Parathion-methyl | 298-00-0 |
| Pentachlorobenzene | 608-93-5 | Mitotan, 1,1-Dichlor- 2-(2-chlorphenyl)- 2-(4-chlorphenyl)ethane DDD | 53-19-0<br>72-54-8 | Perthane | 72-56-0 |
| Hexabromobiphenyl | 36355-01-8 | 1-Chlor-4-[2,2-dichlor-1-(4-chlorphenyl)ethenyl]benzene DDE | 3424-82-6<br>72-55-9 | Phosdrin/Mevinphos | 7786-34-7 |
| Hexachlorocyclohexanes, including lindane | 58-89-9<br>319-84-6<br>319-85-7<br>608-73-1 | 1,1,1-Trichlor-2,2-bis-(4-chlorophenyl)ethane DDT | 789-02-6<br>50-29-3 | Phosphamidone | 13171-21-6 |
| Chlordecone | 143-50-0 | Diazinon | 333-41-5 | Propethamphos | 31218-83-4 |
| Polychlorinated Biphenyls (PCB) | 1336-36-3<br>and others | Dichlorprop | 120-36-5 | Profenophos | 41198-08-7 |
| Polychlorinated naphthalenes | 70776-03-3 | Dicofol | 115-32-2 | Strobane | 8001-50-1 |
| Mirex | 2385-85-5 | Dicrotophos | 141-66-2 | Quinalphos | 13593-03-8 |
| Toxaphene (Camphechlor) | 8001-35-2 | Dimethoat | 60-51-5 | Quintozen | 82-68-8 |
| 2,4,5-T | 93-76-5 | Dinoseb and salts | 88-85-7<br>et.al | Telodrine | 297-78-9 |
| 2,4,5-TP-salts and - derivate | 93-72-1 | Dinotefuran | 165252-70-0 | Thiacloprid | 111988-49-9 |

| Appendix version 4.0 | | | | | |
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| **APPENDIX A. PESTICIDES AND HERBICIDES, AGRICULTURAL (CONTINUED)** | | | | | |
| **SUBSTANCE** | **CAS NUMBER** | **SUBSTANCE** | **CAS NUMBER** | **SUBSTANCE** | **CAS NUMBER** |
| 2,4-D | 94-75-7 | Esfenvalerat | 66230-04-4 | Thiamethoxam | 153719-23-4 |
| Acetamiprid | 135410-20-7<br>160430-64-8 | Fenvalerat | 51630-58-1 | Trifluralin | 1582-09-8 |
| Aldicarb | 116-06-3 | Heptachloroepoxid | 1024-57-3<br>28044-83-9 | | |
| Azinophosethyl | 2642-71-9 | Hexachlorbenzene | 118-74-1 | | |
| Azinophosmethyl | 86-50-0 | Imidacloprid | 105827-78-9<br>138261-41-3 | | |
| Bromophos-ethyl | 4824-78-6 | Isodrin | 465-73-6 | | |
| Captafol | 2425-06-1 | Kelevan | 4234-79-1 | | |
| Carbaryl | 63-25-2 | Lindan | 58-89-9<br>608-73-1 | | |
| Chlorbenzilate | 510-15-6 | Malathion | 121-75-5 | | |
| Chlordimeform | 6164-98-3 | 2-Methyl-4-chlorophenoxyacetic acid MCPA | 94-74-6 | | |

**REACH ANNEX: ECHA'S CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN** **LAST UPDATE 10-06-2022**

**NUMBER OF SUBSTANCES ON THE CANDIDATE LIST: 224**

The European Chemicals Agency (ECHA) "CANDIDATE LIST OF SUBSTANCES OF VERY HIGH CONCERN FOR AUTHORISATION" can be accessed via the following link:
https://echa.europa.eu/candidate-list-table

The identification of a substance as a Substance of Very High Concern (SVHC) and its inclusion in the Candidate List is the first step of the authorisation procedure.

Companies may have immediate legal obligations following such inclusion which are linked to the listed substance on its own, in preparations and articles.

Specific obligations exist for importers, producers, and suppliers (regardless of geographical location) of any article that contains one or more of these substances above 0.1 percent by weight per component (>1000 mg/kg)[1] These obligations include:

- Notify ECHA if the substance(s) are present in article components above 0.1 percent in quantities totalling over one ton per producer or importer per year[2] and register the products in the SCIP database.
- Notify HEMA immediately and provide sufficient information to allow safe use of the article to HEMA and other clients.
- Provide sufficient information, upon request, to allow safe use of the article to a consumer within 45 days of receipt of the request.

The candidate list is updated twice per year by ECHA. The candidate list provided within this RSL reflects the situation at the time of creation of the RSL. Suppliers, importers and producers should always follow the latest version which can be found via the link above.

*[1] European Court of Justice judgement of 10-09-2015 case C-106/14 referring to every constituent part of the article*

*[2] Notification is not required if the substance has already been registered for that use or when the producer or importer of an article can exclude exposure of humans and the environment during the use and disposal of the article. In such cases, the producer or importer must supply appropriate instructions to the recipient of the article.*

| **REACH Candidate List version 4.0** | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 1 | N-(hydroxymethyl)acrylamide | 924-42-5 | 2022/06/10 | Carcinogenic (Article 57a)<br>Mutagenic (Article 57b) |
| 2 | Tris(2-methoxyethoxy)vinylsilane | 1067-53-4 | 2022/01/17 | Toxic for reproduction (Article 57c) |
| 3 | S-(tricyclo(5.2.1.0'2,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate | 255881-94-8 | 2022/01/17 | PBT (Article 57d) |
| 4 | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol | 119-47-1 | 2022/01/17 | Toxic for reproduction (Article 57c) |
| 5 | (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC) | - | 2022/01/17 | 49-50 |

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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 6 | Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP) | 210555-94-5<br>27459-10-5<br>27147-75-7<br>121158-58-5<br>74499-35-7<br>57427-55-1 | 2021/07/08 | Toxic for reproduction (Article 57c)<br>Endocrine disrupting properties (Article 57(f) - environment)<br>Endocrine disrupting properties (Article 57(f) - human health) |
| 7 | Orthoboric acid, sodium salt | 25747-83-5<br>22454-04-2<br>14312-40-4<br>1333-73-9<br>13840-56-7<br>14890-53-0 | 2021/07/08 | Toxic for reproduction (Article 57c) |
| 8 | Medium-chain chlorinated paraffins (MCCP)<br>(UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17) | 1372804-76-6<br>85535-85-9<br>-<br>198840-65-2 | 2021/07/08 | 51-52 |
| 9 | Glutaral | 111-30-8 | 2021/07/08 | Respiratory sensitising properties (Article 57(f) - human health) |
| 10 | 4,4'-(1-methylpropylidene)bisphenol | 77-40-7 | 2021/07/08 | Endocrine disrupting properties (Article 57(f) - environment)<br>Endocrine disrupting properties (Article 57(f) - human health) |
| 11 | 2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers | 75166-31-3<br>80-54-6<br>75166-30-2 | 2021/07/08 | Toxic for reproduction (Article 57c) |
| 12 | 2,2-bis(bromomethyl)propane1,3-diol (BMP);<br>2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA);<br><br>2,3-dibromo-1-propanol (2,3-DBPA) | 3296-90-0,<br>36483-57-5,<br><br>1522-92-5,<br>96-13-9 | 2021/07/08 | Carcinogenic (Article 57a) |
| 13 | 1,4-dioxane | 123-91-1 | 2021/07/08 | Carcinogenic (Article 57a)<br>Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health)<br>Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment) |


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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 14 | Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety<br><br>dioctyltin dilaurate; stannane, dioctyl-, bis(coco acyloxy) derivs.<br>Dioctyltin dilaurate<br>Stannane, dioctyl-, bis(coco acyloxy) derivs. | 3648-18-8<br>91648-39-4 | 2021/01/19 | Toxic for reproduction (Article 57c) |
| 15 | Bis(2-(2-methoxyethoxy)ethyl)ether | 143-24-8 | 2021/01/19 | Toxic for reproduction (Article 57c) |
| 16 | Dibutylbis(pentane-2,4-dionato-O,O')tin | 22673-19-4 | 2020/06/25 | Toxic for reproduction (Article 57c) |
| 17 | butyl 4-hydroxybenzoate | 94-26-8 | 2020/06/25 | Endocrine disrupting properties (Article 57(f) - human health) |
| 18 | 2-methylimidazole | 693-98-1 | 2020/06/25 | Toxic for reproduction (Article 57c) |
| 19 | 1-vinylimidazole | 1072-63-5 | 2020/06/25 | Toxic for reproduction (Article 57c) |
| 20 | Perfluorobutane sulfonic acid (PFBS) and its salts | - | 2020/01/16 | Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health)<br>Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment) |
| 21 | Diisohexyl phthalate | 71850-09-4 | 2020/01/16 | Toxic for reproduction (Article 57c) |
| 22 | 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one | 71868-10-5 | 2020/01/16 | Toxic for reproduction (Article 57c) |
| 23 | 2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone | 119313-12-1 | 2020/01/16 | Toxic for reproduction (Article 57c) |
| 24 | 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides | - | 2019/07/16 | Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health)<br>Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment) |
| 25 | 2-methoxyethyl acetate | 110-49-6 | 2019/07/16 | Toxic for reproduction (Article 57c) |
| 26 | 4-tert-butylphenol | 98-54-4 | 2019/07/16 | Endocrine disrupting properties (Article 57(f) - environment) |
| 27 | Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP) | - | 2019/07/16 | Endocrine disrupting properties (Article 57(f) - environment) |
| 28 | 1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one | 15087-24-8 | 2019/01/15 | Endocrine disrupting properties (Article 57(f) - environment) |
| 29 | 2,2-bis(4'-hydroxyphenyl)-4-methylpentane | 6807-17-6 | 2019/01/15 | Toxic for reproduction (Article 57c) |


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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 30 | Benzo[k]fluoranthene | 207-08-9 | 2019/01/15 | Carcinogenic (Article 57a)<br>PBT (Article 57d)<br>vPvB (Article 57e) |
| 31 | Fluoranthene | 206-44-0<br>93951-69-0 | 2019/01/15 | PBT (Article 57d)<br>vPvB (Article 57e) |
| 32 | Phenanthrene | 85-01-8 | 2019/01/15 | vPvB (Article 57e) |
| 33 | Pyrene | 129-00-0<br>1718-52-1 | 2019/01/15 | PBT (Article 57d)<br>vPvB (Article 57e) |
| 34 | Benzene-1,2,4-tricarboxylic acid 1,2-anhydride | 552-30-7 | 2018/06/27 | Respiratory sensitising properties (Article 57(f) - human health) |
| 35 | Benzo[ghi]perylene | 191-24-2 | 2018/06/27 | PBT (Article 57d)<br>vPvB (Article 57e) |
| 36 | Decamethylcyclopentasiloxane | 541-02-6 | 2018/06/27 | PBT (Article 57d)<br>vPvB (Article 57e) |
| 37 | Dicyclohexyl phthalate (DCHP) | 84-61-7 | 2018/06/27 | Toxic for reproduction (Article 57c)<br>Endocrine disrupting properties (Article 57(f) - human health) |
| 38 | Disodium octaborate | 12008-41-2 | 2018/06/27 | Toxic for reproduction (Article 57c) |
| 39 | Dodecamethylcyclohexasiloxane | 540-97-6 | 2018/06/27 | PBT (Article 57d)<br>vPvB (Article 57e) |
| 40 | Ethylenediamine | 107-15-3 | 2018/06/27 | Respiratory sensitising properties (Article 57(f) - human health) |
| 41 | Lead | 7439-92-1 | 2018/06/27 | Toxic for reproduction (Article 57c) |
| 42 | Octamethylcyclotetrasiloxane | 556-67-2 | 2018/06/27 | PBT (Article 57d)<br>vPvB (Article 57e) |
| 43 | Terphenyl, hydrogenated | 61788-32-7 | 2018/06/27 | vPvB (Article 57e) |
| 44 | Benz[a]anthracene | 56-55-3<br>1718-53-2 | 2018/01/15 | Carcinogenic (Article 57a)<br>PBT (Article 57d)<br>vPvB (Article 57e) |
| 45 | Cadmium carbonate | 513-78-0 | 2018/01/15 | Carcinogenic (Article 57a)<br>Mutagenic (Article 57b)<br>Specific target organ toxicity after repeated exposure (Article 57(f) - human health) |
| 46 | Cadmium hydroxide | 21041-95-2 | 2018/01/15 | Carcinogenic (Article 57a)<br>Mutagenic (Article 57b)<br>Specific target organ toxicity after repeated exposure (Article 57(f) - human health) |

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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 47 | Cadmium nitrate | 10022-68-1<br>10325-94-7 | 2018/01/15 | Carcinogenic (Article 57a)<br>Mutagenic (Article 57b)<br>Specific target organ toxicity after repeated exposure (Article 57(f) - human health) |
| 48 | Chrysene | 218-01-9<br>1719-03-5 | 2018/01/15 | Carcinogenic (Article 57a)<br>PBT (Article 57d)<br>vPvB (Article 57e) |
| 49 | 1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"TM) [covering any of its individual anti- and syn-isomers or any combination there of] | - | 2018/01/15 | vPvB (Article 57e) |
| 50 | Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear] | - | 2018/01/15 | Endocrine disrupting properties (Article 57(f) - environment) |
| 51 | Perfluorohexane-1-sulphonic acid and its salts | - | 2017/07/07 | vPvB (Article 57e) |
| 52 | 4,4'-isopropylidenediphenol Bisphenol A; BPA | 80-05-7 | 2017/01/12 | Toxic for reproduction (Article 57 c) |
| 53 | 4-heptylphenol, branched and linear<br>substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof | - | 2017/01/12 | Equivalent level of concern having probable serious effects to the environment (Article 57 f) |
| 54 | Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts | 3830-45-3<br>3108-42-7<br>335-76-2 | 2017/01/12 | Toxic for reproduction (Article 57 c) PBT (Article 57 d) |
| 55 | p-(1,1-dimethylpropyl)phenol | 80-46-6 | 2017/01/12 | Equivalent level of concern having probable serious effects to the environment (Article 57 f) |
| 56 | Benzo{def}chrysene | 50-32-8 | 2016/20/06 | Carcinogenic (Article 57a): Mutagenic (Article 57b); Toxic for reproduction (Article 57c); PBT (Article 57 d); vPvB (Article 57 e) |
| 57 | 1,3-propanesultone | 1120-71-4 | 2015/12/17 | Carcinogenic (Article 57a); |
| 58 | 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) | 3864-99-1 | 2015/12/17 | vPvB (Article 57e) |
| 59 | 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) | 36437-37-3 | 2015/12/17 | vPvB (Article 57e) |
| 60 | Nitrobenzene | 98-95-3 | 2015/12/17 | Toxic for reproduction (Article 57 c) |


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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 61 | Perfluorononan-1-oic-acid and its sodium and ammonium salts | 375-95-1<br>21049-39-8<br>4149-60-4 | 2015/12/17 | Toxic for reproduction (Article 57 c) PBT (Article 57 d) |
| 62 | 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5) | 68515-51-5<br>68648-93-1 | 2015/06/15 | Toxic for reproduction (Article 57 c) |
| 63 | 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof] | - | 2015/06/15 | vPvB (Article 57e) |
| 64 | Bis (2-ethylhexyl)phthalate (DEHP) | 117-81-7 | 2014/12/17;<br>2008/10/28 | Equivalent level of concern having probable serious effects to the environment (Article 57 f); Toxic for reproduction (article 57c) |
| 65 | 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) | 15571-58-1 | 2014/12/17 | Toxic for reproduction (Article 57 c) |
| 66 | 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) | 3846-71-7 | 2014/12/17 | PBT (Article 57 d); vPvB (Article 57 e) |
| 67 | reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE) | - | 2014/12/17 | Toxic for reproduction (Article 57 c) |
| 68 | Cadmium fluoride | 7790-79-6 | 2014/12/17 | Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 69 | Cadmium sulphate | 10124-36-4<br>31119-53-6 | 2014/12/17 | Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 70 | 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) | 25973-55-1 | 2014/12/17 | PBT (Article 57 d); vPvB (Article 57 e) |
| 71 | Cadmium chloride | 10108-64-2 | 2014/06/16 | Carcinogenic (Article 57a);<br>Mutagenic (Article 57b);<br>Toxic for reproduction (Article 57c);<br>Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 72 | Sodium peroxometaborate | 7632-04-4 | 2014/06/16 | Toxic for reproduction (Article 57 c) |
| 73 | 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear | 68515-50-4 | 2014/06/16 | Toxic for reproduction (Article 57 c) |
| 74 | Sodium perborate; perboric acid, sodium salt | - | 2014/06/16 | Toxic for reproduction (Article 57 c) |


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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 75 | Trixylyl phosphate | 25155-23-1 | 2013/12/16 | Toxic for reproduction (Article 57 c); |
| 76 | Lead di(acetate) | 301-04-2 | 2013/12/16 | Toxic for reproduction (Article 57 c); |
| 77 | Imidazolidine-2-thione; (2-imidazoline-2-thiol) | 96-45-7 | 2013/12/16 | Toxic for reproduction (Article 57 c); |
| 78 | Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) | 573-58-0 | 2013/12/16 | Carcinogenic (Article 57a); |
| 79 | Cadmium sulphide | 1306-23-6 | 2013/12/16 | Carcinogenic (Article 57a); |
| 80 | Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38) | 1937-37-7 | 2013/12/16 | Carcinogenic (Article 57a); |
| 81 | Dihexyl phthalate | 84-75-3 | 2013/12/16 | Toxic for reproduction (Article 57 c); |
| 82 | Ammonium pentadecafluorooctanoate (APFO) | 3825-26-1 | 2013/06/20 | Toxic for reproduction (Article 57 c); |
| 83 | 4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof] | - | 2013/06/20 | Equivalent level of concern having probable serious effects to the environment (Article 57 f) |
| 84 | Pentadecafluorooctanoic acid (PFOA) | 335-67-1 | 2013/06/20 | Toxic for reproduction (Article 57 c); |
| 85 | Dipentyl phthalate (DPP) | 131-18-0 | 2013/06/20 | Toxic for reproduction (Article 57 c); |
| 86 | Cadmium | 7440-43-9 | 2013/06/20 | Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 87 | Cadmium oxide | 1306-19-0 | 2013/06/20 | Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 88 | 4,4'-methylenedi-o-toluidine | 838-88-0 | 2012/12/19 | Carcinogenic (Article 57a) |
| 89 | N-pentyl-isopentylphthalate | 776297-69-9 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 90 | 4-Aminoazobenzene | 60-09-3 | 2012/12/19 | Carcinogenic (Article 57a) |
| 91 | Orange lead (lead tetroxide) | 1314-41-6 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 92 | 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine | 143860-04-2 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 93 | Dimethyl sulphate | 77-78-1 | 2012/12/19 | Carcinogenic (Article 57a) |
| 94 | Heptacosafluorotetradecanoic acid | 376-06-7 | 2012/12/19 | vPvB (Article 57 e) |
| 95 | Lead titanium zirconium oxide | 12626-81-2 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 96 | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues] | - | 2012/12/19 | Equivalent level of concern having probable serious effects to the environment (Article 57 f) |
| 97 | 6-methoxy-m-toluidine (p-cresidine) | 120-71-8 | 2012/12/19 | Carcinogenic (Article 57a) |
| 98 | Dinoseb (6-sec-butyl-2,4-dinitrophenol) | 88-85-7 | 2012/12/19 | Toxic for reproduction (Article 57 c) |


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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 99 | 1,2-Diethoxyethane | 629-14-1 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 100 | Sulfurous acid, lead salt, dibasic | 62229-08-7 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 101 | 1-bromopropane (n-propyl bromide) | 106-94-5 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 102 | Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE) | 1163-19-5 | 2012/12/19 | PBT (Article 57 d); vPvB (Article 57 e) |
| 103 | Biphenyl-4-ylamine | 92-67-1 | 2012/12/19 | Carcinogenic (Article 57a) |
| 104 | Pentalead tetraoxide sulphate | 12065-90-6 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 105 | Silicic acid, lead salt | 11120-22-2 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 106 | o-Toluidine | 95-53-4 | 2012/12/19 | Carcinogenic (Article 57a) |
| 107 | Acetic acid, lead salt, basic | 51404-69-4 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 108 | Dioxobis(stearato)trilead | 12578-12-0 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 109 | Lead bis(tetrafluoroborate) | 13814-96-5 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 110 | Lead dinitrate | 10099-74-8 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 111 | Silicic acid (H2Si2O5), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008] | 68784-75-8 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 112 | Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry] | 85-42-7<br>13149-00-3<br>14166-21-3 | 2012/12/19 | Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 113 | N-methylacetamide | 79-16-3 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 114 | Pyrochlore, antimony lead yellow | 8012-00-8 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 115 | Lead monoxide (lead oxide) | 1317-36-8 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 116 | Tetralead trioxide sulphate | 12202-17-4 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 117 | Trilead bis(carbonate)dihydroxide | 1319-46-6 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 118 | Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) | 123-77-3 | 2012/12/19 | Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 119 | 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear | 84777-06-0 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 120 | N,N-dimethylformamide | 68-12-2 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 121 | Tetraethyllead | 78-00-2 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 122 | Methyloxirane (Propylene oxide) | 75-56-9 | 2012/12/19 | Carcinogenic (Article 57a); Mutagenic (Article 57b) |


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|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 123 | 4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof] | - | 2012/12/19 | Equivalent level of concern having probable serious effects to the environment (Article 57 f) |
| 124 | Fatty acids, C16-18, lead salts | 91031-62-8 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 125 | Trilead dioxide phosphonate | 12141-20-7 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 126 | o-aminoazotoluene | 97-56-3 | 2012/12/19 | Carcinogenic (Article 57a) |
| 127 | [Phthalato(2-)]dioxotrilead | 69011-06-9 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 128 | Tricosafluorododecanoic acid | 307-55-1 | 2012/12/19 | vPvB (Article 57 e) |
| 129 | Lead oxide sulfate | 12036-76-9 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 130 | Methoxyacetic acid | 625-45-6 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 131 | Diisopentylphthalate | 605-50-5 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 132 | Lead cyanamidate | 20837-86-9 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 133 | 4,4'-oxydianiline and its salts | 101-80-4 | 2012/12/19 | Carcinogenic (Article 57a); Mutagenic (Article 57b) |
| 134 | 4-methyl-m-phenylenediamine (toluene-2,4-diamine) | 95-80-7 | 2012/12/19 | Carcinogenic (Article 57a) |
| 135 | Henicosafluoroundecanoic acid | 2058-94-8 | 2012/12/19 | vPvB (Article 57 e) |
| 136 | Furan | 110-00-9 | 2012/12/19 | Carcinogenic (Article 57a) |
| 137 | Pentacosafluorotridecanoic acid | 72629-94-8 | 2012/12/19 | vPvB (Article 57 e) |
| 138 | Diethyl sulphate | 64-67-5 | 2012/12/19 | Carcinogenic (Article 57a); Mutagenic (Article 57b) |
| 139 | Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry] | 25550-51-0<br>19438-60-9<br>48122-14-1<br>57110-29-9 | 2012/12/19 | Equivalent level of concern having probable serious effects to human health (Article 57 f) |
| 140 | Dibutyltin dichloride (DBTC) | 683-18-1 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 141 | Lead titanium trioxide | 12060-00-3 | 2012/12/19 | Toxic for reproduction (Article 57 c) |
| 142 | Formamide | 75-12-7 | 2012/06/18 | Toxic for reproduction (Article 57 c) |
| 143 | [4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 2580-56-5 | 2012/06/18 | Carcinogenic (Article 57a) |
| 144 | Diboron trioxide | 1303-86-2 | 2012/06/18 | Toxic for reproduction (Article 57 c) |
| 145 | 4,4'-bis(dimethylamino)benzophenone (Michler’s ketone) | 90-94-8 | 2012/06/18 | Carcinogenic (Article 57a) |


| REACH Candidate List version 4.0 | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 146 | 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) | 110-71-4 | 2012/06/18 | Toxic for reproduction (Article 57 c) |
| 147 | Lead(II) bis(methanesulfonate) | 17570-76-2 | 2012/06/18 | Toxic for reproduction (Article 57 c) |
| 148 | α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 6786-83-0 | 2012/06/18 | Carcinogenic (Article 57a) |
| 149 | 1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC) | 2451-62-9 | 2012/06/18 | Mutagenic (Article 57b) |
| 150 | 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 548-62-9 | 2012/06/18 | Carcinogenic (Article 57a) |
| 151 | 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 561-41-1 | 2012/06/18 | Carcinogenic (Article 57a) |
| 152 | N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base) | 101-61-1 | 2012/06/18 | Carcinogenic (Article 57a) |
| 153 | 1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC) | 59653-74-6 | 2012/06/18 | Mutagenic (Article 57b) |
| 154 | 1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme) | 112-49-2 | 2012/06/18 | Toxic for reproduction (Article 57 c) |
| 155 | Lead styphnate | 15245-44-0 | 2011/12/19 | Toxic for reproduction (article 57 c) |
| 156 | Calcium arsenate | 7778-44-1 | 2011/12/19 | Carcinogenic (article 57 a) |
| 157 | Bis(2-methoxyethyl) ether | 111-96-6 | 2011/12/19 | Toxic for reproduction (article 57 c) |
| 158 | Phenolphthalein | 77-09-8 | 2011/12/19 | Carcinogenic (article 57 a) |
| 159 | Arsenic acid | 7778-39-4 | 2011/12/19 | Carcinogenic (article 57 a) |
| 160 | 2-Methoxyaniline; o-Anisidine | 90-04-0 | 2011/12/19 | Carcinogenic (article 57 a) |
| 161 | Potassium hydroxyoctaoxodizincatedichromate | 11103-86-9 | 2011/12/19 | Carcinogenic (article 57 a) |
| 162 | Bis(2-methoxyethyl) phthalate | 117-82-8 | 2011/12/19 | Toxic for reproduction (article 57 c) |
| 163 | 4-(1,1,3,3-tetramethylbutyl)phenol | 140-66-9 | 2011/12/19 | Equivalent level of concern having probable serious effects to the environment (article 57 f) |
| 164 | Dichromium tris(chromate) | 24613-89-6 | 2011/12/19 | Carcinogenic (article 57 a) |
| 165 | Pentazinc chromate octahydroxide | 49663-84-5 | 2011/12/19 | Carcinogenic (article 57 a) |
| 166 | Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the | - | 2011/12/19 | Carcinogenic (article 57 a) |
| 167 | Lead dipicrate | 6477-64-1 | 2011/12/19 | Toxic for reproduction (article 57 c) |
| 168 | N,N-dimethylacetamide | 127-19-5 | 2011/12/19 | Toxic for reproduction (article 57 c) |
| 169 | 1,2-dichloroethane | 107-06-2 | 2011/12/19 | Carcinogenic (article 57 a) |
| 170 | 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4 | 2011/12/19 | Carcinogenic (article 57 a) |
| 171 | Trilead diarsenate | 3687-31-8 | 2011/12/19 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 172 | Formaldehyde, oligomeric reaction products with aniline | 25214-70-4 | 2011/12/19 | Carcinogenic (article 57 a) |

| REACH Candidate List version 4.0 | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 173 | Lead diazide, Lead azide | 13424-46-9 | 2011/12/19 | Toxic for reproduction (article 57 c), |
| 174 | Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index | | 2011/12/19 | Carcinogenic (article 57 a) |
| 175 | Cobalt dichloride | 7646-79-9 | 2011/06/20 - | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 176 | 1-Methyl-2-pyrrolidone | 872-50-4 | 2011/06/20 | Toxic for reproduction (article 57c) |
| 177 | 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters | 68515-42-4 | 2011/06/20 | Toxic for reproduction (article 57c) |
| 178 | Hydrazine | 302-01-2<br>7803-57-8 | 2011/06/20 | Carcinogenic (article 57a) |
| 179 | 1,2,3-Trichloropropane | 96-18-4 | 2011/06/20 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 180 | 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich | 71888-89-6 | 2011/06/20 | Toxic for reproduction (article 57c) |
| 181 | Strontium chromate | 7789-06-2 | 2011/06/20 | Carcinogenic (article 57a) |
| 182 | 2-Ethoxyethyl acetate | 111-15-9 | 2011/06/20 | Toxic for reproduction (article 57c) |
| 183 | 2-Ethoxyethanol | 110-80-5 | 2010/12/15 | Toxic for reproduction (article 57c) |
| 184 | Cobalt(II) diacetate | 71-48-7 | 2010/12/15 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 185 | Cobalt(II) carbonate | 513-79-1 | 2010/12/15 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 186 | Cobalt(II) sulphate | 10124-43-3 | 2010/12/15 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 187 | Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid | 7738-94-5<br>13530-68-2 | 2010/12/15 | Carcinogenic (article 57a) |
| 188 | Cobalt(II) dinitrate | 10141-05-6 | 2010/12/15 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 189 | Chromium trioxide | 1333-82-0 | 2010/12/15 | Carcinogenic and mutagenic (articles 57 a and 57 b) |
| 190 | 2-Methoxyethanol | 109-86-4 | 2010/12/15 | Toxic for reproduction (article 57c) |
| 191 | Trichloroethylene | 79-01-6 | 2010/06/18 | Carcinogenic (article 57 a) |
| 192 | Sodium chromate | 7775-11-3 | 2010/06/18 | Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c) |
| 193 | Boric acid | 10043-35-3<br>11113-50-1 | 2010/06/18 | Toxic for reproduction (article 57 c) |
| 194 | Potassium chromate | 7789-00-6 | 2010/06/18 | Carcinogenic and mutagenic (articles 57 a and 57 b). |
| 195 | Tetraboron disodium heptaoxide, hydrate | 12267-73-1 | 2010/06/18 | Toxic for reproduction (article 57 c) |
| 196 | Potassium dichromate | 7778-50-9 | 2010/06/18 | Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c) |
| 197 | Disodium tetraborate, anhydrous | 1303-96-4<br>1330-43-4<br>12179-04-3 | 2010/06/18 | Toxic for reproduction (article 57 c) |


| REACH Candidate List version 4.0 | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 198 | Ammonium dichromate | 7789-09-5 | 2010/06/18 | Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c) |
| 199 | Acrylamide | 79-06-1 | 2010/03/30 | Carcinogenic and mutagenic (articles 57 a and 57 b) |
| 200 | 2,4-Dinitrotoluene | 121-14-2 | 2010/01/13 | Carcinogenic (article 57a) |
| 201 | Lead chromate molybdate sulphate red (C.I. Pigment Red 104) | 12656-85-8 | 2010/01/13 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 202 | Anthracene oil, anthracene-low | 90640-82-7 | 2010/01/13 | Carcinogenic2, mutagenic3, PBT and vPvB (articles 57a, 57b, 57d and 57e) |
| 203 | Pitch, coal tar, high temp. | 65996-93-2 | 2010/01/13 | Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e) |
| 204 | Anthracene oil, anthracene paste | 90640-81-6 | 2010/01/13 | Carcinogenic2, mutagenic3, PBT and vPvB (articles 57a, 57b, 57d and 57e) |
| 205 | Lead sulfochromate yellow (C.I. Pigment Yellow 34) | 1344-37-2 | 2010/01/13 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c)) |
| 206 | Lead chromate | 7758-97-6 | 2010/01/13 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 207 | Anthracene oil | 90640-80-5 | 2010/01/13 | Carcinogenic1, PBT and vPvB (articles 57a, 57d and 57e) |
| 208 | Diisobutyl phthalate | 84-69-5 | 2010/01/13 | Toxic for reproduction (article 57c) |
| 209 | Tris(2-chloroethyl)phosphate | 115-96-8 | 2010/01/13 | Toxic for reproduction (article 57c) |
| 210 | Anthracene oil, anthracene paste, anthracene fraction | 91995-15-2 | 2010/01/13 | Carcinogenic2, mutagenic3, PBT and vPvB (articles 57a, 57b, 57d and 57e) |
| 211 | Anthracene oil, anthracene paste,distn. lights | 91995-17-4 | 2010/01/13 | Carcinogenic2, mutagenic3, PBT and vPvB (articles 57a, 57b, 57d and 57e) |
| 212 | 4,4'- Diaminodiphenylmethane (MDA) | 101-77-9 | 2008/10/28 | Carcinogenic (article 57a) |
| 213 | Triethyl arsenate | 15606-95-8 | 2008/10/28 | Carcinogenic (article 57a) |
| 214 | 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene) | 81-15-2 | 2008/10/28 | vPvB (article 57e) |
| 215 | Benzyl butyl phthalate (BBP) | 85-68-7 | 2008/10/28 | Toxic for reproduction (article 57c) |
| 216 | Sodium dichromate | 7789-12-0<br>10588-01-9 | 2008/10/28 | Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c) |
| 217 | Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) | 85535-84-8 | 2008/10/28 | PBT and vPvB (articles 57 d and 57 e) |
| 218 | Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane | 25637-99-4<br>3194-55-6<br>134237-50-6<br>134237-51-7<br>134237-52-8 | 2008/10/28 | PBT (article 57d) |
| 219 | Anthracene | 120-12-7 | 2008/10/28 | PBT (article 57d) |

| REACH Candidate List version 4.0 | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Date of inclusion** | **Reason for inclusion** |
| 220 | Dibutyl phthalate (DBP) | 84-74-2 | 2008/10/28 | Toxic for reproduction (article 57c) |
| 221 | Lead hydrogen arsenate | 7784-40-9 | 2008/10/28 | Carcinogenic and toxic for reproduction (articles 57 a and 57 c) |
| 222 | Diarsenic trioxide | 1327-53-3 | 2008/10/28 | Carcinogenic (article 57a) |
| 223 | Diarsenic pentaoxide | 1303-28-2 | 2008/10/28 | Carcinogenic (article 57a) |
| 224 | Bis(tributyltin)oxide (TBTO) | 56-35-9 | 2008/10/28 | PBT (article 57d) |


***REACH ANNEX XIV***

**LIST OF SUBSTANCES SUBJECT TO AUTHORISATION LAST UPDATE 12-04-2022**

**NUMBER OF SUBSTANCES ON THE AUTHORISATION LIST : 59**

The identification of a substance as Substance of Very High Concern and its inclusion in the Candidate List is the first step of the authorisation procedure.
Companies may have immediate legal obligations following such inclusion which are linked to the listed substance on its own, in preparations and articles.
Further documentation or more detailed information on the identification process of substances of very high concern can be found on the web pages of ECHA's Member State Committee.

| **REACH Authorisation List version 4.0** | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Latest application date** | **Sunset date** |
| 1 | 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene) | 81-15-2 | 21/02/2013 | 21/08/2014 |
| 2 | 4,4'-Diaminodiphenylmethane (MDA) | 101-77-9 | 21/02/2013 | 21/08/2014 |
| 3 | Hexabromocyclododecane (HBCDD), alpha-hexabromocyclododecane, beta-hexabromocyclododecane, gamma-hexabromocyclododecane | 3194-55-6<br>25637-99-4<br>134237-50-6<br>134237-51-7<br>134237-52-8 | 21/02/2014 | 21/08/2015 |
| 4 | Bis(2-ethylhexyl) phthalate (DEHP) | 117-81-7 | 21/08/2013 | 21/02/2015 |
| 5 | Benzyl butyl phthalate (BBP) | 85-68-7 | 21/08/2013 | 21/02/2015 |
| 6 | Dibutyl phthalate (DBP) | 84-74-2 | 21/08/2013 | 21/02/2015 |
| 7 | Diisobutyl phthalate (DIBP) | 84-69-5 | 21/08/2013 | 21/02/2015 |
| 8 | Diarsenic trioxide | 1327-53-3 | 21/11/2013 | 21/05/2015 |
| 9 | Diarsenic pentaoxide | 1303-28-2 | 21/11/2013 | 21/05/2015 |
| 10 | Lead chromate | 7758-97-6 | 21/11/2013 | 21/05/2015 |
| 11 | Lead sulfochromate yellow (C.I. Pigment Yellow 34) | 1344-37-2 | 21/11/2013 | 21/05/2015 |
| 12 | Lead chromate molybdate sulphate red (C.I. Pigment Red 104) | 12656-85-8 | 21/11/2013 | 21/05/2015 |
| 13 | Tris(2-chloroethyl)phosphate (TCEP) | 115-96-8 | 21/02/2014 | 21/08/2015 |
| 14 | 2,4 – Dinitrotoluene (2,4-DNT) | 121-14-2 | 21/02/2014 | 49-50 |
| 15 | Trichloroethylene | 79-01-6 | 21/10/2014 | 21/04/2016 |
| 16 | Chromium trioxide | 1333-82-0 | 21/03/2016 | 21/09/2017 |
| 17 | Acids generated from chromium trioxide and their oligomers Group containing: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid | 7738-94-5<br>13530-68-2 | 21/03/2016 | 51-52 |
| 18 | Sodium dichromate | 7789-12-0<br>10588-01-9 | 21/03/2016 | 21/09/2017 |
| 19 | Potassium dichromate | 7778-50-9 | 21/03/2016 | 21/09/2017 |
| 20 | Ammonium dichromate | 7789-09-5 | 21/03/2016 | 21/09/2017 |
| 21 | Potassium chromate | 7789-00-6 | 21/03/2016 | 21/09/2017 |
| 22 | Sodium chromate | 7775-11-3 | 21/03/2016 | 21/09/2017 |
| 23 | Formaldehyde, oligomeric reaction products with aniline (technical MDA) | 25214-70-4 | 22/02/2016 | 22/08/2017 |
| 24 | Arsenic acid | 7778-39-4 | 22/02/2016 | 22/08/2017 |
| 25 | Bis(2-methoxyethyl) ether | 111-96-6 | 22/02/2016 | 22/08/2017 |

| REACH Authorisation List version 4.0 | | | | |
|---|---|---|---|---|
| **No.** | **Substance Name** | **Cas Number** | **Latest application date** | **Sunset date** |
| 26 | 1,2-dichloroethane (EDC) | 107-06-2 | 22/05/2016 | 22/11/2017 |
| 27 | 2,2'-dichloro-4,4'-methylenedianiline (MOCA) | 101-14-4 | 22/05/2016 | 22/11/2017 |
| 28 | Dichromium tris(chromate) | 24613-89-6 | 22/07/2017 | 22/01/2019 |
| 29 | Strontium chromate | 7789-06-2 | 22/07/2017 | 22/01/2019 |
| 30 | Potassium hydroxyoctaoxodizincatedichromate | 11103-86-9 | 22/07/2017 | 22/01/2019 |
| 31 | Penntazinc chromate octahydroxide | 49663-84-5 | 22/07/2017 | 22/01/2019 |
| 32 | 1-bromopropane (n-propyl bromide) | 106-94-5 | 04/01/2019 | 04/07/2020 |
| 33 | Diisopentyl phthalate | 605-50-5 | 04/01/2019 | 04/07/2020 |
| 34 | 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich | 71888-89-6 | 04/01/2019 | 04/07/2020 |
| 35 | 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters | 68515-42-4 | 04/01/2019 | 04/07/2020 |
| 36 | 1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear | 84777-06-0 | 04/01/2019 | 04/07/2020 |
| 37 | Bis(2-methoxyethyl) phthalate | 117-82-8 | 04/01/2019 | 04/07/2020 |
| 38 | Dipentyl phthalate | 131-18-0 | 04/01/2019 | 04/07/2020 |
| 39 | N-pentyl-isopentylphthalate | 776297-69-9 | 04/01/2019 | 04/07/2020 |
| 40 | Anthracene oil | 90640-80-5 | 04/04/2019 | 04/10/2020 |
| 41 | Pitch, coal tar, high-temp. | 65996-93-2 | 04/04/2019 | 04/10/2020 |
| 42 | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated | | 04/07/2019 | 04/01/2021 |
| 43 | 4-Nonylphenol, branched and linear, ethoxylated | | 04/07/2019 | 04/01/2021 |
| 44 | 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear | 68515-50-4 | 27/08/2021 | 27/02/2023 |
| 45 | Dihexyl phthalate | 84-75-3 | 27/08/2021 | 27/02/2023 |
| 46 | 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters | - | 27/08/2021 | 27/02/2023 |
| 47 | Trixylyl phosphate | - | 27/11/2021 | 27/05/2023 |
| 48 | Sodium perborate, perboric acid, sodium salt | - | 27/11/2021 | 27/05/2023 |
| 49 | Sodium peroxometaborate | 7632-04-4 | 27/11/2021 | 27/05/2023 |
| 50 | 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] | - | 27/02/2022 | 27/08/2023 |
| 51 | 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) | 25973-55-1 | 27/05/2022 | 27/11/2023 |
| 52 | 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) | 3864-99-1 | 27/05/2022 | 27/11/2023 |
| 53 | 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) | 36437-37-3 | 27/05/2022 | 27/11/2023 |
| 54 | 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) | 3846-71-7 | 27/05/2022 | 27/11/2023 |
| 55 | Tetraethyllead | 78-00-2 | 01/11/2023 | 01/05/2025 |
| 56 | 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol | 561-41-1 | 01/11/2023 | 01/05/2025 |
| 57 | Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) | -<br>1471311-26-8<br>93925-00-9 | 01/11/2023 | 01/05/2025 |
| 58 | 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate | 15571-58-1 | 01/11/2023 | 01/05/2025 |
| 59 | Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE) | - | 01/11/2023 | 01/05/2025 |

| GOTS Prohibited input version 4.0 | |
|---|---|
| 2.3.1 GOTS Prohibited and restricted inputs | |
| The following table lists chemical inputs that may (potentially) be used in conventional textile processing but that are explicitly banned or restricted for environmental and/or toxicological reasons in all processing stages of GOTS goods. Prohibition or restriction of substance groups or individual substances that are not explicitely listed in this Section may further result from section 2.3.2 'Requirements related to hazards and toxicity' or from other criteria mentioned in the GOTS standard. Download the manual for the implementation of GOTS version 6 from the GOTS website.<br>**Substances and preparations listed in regulation EC 552/2009 (amending regulation EC 1907/2006 (REACH), annex XVII), EC 2019/1021 (Persistant Organic Pollutants), and the 'candidate list of substances of very high concern for authorisation' of the European Chemicals Agency (ECHA) are prohibited.** | |
| https://global-standard.org/images/resource-library/documents/standard-and-manual/gots_implementation_manual_6_0_en1.pdf | |
| **Substance Group** | **Criteria** |
| Aromatic and/or halogenated solvents | Prohibited |
| Flame retardants | Prohibited are<br>- Chlorinated flame retardants<br>- Brominated flame retardants<br>- Phosphate based flame retardants, listed in Manual<br>- Flame retardants containing Antimony or Antimony Trioxide - Disodium octaborate |
| Chlorinated benzenes and toluenes | Prohibited |
| Chlorophenols (including their salts and esters) | Prohibited (such as mono, di, tri, tetra and penta- chlorophenols) |
| Complexing agents and surfactants | Prohibited are:<br>• all APs and APEOs (i.e. NP, OP, NPEO, OPEO, APEOs terminated with functional groups, APEO-polymers)<br>• EDTA, DTPA, NTA<br>• LAS, α-MES |
| Endocrine disruptors | Prohibited |
| Formaldehyde and other short- chain aldehydes | Prohibited are inputs that contain or generate formaldehyde or other short-chain aldehydes (like glyoxal) during designated application |
| Glycol Derivatives | Prohibited are the glycol derivatives listed in the Manual |
| Genetically modified organisms (GMO) | Prohibited are all inputs that:<br>• contain GMO<br>• contain enzymes derived from GMO<br>• are made from GMO raw materials (e.g. starch, surfactants or oils from GM plants)<br>• GMO based traceability markers |
| Heavy metals | Prohibited, inputs shall be 'heavy metal free'. Impurities shall not exceed the limit values as defined in annex B. Exceptions valid for dyes and pigments are set in Sections 2.4.6 and 2.4.7 |
| Inputs (e.g. azo dyes and pigments) releasing carcinogenic arylamine compounds (MAK III, category 1,2,3,4) | Prohibited |

| GOTS Prohibited input version 4.0 | |
|---|---|
| 2.3.1 Prohibited and restricted inputs | |
| **Substance Group** | **Criteria** |
| Inputs containing functional nanoparticles (= particles with a size < 100 nm) | Prohibited |
| Inputs with halogen containing compounds | Prohibited are inputs that contain > 1% permanent AOX. Exceptions valid for pigments are set in Section 2.4.7. |
| Organotin compounds | Prohibited (such as DBT, DMT, DOT, DPhT, DPT, MBT, MMT, MOT, MPhT, TBT, TCyHT, TeBT, TeET, TMT, TOT, TPhT, TPT) |
| Plasticizers | Prohibited are:<br>PAH, phthalates and esters of phthalic acid, Bisphenol A and all other plasticizers with endocrine disrupting potential |
| Per- and Polyfluorinated compounds (PFC) | Prohibited. (such as PFCA (incl. PFOA), PFSA (incl. PFOS) FTOH, PFNA, PFHpA, PFDA) |
| Quaternary ammonium compounds | Prohibited are: DTDMAC, DSDMAC and DHTDMAC |
| Chlorinated Paraffins Short-chain chlorinated paraffins (SCCPs, C10-13)<br>Medium-chain chlorinated paraffins (MCCPs, C14-17) | Prohibited<br>Prohibited |
| Cyclic Siloxanes (D4, D5, D6) | Prohibited are inputs that shall lead to ≥ 1000 ppm of cyclic siloxanes in processed GOTS Goods. |
| Substances and preparations that are prohibited for application in textiles with a recognised internationally or a nationally valid legal character | Prohibited |
| Substances and preparations having restrictions in usage for application in textiles with a recognised internationally or nationally legal character | The same restrictions apply, provided the substances and preparations are not already prohibited or have stricter restrictions criteria according to this Standard. Substances and preparations listed in regulation EC 552/2009 (amending regulation EC 1907/2006 (REACH), annex XVII), and the 'candidate list of substances of very high concern for authorisation' of the European Chemicals Agency (ECHA) are prohibited. |
| Microplastics | Prohibited are:<br>Intentionally added synthetic microplastics. |
| In-can preservatives in chemical inputs | Prohibited are:<br>In-can preservatives which do not meet the requirements of Sections 2.3.1 and 2.3.2<br>Except, allowed are:<br>Biocidal active substance(s) that comply with European biocidal products regulation (BPR 528/2012) and listed on the Union list of BPR for product type PT06 (preservatives for products during storage):<br>https://echa.europa.eu/en/information-on-chemicals/biocidal- active-substances |

| GOTS Prohibited input version 4.0 | |
|---|---|
| 2.3.2 Requirements related to hazards and toxicity | |
| **Substance Group** | **Criteria** |
| Inputs which are classified with specific hazard statements (risk phrases) related to health hazards | Prohibited are:<br>- substances which are classified with any of the following hazard statements, if applied as direct input<br>- preparations which are classified with any of the following hazard statements<br>- preparations which contain at least one substance which is classified with any of the following hazard statements in accordance with the codification system of the Global Harmonized System (GHS) as published by the United Nations, annex 3:<br>H300 Fatal if swallowed<br>H#!) Fatal in contact with skin<br>H330 Fatal if inhaled<br>H340 May cause genetic defects<br>H341 Suspected of causing genetic defects<br>H350 May cause cancer<br>H351 Suspected of causing cancer<br>H360 May damage fertility or the unborn child<br>H361 Suspected of damaging fertility or the unborn child<br>H370 Causes damage to organs<br>H371 May cause damage to organs<br>H372 Causes damage to organs through prolonged or<br>repeated exposure<br>For inputs assessed on basis of GHS, where the implementation system does not provide for the codified H-statements, the corresponding hazard classes and categories of GHS, annex 3 apply. For inputs assessed according to the 'risk phrase' classification (Directive 67/548EEC amended and appealed by Regulation EC 1272/2008) the equivalent risk phrases apply. |
| Inputs which are classified with specific hazard statements / risk phrases related to environmental hazards | Prohibited are:<br>- substances which are classified with any of the following hazard statements / risk phrases, if applied as direct input<br>- preparations which are classified with any of the following hazard statements / risk phrases<br>a) in accordance with the codification system of the Global Harmonized System (GHS) as published by the United Nations, annex 3:<br>H400: Very toxic to aquatic life<br>H410: Very toxic to aquatic life with long lasting effects<br>H411: Toxic to aquatic life with long lasting effects<br>H420: Harms public health and the environment by destroying<br>ozone in the upper atmosphere<br>H433: Harmful to terrestrial vertebrates |

| GOTS Prohibited input version 4.0 | |
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| 2.3.2 Requirements related to hazards and toxicity | |
| **Substance Group** | **Criteria** |
| Inputs which are bio- accumulative and not rapidly degradable | Prohibited are substances, if applied as direct input, and preparations classified with H413: 'May cause long-lasting effects to aquatic life' (respective R53) that are both, 'bio- accumulative'1*) and not rapidly degradable2*), 3*) |
| 1*) All substances or preparations are considered as (potentially) bio-accumulative, if BCF (= bio-concentration factor) ≥ 500 or, if absent, log Kow (= logarithm of the n-octanol-water partition coefficient) ≥ 4<br>2*) Testing requirement: >70% OECD 301A [28d] or equivalent testing method according to footnote 4 of the table below, except test methods related to eliminability (OECD 302). In those cases where only BOD and COD data are available the input is considered 'rapidly degradable' when the ratio of BOD5/COD is ≥ 0,5.<br>3*) This criterion is not applicable to preparations whose very low solubility in water prevents their bioaccumulation (e.g. pigment preparations) | |
| *All preparations applied shall further comply with the following requirements:* | |
| **Parameter** | **Criteria** |
| Oral Toxicity 1*) | LD50 > 2000 mg/kg 2*) |
| Aquatic Toxicity 3*) | LC50, EC50, IC50 > 1 mg/l |
| Relation of biodegradability / eliminability 4*) to aquatic toxicity 3*) | Only allowed, if:<br>< 70% and > 100 mg/l<br>> 70% and > 10 mg/l<br>> 95% and > 1 mg/l |
| 1) Performing new animal tests to determine unknown LD50 values in the course of the GOTS assessment procedure for inputs (refer to Section 2.3.3) is prohibited. Instead, alternative methods (e.g. Acute Toxicity Estimates (ATE); conclusions on analogy from similar products; validated structure-activity relationships; calculation from available data of substances contained; expert judgment; in vitro tests) shall be used to determine unknown values.<br><br>2) Substances and preparations, such as alkalis and acids that fail to meet this requirement because of their pH value only, are exempt from this requirement.<br><br>3) Performing new fish and daphnia tests to determine unknown LC50 / EC50 values in the course of the GOTS assessment procedure for inputs is prohibited. Instead, alternative methods such as Acute Toxicity Estimates (ATE); validated structure-activity relationships; conclusion on analogy from similar products; calculation from available data of substances contained; fish egg test (embryo toxicity test (FET)); in vitro test; IC50 algae; OECD 201 [72hr] shall be used to determine unknown values.<br><br>4) Accepted test methods: OECD 301A, OECD 301E, ISO 7827, OECD 302A, ISO 9887, OECD 302B, ISO 9888 or OECD 303A; alternatively, to meet the 70% level a preparation tested with one of the methods OECD 303A or ISO 11733 a percentage degradation of at least 80% shall be shown - or if tested with one of the methods OECD 301B, ISO 9439, OECD 301C, OECD 302C, OECD 301D, ISO 10707, OECD 301F, ISO 9408, ISO 10708 or ISO 14593, a percentage degradation of at least 60% shall be shown. To meet the 95% level, if tested with any of the mentioned methods, a percentage degradation of 95% shall be shown. Testing duration with each method is 28 days. | |

**GOTS Prohibited input version 4.0**

## 2.3.3 Assessment of chemical inputs

All chemical inputs intended to be used to process GOTS Goods are subject to approval by a GOTS Approved Certifier prior to their usage. Preparations shall have been evaluated and their trade names registered on approved lists prior to their usage by a GOTS Approved Certifier who is authorised by the Global Standard gGmbH for the specific accreditation scope: “Approval of textile auxiliary agents (chemical inputs) on positive lists” (Scope 4).

Approval shall be applied by the applicable chemical producer or supplier of the preparations who receive conformity documents (Letters of Approval) issued by the authorised certifiers and containing the trade names of applied preparations that have been found to be compliant with the criteria of this Standard.

For all chemical inputs (substances and preparations), a Material Safety Data Sheet (SDS), prepared according to an applicable recognised norm or directive shall be available. The Approved Certifiers are requested, where appropriate and felt necessary, to include further sources of information (such as additional toxicological and environmental data on specific components of the auxiliary agents, test reports, independent lab analysis and traceability checks of ingredients, no intentional use declarations, sources of data for hazard & toxicity, etc.) in the assessment.

Certified Entities shall have copies of valid Letters of Approval on hand listing all preparations they are using in processing and manufacturing GOTS Goods as verification proof that all colourants and textile auxiliaries used for GOTS Goods are actually approved.

## 2.4.6 Dyeing

| **Parameter** | **Criteria** |
|---|---|
| Selection of dyes and auxiliaries | Allowed are natural dyes, synthetic dyes, pigments and auxiliaries that meet the requirements as set in Sections 2.3.1 and 2.3.2. only.<br><br>Prohibited are (disperse) dyes classified as sensitizing / allergenic.<br><br>Prohibited are colourants classified as carcinogenic or suspected carcinogenic (H350 / H351).<br><br>Prohibited are dyes containing heavy metals as an integral part of the dye molecule (e.g. heavy metal dyes, certain reactive dyes) under consideration of the following exceptions:<br>- General exception for Iron<br>- Specific exception for copper: permitted up to 5% by weight in blue, green and turquoise dyestuffs.<br><br>The use of natural dyes and auxiliaries that are derived from a threatened species listed on the Red List of the IUCN is prohibited. |

| GOTS Prohibited input version 4.0 | |
|---|---|
| 2.4.7 Printing | |
| **Parameter** | **Criteria** |
| Selection of dyes, pigments and auxiliaries | Allowed are dyes, pigments and auxiliaries that meet the requirements as set in Sections 2.3.1 and 2.3.2 only.<br>Prohibited are (disperse) dyes classified as sensitizing / allergenic.<br>Prohibited are colourants classified as carcinogenic or suspected carcinogenic (H350 / H351).<br>Flock printing is allowed with non-GMO natural and regenerated fibres if the fibres used meet the limit values for residues as listed in Section 2.4.16.<br>Ammonia is allowed as a required buffer in pigment printing pastes. Prohibited are dyes and pigments containing heavy metals as an integral<br>part of the dye molecule (e.g. heavy metal dyes, certain reactive dyes) under consideration of the following exceptions:<br>- General exception for Iron<br>- Specific exception for copper: permitted up to 5% per weight in blue,<br>green and turquoise dyestuffs and pigments only.<br>While in general inputs that contain > 1% permanent AOX are<br>prohibited, exceptionally for yellow, green and violet pigments the limit is 5%.<br>Prohibited are printing methods using aromatic solvents, phthalates or chlorinated plastics (e.g. PVC).<br>The use of natural dyes and auxiliaries that are derived from a threatened species listed on the Red List of the IUCN is prohibited. |

| GOTS Prohibited input version 4.0 | |
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| 2.4.9 Requirements for additional fibre materials and accessories | |
| ***2.4.9.1 Requirements for additional fibre materials*** | |
| **Additional Fibre Materials** | **Criteria** |
| **Fibre materials accepted for the remaining non- organic balance of the product's material composition** (max. 5% according to Section 2.2.1. and max. 30% according to Section 2.2.2.) | The additional fibre materials may be mixed with the organic fibres to the fabric or used in certain details of the product.<br><br>Blending organic and conventional fibres of the same type in the same product is not permitted.<br><br>All additional materials shall meet the limit values for residues as listed in Section 2.4.16.<br><br>**Allowed are:**<br>Individually or in combination as a sum total up to 30% (≤30%)<br>a) non-GMO conventional natural vegetable fibres<br>b) non-GMO conventional animal fibres.<br>c) Lyocell or protein-based fibres derived from non-GMO sources and from certified organic raw materials or pre- or post-consumer waste or from raw materials certified according to a programme that verifies compliance with sustainable management principles<br>d) recycled synthetic (polymer) fibres from pre- or post-consumer waste: only polyester, polyamide, polypropylene, elastomultiester (elasterell-p) and polyurethane (elastane)<br>e) PLA (polylactic acid) fibre produced from non-GMO bio-mass sources<br><br>Individually or in combination as a sum total up to 10% (≤10%)<br>a) regenerated fibres like lyocell, viscose or modal: raw materials used shall be non-GMO<br>b) virgin synthetic (polymer) fibres: only polyamide, polypropylene, elastomultiester (elasterell-p) and polyurethane (elastane)<br>c) stainless steel fibres and mineral fibres<br><br>**Prohibited are:**<br>a) conventional cotton<br>b) conventional angora hair fibre<br>c) virgin polyester<br>d) acrylic<br>e) asbestos, carbon and silver fibres<br>f) any other not explicitly permitted fibres<br>g) mulesed wool |

| GOTS Prohibited input version 4.0 | |
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| 2.4.9 Requirements for additional fibre materials and accessories | |
| ***2.4.9.2 Requirements for Accessories*** | |
| **Accessories** | **Criteria** |
| **Material in general**<br>(valid for appliqué, borders, buckles, buttons and press- studs, cords, edgings, elastic bands and yarns, embroidery yarns, fasteners and closing systems, adhesive tapes used for fusing, hatbands, laces, linings, inlays, interface, labels (heat-transfer/ adhesive/ care/ GOTS), interlinings, pockets, seam bindings, sewing threads, shoulder pads, padding for undergarments, trims, zippers and any other, not below explicitly listed accessories) | **Allowed are:**<br>a) natural materials including biotic material (such as (organic or conventional) natural fibre, wood, leather, horn, bone, shell) and non-biotic material (such as minerals, metals, stone)<br>b) regenerated and synthetic materials<br><br>**Prohibited is the use of:**<br>a) asbestos<br>b) carbon fibres<br>c) silver (filament, treated) fibres<br>d) chromium (e.g. as component of a metal or in leather tanning,vexcept that stainless steel is permitted)<br>e) nickel (e.g. as component of a metal, except that stainless steel is permitted)<br>f) material from threatened animals, plant and timber<br>g) Chlorinated plastics (e.g. PVC)<br><br>All materials used for accessories shall meet the applicable limit values for residues as listed in Section 2.4.16. |
| **Fillings, stuffing** | If textile fibres are used, the material requirements of Sections 2.2.1 respective 2.2.2 apply (since fillings with fibres are not considered accessories).<br><br>If non-textile material is used only natural materials are permitted. Natural materials shall be from certified organic (in conversion) production in case such certification is applicable for the kind of material used (e.g. for plant-based materials such as grain spelt or animal based-materials such as feathers).<br><br>Latex foam used as filling or stuffing shall be made from certified organic (in conversion) latex or from latex certified according to a program that verifies compliance with sustainable forestry management principles. |

| GOTS Storage, packaging and transport version 4.0 |
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| 2.4.12 Storage, packaging and transport |
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| **B2B trade of GOTS goods** |
| Organic textile products shall be stored and transported in such a manner as to prevent contamination by prohibited *substances* and commingling with conventional products or substitution of the contents. |
| Transport means and routes shall be documented. |
| In cases where pesticides/biocides are mandated for use due to national or regional rules or law, they may be used in Storerooms / Transport, but they shall comply with the applicable international or national organic production standard. Wooden pallets used in storage and transport activities are exempt from this requirement. |
| **Retail (B2C) trade of GOTS goods** |
| Single use virgin plastic hangers are prohibited in retail packaging of *GOTS Goods* . Recycled plastic hangers may be used. |
| Final products with complete GOTS labelling can be stored / transported together with conventional products of similar type with positive assurance that there can be no substitution of produccts. |
| Synthetic packaging material shall not contain chlorinated plastics (e.g. PVC). The use of plastic packaging materials should be minimized. |
| Paper or cardboard used in packaging material for the retail trade of *GOTS Goods* (incl. labelling items such as hang tags or swing tags) shall be recycled from *pre* - or *post* - *consumer waste* or certified according to a program that verifies compliance with sustainable forestry management principles. |
| Textile fiber materials used for packaging shall follow one of these three conditions: |
| a)are certified organic (as explained in Section 2.2.1) and meet RSL criteria as in Section 2.4.15 (GOTS manual 6.0)<br>b)are certified organic - in - conversion (as explained in Section 2.2.2) and meet RSL criteria as in Section 2.4.15 (GOTS manual 6.0)<br>c)meet criteria for accepted additional fibers (Section 2.4.9.1) without limitation on percentages and meet criteria as in Section 2.4.16 (GOTS manual 6.0) |

| Change Log version 4.0 | |
|---|---|
| **CHEMICAL GROUP (RSL)** | **CHANGE LOG MAJOR CHANGES FROM RSL 3.0 TO RSL 4.0** |
| ALKYLPHENOLS (AP) AND ALKYLPHENOL ETHOXYLATES (APEO) | Updated regulations<br>Updated test method (leather)<br>Updated restricted limits |
| AZO AMINES AND ARYLAMINE SALTS | Changed category name<br>Added restricted limit for < 3 years (Aniline)<br>Simplified relevance of restriction text |
| BIOCIDES | Updated test methods<br>Updated restricted limits (OPP)<br>Simplified relevance of restriction text |
| CHLORINATED PARAFFINS | Added substance MCCP<br>Updated test methods<br>Simplified relevance of restriction text |
| CHLOROBENZENES AND CHLOROTOLUENES | No major changes |
| CHLOROPHENOLS | Updated test method<br>Updated relevance of restriction tekst<br>Added DCP and MCP |
| DISPERSE DYES WHICH ARE CLASSIFIED TO BE ALLERGENIC | Updated restricted limits |
| DYES WHICH ARE CLASSIFIED TO BE CARCINOGENIC | Added one substance (CAS# 561-41-1)<br>Updated restricted limits |
| DYESTUFFS CARCINOGENIC AND WITH ENVIRONMENTAL PROBLEMS | Changed category name - no other changes |
| FLAME RETARDANTS | Updated relevance of restriction text<br>Added one substance - Zinc Borate salts |
| FORMALDEHYDE | Updated test method<br>Simplified relevance of restriction text |
| HEAVY METALS EXTRACTABLE | Updated restricted limit for Lead (< 3 years)<br>Updated test method for Chromium VI (leather) |
| HEAVY METALS SOLUBLE | Removed category |

| Change Log version 4.0 | |
|---|---|
| **CHEMICAL GROUP (RSL)** | **CHANGE LOG MAJOR CHANGES FROM RSL 3.0 TO RSL 4.0** |
| HEAVY METALS TOTAL CONTENT | Updated test method (leather) |
| HEAVY METALS RELEASABLE NICKEL | Updated test method (Abrasion of coated items) |
| ORGANOTIN COMPOUNDS | Updated relevance of restriction text<br>Added one substance (TeOT) |
| OTHER CHEMICAL RESIDUES | Added substance Bisphenol-A (BPA) |
| PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFAS) | Renamed category<br>Updated the categorisation of PFAS substances |
| PESTICIDES | Added 3 substances (CAS# 93-72-1, 115-32-2, 82-68-8) |
| PHTHALATES | No major changes |
| POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) | No major changes |
| PVC | No major changes |
| RESTRICTION ON PACKAGING | No major changes |
| SILOXANES | No major changes |
| UV STABILISERS | No major changes |
| VOLATILE ORGANIC COMPOUNDS AND SOLVENTS | Changed category name (previously Solvents halegonated - volatile organic compounds)<br>Updated Benzene test method<br>Removed 3 substances |
| SOLVENTS OTHER - VOLATILE ORGANIC COMPOUNDS | Combined into above category |
| OTHER ATTENTION POINTS | No major changes |
| | |
| GOTS | Added a column with the GOTS requirements version 6.0 in the RSL list<br>Added separate section with GOTS restricted inputs<br>Added a separate section with GOTS storage, packaging and transport |
| RISK MATRIX | Updated risk matrix |
| APPENDIX A | Added appendix |
| REACH CANDIDATE LIST | Updated from 209 substances to 224 substances |
| REACH AUTHORISATION LIST | Updated from 54 substances to 59 substances |
| CHANGE LOG | Updated according to the major changes made |