PRIMARK®

# PRIMARK'S RESTRICTED SUBSTANCES LIST 2023 V1.1

for Primark suppliers and their supply network

September 2023

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# Introduction

This Restricted Substances List 2023 V1.1 (**RSL)** replaces all previous versions.

As an international retailer, Primark is committed to reducing the environmental impact of our products at every stage of their life. We recognise the importance of reducing the environmental impact throughout the manufacturing process, and for that reason, we are committed to continuously improving our chemical management programme in line with evolving industry standards, product specifications and technological developments. Suppliers, manufacturers and facilities must ensure the fabrics, materials, components, and products manufactured for Primark are both fit for purpose and meet the regulatory compliance requirements for the markets in which they are intended for sale and use.

Primark's RSL includes 2 restriction limits:

| RSL |
| --- |
| **RSL stands for Restricted Substances List and is a list of hazardous chemicals that are restricted below a certain threshold in finished products.** |

| MRSL |
| --- |
| **MRSL stands for Manufacturing Restricted Substances List and is a list of hazardous chemicals that shall be controlled in chemical formulation below a certain threshold** |

The RSL applies to all products supplied to Primark with reference to the processes necessary to produce them, including but not limited to raw materials e.g. fabrics and leather, trimmings, semi-finished, and finished goods typically used in the production of apparel, footwear, accessories, and jewellery, etc. There are further requirements on chemicals used in the manufacturing process which are laid down in the ZDHC MRSL Version 3.1.

In this document there is a column with limits of substances listed in ZDHC MRSL Version 3.1. Regarding applicability and test methods please refer to official documents published by ZDHC with reference to MRSL Version 3.1 (https://mrsl.roadmaptozero.com/).

Primark is committed to ZDHC and to the ZDHC MRSL. The transition period to implement Version 3.1 of the ZDHC MRSL ends on 31 October 2023. From 1 November 2023, applicable formulations must be conformant with the ZDHC MRSL V3.1.

# Supplier Obligations

All suppliers and their supply chains are required to:

1) Comply with this RSL, in accordance with the Primark Terms and Conditions. This RSL includes restrictions for both finished products and formulations used during manufacturing of such products.
2) Comply with the Primark Chemical Management Guidance which contains detailed requirements applicable to Primark's suppliers supply chain and guidance on how this relates to the ZDHC.

## All suppliers are required to:

| Action | **SUPPLIERS**<br>**This document comes into immediate effect** |
|---|---|
| 1. | Communicate Primark's RSL to all facilities involved in every stage of the Supplier's supply chain |
| 2. | Ensure the supplier's entire supply network is conforming to the RSL by requesting evidence of compliance with the action points (3-7) below from its suppliers and facilities. |
| | **ALL OF SUPPLIER'S FACILITIES**<br>**This document comes into immediate effect** |
| 3. | Communicate Primark's RSL 2023 v1.1 to chemical formulators and obtain conformance statements |
| 4. | Check the chemicals supplied by the supplier's chemical formulators are listed on the ZDHC Gateway |
| 5. | Update chemical inventory list (CIL) and share with the Primark Environmental Manager in its country |
| | **CHEMICAL FORMULATORS**<br>**This document comes into immediate effect** |
| 6. | Check conformance statements meet the RSL requirements |
| 7. | Upload/update the supplier's products on the ZDHC Gateway- Chemical Module and ensure that these are certified to ZDHC MRSL V3.1. |

# References and Links

**AFIRM** (Link for the AFIRM website in general https://www.afirm-group.com/)
The Apparel and Footwear International RSL Management (AFIRM) Group is a membership organization of apparel and footwear companies collaborating to promote chemicals management in the global supply chain. This RSL cover requirements reported in the AFIRM RSL according to last updated version at the time of publication of this documents.

Chemical information sheets in various languages can be found in the link below. These sheets are designed for manufacturers to find safer alternatives to traditional chemicals.
https://www.afirm-group.com/chemical-information-sheets/

**ZDHC MRSL** (Link for the ZDHC website in general https://mrsl.roadmaptozero.com/)
The ZDHC Manufacturing Restricted Substances List (ZDHC MRSL) is a list of chemical substances banned from intentional use in the processing of textile materials, leather, rubber, foam, adhesives and trims used in textiles, apparel, and footwear industry. Intentional use means the substance used deliberately in a chemical product to achieve a desired look or functionality.

The ZDHC MRSL goes beyond the traditional approaches to chemical restrictions. The MRSL approach also helps protect workers, local communities, and the environment from the possible impacts of harmful chemicals.

Chemical formulations covered by restrictions in the ZDHC MRSL include, but are not limited to, cleaners, adhesives, paints, inks, detergents, dyes, colourants, auxiliaries, coatings and finishing agents used during raw material production, wet processing, process machinery maintenance, wastewater treatment, sanitation, and pest control. ZDHC MRSL limits apply to substances in commercially available formulations, not those from earlier stages of chemical synthesis.

# Scope

Chemicals and substances used in various products are restricted within the markets which we serve. This RSL applies to all products produced for Primark.

For product specific chemical requirements in areas such as toys, electrical items please refer to the Primark Chemical testing manual.

For cosmetics and other formulated products please refer to the Primark Health and Beauty Compliance Manual.

Primark have adopted the AFIRM packaging RSL. The requirements in this document apply to all packaging materials used for Primark products. A copy of the AFIRM Packaging RSL can be found alongside this document.

The following materials are covered in this RSL:

- Natural fibres
- Synthetic fibres
- Natural & Synthetic blends
- Natural Leather
- Artificial Leather (including Polyurethane (PU) and Silicone, accessories applications, and upholstery)
- Recycled Natural fibres
- Recycled Synthetic fibres
- Glass
- Wood
- Metal
- Feathers and Down
- Plastics and polymers (including foams, Polyurethane (PU) & Silicone, Latex, polyolefins, and more)
- Coatings and Prints
- Glues/adhesives

The requirements reported in the RSL must be followed as appropriate to those products.

# Legislation and Regulations

The RSL testing matrix below highlights the main substances that are restricted by legislation. The table shall not be regarded as being exhaustive and suppliers are expected to ensure that they are following the latest applicable legislation and regulations in force. Where relevant, this RSL has been informed by international standards, such as the Minamata Convention on Mercury and the Stockholm Convention on Persistent Organic Pollutants.

It is the supplier's responsibility to ensure that all products and materials conform with all applicable legislation including, without limitation, European REACH and UK REACH.

## *REACH SVHC & Restrictions (EU, UK)*

As a European Regulation REACH applies directly to all 28 Member States of the European Union. It also applies to Iceland, Liechtenstein, and Norway as member countries of the European Economic Area. All suppliers shall adhere to the REACH guidelines and legislation as issued by the European Chemicals Agency ECHA. Details can be found on the following link:
https://echa.europa.eu/regulations/reach/understanding-reach

All suppliers shall ensure that all products do not contain any substances contained within the latest list of substances of very high concern (SVHC). Should a product contain an SVHC please contact your Primark product technologist and work with your supply chain to substitute with an alternative.
https://echa.europa.eu/candidate-list-table

Please note that the SVHC listing is updated twice a year with additional substances, it is the supplier's responsibility to ensure any restricted substances meet the relevant legislation before shipping into the EU.

There are also restricted substances under the scope of REACH, whilst some of these will be listed within the Restricted Substances listing, it is the supplier's responsibility to ensure that materials supplied are in compliance with the restrictions that may apply to their products. Link to the restricted substances - Substances restricted under REACH – ECHA (europa.eu)

EU REACH no longer applies to England, Scotland, or Wales, and instead the UK Government have implemented their own version – UK REACH. with UK REACH. Companies in Northern Ireland will still be covered by EU REACH according to the 'IE/NI Protocol'.

- UK REACH https://www.hse.gov.uk/reach/index.htm
- UK REACH substances of very high concern (SVHCs) https://www.hse.gov.uk/reach/svhc.htm
- UK REACH Annex 14 Authorization List https://www.hse.gov.uk/reach/authorisation-list.htm

### *Various US Legislation on Per- and Polyfluorinated Alkyl Substances (PFAS)*

Considering that many US State are prohibiting PFAS in consumer product it is requested to not use intentionally added PFAS.

### *Chemicals of High Concern to Children (CHCC) for Various State Requirements*

Department of Ecology (**DOE**) has established a list of priority chemicals that are of high concern for children. The DOE require manufacturers to notify the DOE when these Chemicals of High Concern to Children were present in children's products. Reporting requirements are based on type of product and category of manufacturer. Report is required if any of these chemicals are intentionally added above practical quantitation limit (PQL) or are present as contaminants above 100 ppm (mg/kg). In Appendix 1 there are links to these lists.

# Primark RSL Testing Matrix

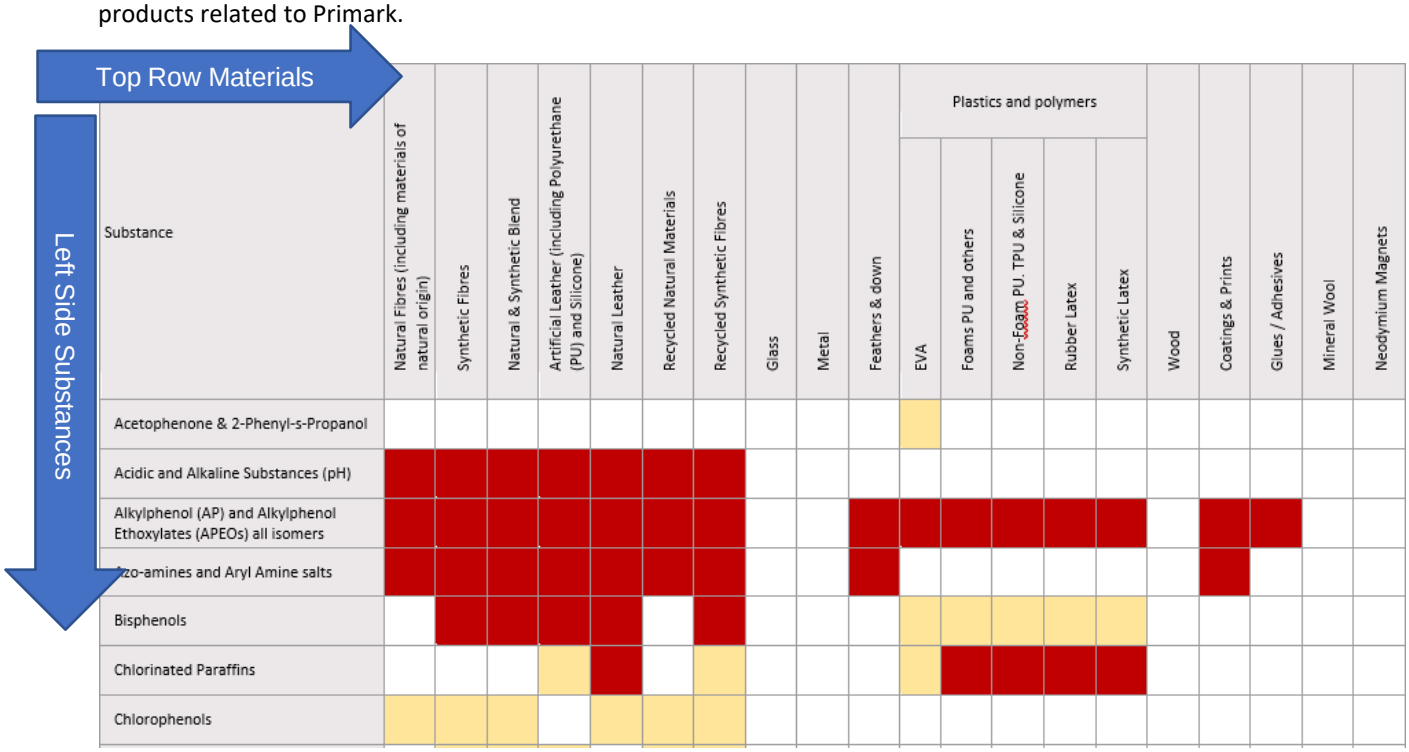
The following tables are listings of materials specified within the scope of the document and the substances from the Restricted substance listings. Each material is assessed for its risk within each substance, risk is calculated on the following basis.

| | | |
|---|---|---|
| | High Risk | There is a high likelihood of the substance being present within this material. |
| | Moderate Risk | There is a moderate chance of the substance being present within this material. |
| | Lowest Risk | There is a low risk of the substance being present within this material. |

Our expectations for the above ratings are as follows.

- High: Testing required.
- Moderate: Testing recommended and may be required at brand discretion.
- Low: Testing not required unless specifically dictated

On the left side of the testing matrix are referring to the chemicals & substances. The top row refers to materials / products related to Primark.




Please note that substances which are only listed in the MRSL of ZDHC and are not commonly found in this RSL haven't been reported in the matrix. For the applicability of these substances please refer to ZDHC MRSL Version 3.1.

| Substance | Natural Fibres (including materials of natural origin) | Synthetic Fibres | Natural & Synthetic Blend | Artificial Leather (including | Natural Leather | Recycled Natural Materials | Recycled Synthetic Fibres | Glass | Metal | Feathers & down | Plastics and polymers | | | | | Wood | Coatings & Prints | Glues / Adhesives |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | EVA | Foams PU and | Non-Foam | Rubber Latex | Synthetic Latex | | | |
| Acetophenone & 2-Phenyl-s-Propanol | | | | | | | | | | | | | | | | | | |
| Acidic and Alkaline Substances (pH) | | | | | | | | | | | | | | | | | | |
| Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs) all isomers | | | | | | | | | | | | | | | | | | |
| Azo-amines and Aryl Amine salts | | | | | | | | | | | | | | | | | | |
| Bisphenols | | | | | | | | | | | | | | | | | | |
| Chlorinated Paraffins | | | | | | | | | | | | | | | | | | |
| Chlorophenols | | | | | | | | | | | | | | | | | | |
| Chlororganic Carriers | | | | | | | | | | | | | | | | | | |
| Dimethylfumarate (DMFu) | | | | | | | | | | | | | | | | | | |
| Dyes (forbidden and Disperse) | | | | | | | | | | | | | | | | | | |
| Dyes, Navy Blue | | | | | | | | | | | | | | | | | | |
| Flame Retardants | | | | | | | | | | | | | | | | | | |

| Substance | Natural Fibres (including materials of | Synthetic Fibres | Natural & Synthetic Blend | Artificial Leather (including | Natural Leather | Recycled Natural Materials | Recycled Synthetic Fibres | Glass | Metal | Feathers & down | Plastics and polymers | | | | | Wood | Coatings & Prints | Glues / Adhesives |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | EVA | Foams PU and | Non-Foam | Rubber Latex | Synthetic Latex | | | |
| Fluorinated Green House Gases (*Production related*) | | | | | | | | | | | | | | | | | | |
| Formaldehyde | | | | | | | | | | | | | | | | | | |
| Isocyanates | | | | | | | | | | | | | | | | | | |
| Heavy metals, Chromium VI | | | | | | | | | | | | | | | | | | |
| Heavy metals, Extractable | | | | | | | | | | | | | | | | | Jewelry | |
| Heavy metals, Nickel Release | | | | | | | | | | | | | | | | | | |
| Heavy metals, Total | | | | | | | | | | | | | | | | | | |
| Monomers, Acrylamides, Styrene and Vinyl Chloride | | | | | | | | | | | | | | | | | | |
| N-nitrosamines | | | | | | | | | | | | | | | | | | |
| Organotin compounds | | | | | | | | | | | | | | | | | | |
| Ortho-phenylphenol (OPP) | | | | | | | | | | | | | | | | | | |
| Ozone depleting Chemicals | | | | | | | | | | | | | | | | | | |

| Substance | Natural Fibres (including materials of natural origin) | Synthetic Fibres | Natural & Synthetic Blend | Artificial Leather (including | Natural Leather | Recycled Natural Materials | Recycled Synthetic Fibres | Glass | Metal | Feathers & down | Plastics and polymers | | | | | Wood | Coatings & Prints | Glues / Adhesives |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | EVA | Foams PU and | Non-Foam PU. TPU & | Rubber Latex | Synthetic Latex | | | |
| Pesticides Agricultural | | | | | | | | | | | | | | | | | | |
| Phthalates | | | | | | | | | | | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons (PAH) | | | | | | | | | | | | | | | | | | |
| Polymers (PVC) | | | | | | | | | | | | | | | | | | |
| Perfluorinated and Polyfluorinated chemicals (PFCs or PFAS) * | | | | | | | | | | | | | | | | | | |
| Quinoline | | | | | | | | | | | | | | | | | | |
| Solvents, Residual DMFa | | | | | | | | | | | | | | | | | | |
| Silicons | | | | | | | | | | | | | | | | | | |
| Pentachlorothiophenol (PCTP) | | | | | | | | | | | | | | | | | | |
| Solvents, Residual DMAC and NMP | | | | | | | | | | | | | | | | | | |
| Solvents, Residual Formamide | | | | | | | | | | | | | | | | | | |
| UV Absorbers / Stabilizers | | | | | | | | | | | | | | | | | | |
| Volatile Organic Compounds (VOCs) | | | | | | | | | | | | | | | | | | |

*If PFAS contamination is suspect

| Acetophenone and 2-Phenyl-2-Propanol | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 98-86-2 | Acetophenone | 50 ppm each | N/A | Potential breakdown products in EVA foam when using certain cross-linking agents, including Dicumyl Peroxide. | Extraction in acetone or methanol | 25 ppm each |
| 617-94-7 | 2-Phenyl-2-Propanol | | | | | |
| May be found in Ethylene-vinyl-acetate (EVA) foams produced with Dicumyl peroxide as a crosslinking initiator and in Fragrances, solvents, and cleaners. | | | | | | |

| Acidic and Alkaline Substances (pH) | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| N/A | pH Value | Textiles: 4.0–7.5<br><br>Leather:<br>Chrome-tanned: 3.2–4.5<br>Other: 3.5 – 7.0 | N/A | pH value is a characteristic number, ranging from pH 0 to pH 14, which indirectly shows the content of acidic or alkaline substances in a product.<br><br>Recommendation: comply with global regulations to minimize the chances of Chromium VI formation during tanning and processing of leather. | Textiles and Artificial Leather: EN ISO 3071:2020<br><br>Leather: EN ISO 4045:2018 | N/A |
| pH values less than 7 indicate sources of acidic substances, and values greater than 7 indicate sources of alkaline substances.<br>To avoid irritation or chemical burns to the skin, the pH value of products must be in the range of human skin— approximately pH 5.5. | | | | | | |

| Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs) all isomers( Appendix D) | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| various | Nonylphenol (NP), mixed isomers | Total Aps: 10 ppm<br>Total Aps + APEOs: 100 ppm | 250 ppm | 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,<br>de-gumming for silk production, dyes and pigment preparations, polyester padding, and | Textiles and Leather: EN ISO 21084:2019<br><br>Polymers and all other materials:<br>1 g sample/20 mL THF, sonication for 60 minutes at 70 ° C, analysis according to EN ISO 21084:2019 | Total of NP + OP: 3 ppm |
| various | Octylphenol (OP), mixed isomers | | | | | |
| Continue…▼ | | | | | All materials except Leather: EN ISO 18254-1:2016 with determination of APEO using | Total of NPEOs + OPEOs: 20 ppm |

| | | | | | | |
|---|---|---|---|---|---|---|
| various | Nonylphenol ethoxylates (NPEOs) | | | down /feather fillings.<br><br>Recycled products: Contact your brand customer for information about potential exemptions from the limit on NPEOs in recycled textile products. | LC/MS or LC/MS/MS<br>Leather: Sample prep and analysis<br>using EN ISO 18218-1:2015<br>with quantification according to<br>EN ISO 18254-1:2016 | |
| various | Octylphenol ethoxylates (OPEOs) | | | | | |
| 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. Some Aps are very toxic to aquatic life with long lasting effects. Some Aps are suspected of damaging human fertility and unborn children.<br>APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes.<br>We acknowledge that residual or trace concentrations of APEOs may still be found at levels exceeding 100 ppm and that more time is necessary for the supply chain to phase them out completely. | | | | | | |
| Azo-amine and Arylamine Salts | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 92-67-1 | 4-Aminobiphenyl | 20 ppm each | 150 mg/kg each | 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. | All materials except Leather:<br>EN ISO 14362-1:2017<br><br>Leather: EN ISO 17234-1:2020<br><br>p-Aminoazobenzene:<br>All materials except Leather:<br>EN ISO 14362-3:2017<br>Leather: EN ISO 17234-2:2011 | 5 ppm each |
| 92-87-5 | Benzidine | | | | | |
| 95-69-2 | 4-Chloro-o-toluidine | | | | | |
| 91-59-8 | 2-Naphthylamine | | | | | |
| 97-56-3 | o-Aminoazotoluene | | | | | |
| 99-55-8 | 2-Amino-4-nitrotoluene | | | | | |
| 106-47-8 | p-Chloraniline | | | | | |
| 615-05-4 | 2,4-Diaminoanisole | | | | | |
| 101-77-9 | 4,4'-Diaminodiphenylmethane | | | | | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | | | |
| 119-90-4 | 3,3'-Dimethoxybenzidine | | | | | |
| Continue...▼ | | | | | | |

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 119-93-7 | 3,3'-Dimethylbenzidine | 20 ppm each | 150 mg/kg each | 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. | All materials except Leather: EN ISO 14362-1:2017<br><br>Leather: EN ISO 17234-1:2020<br><br>p-Aminoazobenzene:<br>All materials except Leather: EN ISO 14362-3:2017<br>Leather: EN ISO 17234-2:2011 | 5 ppm each |
| 838-88-0 | 3,3'-dimethyl-4,4'-diaminodiphenylmethane | | | | | |
| 120-71-8 | p-Cresidine | | | | | |
| 101-14-4 | 4,4'-Methylen-bis(2-chloraniline) | | | | | |
| 101-80-4 | 4,4'-Oxydianiline | | | | | |
| 139-65-1 | 4,4'-Thiodianiline | | | | | |
| 95-53-4 | o-Toluidine | | | | | |
| 95-80-7 | 2,4-Toluenediamine | | | | | |
| 137-17-7 | 2,4,5-Trimethylaniline | | | | | |
| 95-68-1 | 2,4 Xylidine | | | | | |
| 87-62-7 | 2,6 Xylidine | | | | | |
| 90-04-0 | 2-Methoxyaniline (= o-Anisidine) | | | | | |
| 60-09-3 | p-Aminoazobenzene | | | | | |
| 3165-93-3 | 4-Chloro-o-toluidinium chloride | | | | | |
| 553-00-4 | 2-Naphthylammoniumacetate | | | | | |
| 39156-41-7 | 4-Methoxy-m-phenylene diammonium sulphate | | | | | |
| 21436-97-5 | 2,4,5-Trimethylaniline hydrochloride | | | | | |
| 62-53-3 | Aniline | | | | | |

| Bisphenols | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 80-05-7 | Bisphenol-A (BPA) | 1 ppm<br>Limit is applicable to items intended to come in contact with the mouth | 100 mg/kg | BPA may be used in the production of epoxy resins, polycarbonate plastics, flame retardants, and PVC.<br><br>BPS may be used as a substitute for BPA and can be found along with BPF in polyamide dye-fixing agents and sulfone- and phenol- | Extraction:<br>1 g sample/20 ml THF, sonication for 60 minutes at 60°C, analysis with LC/MS | 0.1 ppm for individual samples 1 ppm for composite samples |
| 80-09-1 | Bisphenol S (BPS) | In preparation for forthcoming restrictions, safer alternatives should be | N/A | | | 1 ppm |
| Continue...▼ | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 77-40-7 | Bisphenol B (BPB) | substituted for BPA and other listed bisphenols in all applicable materials. | | based leather tanning agents.<br>BPA and BPS can be found in<br>recycled polymeric and paper materials due to polycarbonate plastic and thermal receipt paper made with bisphenols entering waste streams. | | |
| 620-92-8 | Bisphenol F (BPF) | | | | | |
| 1478-61-1 | Bisphenol AF (BPAF) | | | | | |
| BPA is an endocrine disrupter, associated with risks that may include metabolic changes, cardiovascular diseases, impact to reproductive systems, and others. ▪ At the manufacturing level, human exposure can result from inhalation or contact to the skin. | | | | | | |
| Recommends testing relevant materials for bisphenols according to the Testing Matrix and to begin working with suppliers to replace bisphenols with suitable alternatives in all products. | | | | | | |
| Chlorinated Paraffins | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 85535-84-8 | Short-chain Chlorinated Paraffins (SCCPs) (C10-C13) | 1000 ppm | 250 mg/kg | May be used as softeners, flame retardants, or fat-liquoring agents in leather production; also, as a plasticizer in polymer production. | Leather:<br>ISO 18219-1:2021 (SCCP)<br>ISO 18219-2:2021 (MCCP)<br><br>Textiles and all other materials:<br>ISO 22818:2021 (SCCP + MCCP) | 100 ppm |
| 85535-85-9 | Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17) | | | | | |
| Chlorophenols | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 15950-66-0 | 2,3,4-Trichlorophenol (TriCP) | 0.5 ppm each | Sum (1) = 50 mg/kg | May be used as flame retardants, preservatives, and fungicides | All materials: DIN 50009:2021 | 0.5 ppm |
| 933-78-8 | 2,3,5-Trichlorophenol (TriCP) | | | | | |
| 933-75-5 | 2,3,6-Trichlorophenol (TriCP) | | | | | |
| 95-95-4 | 2,4,5-Trichlorophenol (TriCP) | | | | | |
| 88-06-2 | 2,4,6-Trichlorophenol (TriCP) | | | | | |
| 609-19-8 | 3,4,5-Trichlorophenol (TriCP) | | | | | |
| 4901-51-3 | 2,3,4,5-Tetrachlorophenol (TeCP) | | Sum (2) = 15 mg/kg | | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol (TeCP) | | | | | |
| 935-95-5 | 2,3,5,6-Tetrachlorophenol (TeCP) | | | | | |
| 87-86-5 | Pentachlorophenol (PCP) | | 5 mg/kg | | | |
| Continue..▼ | | | | | | |

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 95-57-8 | 2-Chlorophenol | N/A | Sum(1) = 50 mg/kg | May be used as flame retardants, preservatives, and fungicides | All materials: DIN 50009:2021 | 0.5 ppm |
| 108-43-0 | 3-Chlorophenol | | | | | |
| 106-48-9 | 4-Chlorophenol | | | | | |
| 576-24-9 | 2,3-Dichlorophenol | | | | | |
| 120-83-2 | 2,4-Dichlorophenol | | | | | |
| 583-78-8 | 2,5-Dichlorophenol | | | | | |
| 87-65-0 | 2,6-Dichlorophenol | | | | | |
| 95-77-2 | 3,4-Dichlorophenol | | | | | |
| 591-35-5 | 3,5-Dichlorophenol | | | | | |
| 15950-66-0 | 2,3,4-Trichlorophenol | | | | | |
| 933-78-8 | 2,3,5-Trichlorophenol | | | | | |
| 933-75-5 | 2,3,6-Trichlorophenol | | | | | |
| 95-95-4 | 2,4,5-Trichlorophenol | | | | | |
| 88-06-2 | 2,4,6-Trichlorophenol | | | | | |
| 609-19-8 | 3,4,5-Trichlorophenol | | | | | |
| 4901-51-3 | 2,3,4,5-Tetrachlorophenol | | Sum(2) = 15 mg/kg | | | |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | | | | | |
| 935-95-5 | 2,3,5,6-Tetrachlorophenol | | | | | |
| Pentachlorophenol (PCP), Tetrachlorophenol (TeCP), and Trichlorophenols (TriCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing/transporting fabrics. PCP, TeCP, and TriCP can also be used as in-can preservatives in print pastes and other chemical mixtures.<br>Only biocides that contain active substances that are approved under Regulation (EC) No 528/2012 of the European Parliament and the Council are permitted for use. | | | | | | |

| Chlororganic Carriers (Chlorinated Benzenes and Toluenes) | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 95-49-8 | 2-Chlorotoluene | 1 ppm | Sum = 200 mg/kg Tetrachlorotoluene and Trichlorotoluene 10 mg/kg each | Chlorobenzenes and Chlorotoluenes (Chlorinated Aromatic Hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/polyester fibres.<br><br>They can also be used as solvents. Cross-contamination from anti-moth agents and poly shipping bags may cause failures.<br><br>. | All materials EN 17137:2018 | 0.2 ppm |
| 108-41-8 | 3-Chlorotoluene | | | | | |
| 106-43-4 | 4-Chlorotoluene | | | | | |
| 32768-54-0 | 2,3-Dichlorotoluene | | | | | |
| 95-73-8 | 2,4-Dichlorotoluene | | | | | |
| 19398-61-9 | 2,5-Dichlorotoluene | | | | | |
| 118-69-4 | 2,6-Dichlorotoluene | | | | | |
| 95-75-0 | 3,4-Dichlorotoluene | | | | | |
| 25186-47-4 | 3,5-Dichlorotoluene | | | | | |
| 7359-72-0 | 2,3,4-Trichlorotoluene | | | | | |
| 2077-46-5 | 2,3,6-Trichlorotoluene | | | | | |
| 6639-30-1 | 2,4,5-Trichlorotoluene | | | | | |
| 76057-12-0 | 2,3,4,5-Tetrachlorotoluene | | N/A | | | |
| 875-40-1 | 2,3,4,6-Tetrachlorotoluene | 1 ppm | Sum = 200 mg/kg Tetrachlorotoluene and Trichlorotoluene 10 mg/kg each | | All materials EN 17137:2018 | 0.2 ppm |
| 1006-31-1 | 2,3,5,6-Tetrachlorotoluene | | | | | |
| 108-90-7 | Chlorobenzene | | | | | |
| 877-11-2 | Penta chlorotoluene | | | | | |
| 541-73-1 | 1,3-Dichlorobenzene | | | | | |
| 106-46-7 | 1,4-Dichlorobenzene | | | | | |
| 87-61-6 | 1,2,3-Trichlorobenzene | | | | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | | | |
| 108-70-3 | 1,3,5-Trichlorobenzene | | | | | |
| 634-66-2 | 1,2,3,4-Tetrachlorobenzene | | | | | |
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| | | | | | | |
|---|---|---|---|---|---|---|
| 634-90-2 | 1,2,3,5-Tetrachlorobenzene | | | | | |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | | | | | |
| 608-93-5 | Pentachlorobenzene | | | | | |
| 118-74-1 | Hexachlorobenzene | | | | | |
| 5216-25-1 | p-Chlorobenzotrichloride | | N/A | | | |
| 98-07-7 | Benzotrichloride | | | | | |
| 100-44-7 | Benzyl Chloride | 1 ppm | 500 mg/kg | | All materials EN 17137:2018 | 0.2 ppm |
| 95-50-1 | 1,2-Dichlorobenzene | | | | | |

Dimethyl Fumarate (DMFu)

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 624-49-7 | Dimethylfumarate (DMFu) | 0.1 ppm | 10 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. | All materials: ISO 16186:2021 | 0.05 ppm |

DMFu is an anti-mold agent that may be used in sachets in packaging to prevent the buildup of mold, especially during shipping.
DMFu is often placed in pads or desiccant sachets which is placed in the product or its packaging. It will evaporate over time and impregnate the leather, protecting it from mold which can cause the leather to deteriorate. It can also be applied directly to the surface of the product.
Only biocides that contain active substances that are approved under Regulation (EC) No 528/2012 of the European Parliament and the Council are permitted for use.

Dyes (Forbidden and Disperse)

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 2475-45-8 | C.I. Disperse Blue 1 | 30 ppm each | 250 mg/kg | Disperse dyes are a class of water insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds.<br><br>Disperse dyes are used in synthetic fibre (e.g., polyester, acetate, polyamide). | All materials: DIN 54231:2022 | 0.2 ppm |
| 2475-46-9 | C.I. Disperse Blue 3 | | | | | |
| 3179-90-6 | C.I. Disperse Blue 7 | | | | | |
| 3860-63-7 | C.I. Disperse Blue 26 | | | | | |
| 56524-77-7 | C.I. Disperse Blue 35A | | | | | |
| 56524-76-6 | C.I. Disperse Blue 35B | | N/A | | | |
| 12222-97-8 | C.I. Disperse Blue 102 | | 250 mg/kg | | | |

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|---|---|---|---|---|---|---|
| 12223-01-7 | C.I. Disperse Blue 106 | | 250 mg/kg | | | |
| 61951-51-7 | C.I. Disperse Blue 124 | | | | | |
| 23355-64-8 | C.I. Disperse Brown 1 | | | | | |
| 2581-69-3 | C.I. Disperse Orange 1 | | | | | |
| 730-40-5 | C.I. Disperse Orange 3 | | | | | |
| 82-28-0 | C.I. Disperse Orange 11 | | | | | |
| 12223-33-5 | C.I. Disperse Orange 37/76/59 | | N/A | | | |
| 13301-61-6 | | | | | | |
| 51811-42-8 | C. I. Disperse Orange 76 | | 250 mg/kg | | | |
| 85136-74-9 | C.I. Disperse Orange 149 | | N/A | | | |
| 2872-52-8 | C.I. Disperse Red 1 | | 250 mg/kg | | | |
| 2872-48-2 | C.I. Disperse Red 11 | | | | | |
| 3179-89-3 | C.I. Disperse Red 17 | | | | | |
| 61968-47-6 | C.I. Disperse Red 151 | | N/A | | | |
| 119-15-3 | C.I. Disperse Yellow 1 | | 250 mg/kg | | | |
| 2832-40-8 | C.I. Disperse Yellow 3 | | | | | |
| 6300-37-4 | C.I. Disperse Yellow 7 | | N/A | | | |
| 6373-73-5 | C.I. Disperse Yellow 9 | | 250 mg/kg | | | |
| 6250-23-3 | C.I. Disperse Yellow 23 | | N/A | | | |
| 12236-29-2 | C.I. Disperse Yellow 39 | | 250 mg/kg | | | |
| 54824-37-2 | C.I. Disperse Yellow 49 | | | | | |
| 54077-16-6 | C.I. Disperse Yellow 56 | | N/A | | | |
| 3761-53-3 | C.I. Acid Red 26 | | 250 mg/kg | | | |
| 569-61-9 | C.I. Basic Red 9 | | | | | |
| 569-64-2 | C.I. Basic Green 4 | | | | | |
| 2437-29-8 | | | | | | |
| 10309-95-2 | | | | | | |
| 548-62-9 | C.I. Basic Violet 3 | | | | | |
| 632-99-5 | C.I. Basic Violet 14 | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2580-56-5 | C.I. Basic Blue 26 | | 250 mg/kg | | | |
| 1937-37-7 | C.I. Direct Black 38 | | | | | |
| 2602-46-2 | C.I. Direct Blue 6 | | | | | |
| 573-58-0 | C.I. Direct Red 28 | | | | | |
| 16071-86-6 | C.I. Direct Brown 95 | | N/A | | | |
| 60-11-7 | 4-Dimethylaminoazobenzene (Solvent Yellow 2) | | | | | |
| 6786-83-0 | C.I. Solvent Blue 4 | | | | | |
| 561-41-1 | 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol | | | | | |
| Dye – Blue Colorant | | | | | | |
| CAS No. | Substance Name | | Restriction | | Restriction MRSL | |
| 118685-33-9 | Navy Blue: Component 1: C39H23ClCrN7O12S.2Na | 30ppm each | N/A | Navy blue colorants are regulated and prohibited from use for dyeing textiles. Index 611-070-00-2 | All materials: DIN 54231:2022 | 15 ppm |
| Not allocated | Navy Blue: Component 2: C46H30CrN10O20S2.3Na | | | | | |
| Dyes in this class are widely used in a variety of fibre and material types. Acid dyes are water-soluble anionic dyes mainly used on fibres such as wool, silk, and nylon. | | | | | | |
| Basic dyes are water-soluble cationic dyes mainly used on acrylic fibres. Direct dyes are used on natural fibres such as cotton, linen, cellulose and in special treatments such as dip dyes. Solvent dyes are dyes which are soluble in organic solvents and can be used on natural and synthetic fibres. Navy Blue Dye is a specific dye mixture used to dye leather and textiles. | | | | | | |

| Flame Retardants | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 1309-64-4 | Antimony trioxide | 1000 ppm | N/A | Component of flame retardant treatment for polymers; opaciying agent for glasses, ceramics, and enamels; specialty pigments. Possible residuals in polyester yarn. | | 1.0 ppm |
| 84852-53-9 | Decabromodiphenyl ethane (DBDPE) | 10 ppm | N/A | 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. | EN ISO 17881-1:2016 / EN ISO 17881-2:2016 | 5.0 ppm |
| 32534-81-9 | Pentabromodiphenyl ether (PentaBDE) | | 250 mg/kg | | | |
| 32536-52-0 | Octabromodiphenyl ether (OctaBDE) | | | | | |
| 1163-19-5 | Decabromodiphenyl ether (DecaBDE) | | | | | |
| various | All other Polybrominated diphenyl ethers (PBDE) | | | | | |
| 79-94-7 | Tetrabromobisphenol A (TBBP A) | | | | | |
| 59536-65-1 | Polybromobiphenyls (PBB) | | N/A | | | |
| 3194-55-6 | Hexabromocyclododecane (HBCDD) | | 250 mg/kg | | EN ISO 17881-1:2016/ EN ISO 17881-2:2016 | |
| 3296-90-0 | 2,2-bis(bromomethyl)-1,3-propanediol (BBMP) | | | | | |
| 13674-87-8 | Tris(1,3-dichloro-isopropyl) phosphate (TDCPP) | | | | | |
| 25155-23-1 | Trixylyl phosphate (TXP) | | | | | |
| 126-72-7 | Tris (2,3, -dibromopropyl) phosphate (TRIS) | | | | | |
| 545-55-1 | Tris(1-aziridinyl) phosphine oxide) (TEPA) | | | | | |
| 115-96-8 | Tris(2-chloroethyl) phosphate (TCEP) | | | | | |
| 5412-25-9 | Bis(2,3-dibromopropyl) phosphate (BDBPP) | | | | | |
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|---|---|---|---|---|---|---|
| 68937-41-7 | Isopropylated phosphate (3:1) (PIP (3:1)) | 10 ppm | N/A | 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. | | 5.0 ppm |
| 10043-35-3, 11113-50-1 | Boric Acid | 1000 ppm | 250 mg/kg | | Methanol extraction, ICP | |
| 13654-09-6 | Decabromobiphenyl (DecaBB) | N/A | | | Solvent extraction, GC-MS and/or LC-MS | |
| 1303-86-2 | Diboron Trioxide | 1000 ppm | | | Methanol extraction, ICP | |
| Multiple | Dibromobiphenyls (DiBB) | N/A | | | Solvent extraction, GC-MS and/or LC-MS | |
| 12008-41-2 | Disodium octaborate | 1000 ppm | | | Methanol extraction, ICP | |
| 1303-96-4, 1330-43-4 | Disodium tetraborate, anhydrous | | | | | |
| 68928-80-3 | Heptabromodiphenyl ether (HeptaBDE) | 10 ppm | | | Solvent extraction, GC-MS and/or LC-MS | |
| 36483-60-0 | Hexabromodiphenyl ether (HexaBDE) | | | | | |
| Multiple | Monobromodiphenyl ether (MonoBDEs) | N/A | | | | |
| multiple | Nonabromobiphenyls (NonaBB) | | | | | |
| 63936-56-1 | Nonabromodiphenyl ether (NonaBDE) | | | | | |
| Multiple | Octabromobiphenyls (OctaBB) | | | | | |
| 12267-73-1 | Tetraboron disodium heptaoxide, hydrate | 1000 ppm | | | Methanol extraction, ICP | |
| 79-94-7 | Tetrabromobisphenol A (TBBPA) | | | | Solvent extraction, GC-MS and/or LC-MS | |
| 21850-44-2 | Tetrabromobisphenol A bis (2,3-dibromopropyl ether) | N/A | | | | |
| 40088-47-9 | Tetrabromodiphenyl ether (TetraBDE) | 10 ppm | | | | |
| 78-30-8 | Tri-o-cresyl phosphate | | | | | |

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|---|---|---|---|---|---|---|
| Multiple | Tribromodiphenyl ethers (TriBDEs) | N/A | 250 mg/kg | | | |
| 512-56-1 | Trimethyl phosphate | | | | | |
| 13674-84-5 | Tris (2-chloro-1-methylethyl) phosphate (TCPP) | 1000 pm | | | | |

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. The 10 ppm limit is established to account for incidental impurities, byproducts, and contaminants.

Flame retardants should not be used for any other purpose, e.g., as softeners or plasticizers

Fluorinated Greenhouse Gases (See also Appendix A)

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| Various | See Regulation (EU) No 517/2014 for a complete list. | 0.1 ppm each | N/A | Prohibited from use | Sample preparation:<br>Purge and trap — thermal desorption or SPME<br>Measurement: GC/MS | 0.1 ppm |

Fluorinated Greenhouse Gases (F Gases) are a family of chemicals that contribute to climate change and global warming if emitted to the atmosphere. F Gases are comprised primarily of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). HFCs are relatively short-lived in the atmosphere, while PFCs and SF6 can remain in the atmosphere for thousands of years. Mostly related to use production processes rather than final product and/or materials.

Formaldehyde

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 50-00-0 | Formaldehyde | Adults & Children: 75 ppm<br><br>Babies Ages <3 years: 16 ppm | 250 mg/kg | Used in textiles as an anti-creasing and anti-shrinking agent. It is also often used in polymeric resins. | All materials (not leather): JIS L 1041-2011 A (Japan Law 112) or EN ISO 14184-1:2011<br>Leather: EN ISO 17226-2:2019 with EN ISO 17226-1:2021 confirmation method in case of interferences.<br>Alternatively, EN ISO 17226-1:2021 | 16 ppm |

Composite wood materials (Such as particle board and plywood) must comply with existing California and U.S. Formaldehyde emission requirements (40 CFR 770).

The TPC's accreditation certificate issued by the EPA-recognized Laboratory AB must specifically include a written reference that the TPC's scope of accreditation includes “40 CFR part 770—Formaldehyde Standards for Composite Wood Products” and the formaldehyde test methods ASTM E1333-10 and ASTM D6007-02, if used.

| Isocyanates | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 3634-83-1 | 1,3-bis(isocyanatomethyl)benzene (HDI) | 1.0 ppm Free content sum of all<br><br>1.0 ppm Free content sum of all | N/A | Isocyanates are a group of monomers used to create many types of polymers, including a variety of building products from adhesives to foam insulation and composite woods. | | 1.0 ppm |
| 101-68-8 | Diphenylmethane-4,4-diisocyanate (MDI) | | | | | |
| 822-06-0 | Hexamethylene diisocyanate (HMDI) | | | | | |
| 4098-71-9 | Isophorone diisocyanate (IPDI) | | | | | |
| 2778-42-9 | Tetramethylxylene diisocyanate (TMXDI) | | | | | |
| 584-84-9 | Toluene-2,4-diisocyanate (2,4-TDI) | | | | | |
| 91-08-7 | Toluene-2,6-diisocyanate (2,6-TDI) | | | | | |
| Isocyanates are a group of monomers used to create many types of polymers, including a variety of building products from adhesives to foam insulation and composite woods. In general, isocyanates are hazardous air pollutants and are known asthmagens. Isocyanates are sometimes used as a replacement for formaldehyde in certain types of binders. Currently, there is no other binder alternative available without either of these harmful substances. Our recommendation is to prioritize avoidance of formaldehyde. | | | | | | |

| Heavy Metals (Extractable and Total) Non Jewelry | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 7440-36-0 | Antimony (Sb) | Extractable 30 ppm | Dye 50 mg/kg<br>Pigment 250 mg/kg | Found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments, and alloys. | Extractable:<br>All materials except leather:<br>EN 16711-2:2016<br>Leather:<br>EN ISO 17072-1:2019<br><br>Total:<br>All materials except leather:<br>EN 16711-1:2016<br>Leather:<br>EN ISO 17072-2:2019 | Extractable: 3 ppm |
| 7440-38-2 | Arsenic (As) | Extractable 0.2 ppm<br><br>Total 100 ppm | 50 mg/kg | Arsenic and its compounds can be used in preservatives, pesticides, and defoliants for cotton, synthetic fibres, paints, inks, trims, and plastics. | | Extractable: 0.1 ppm<br><br>Total: 10 ppm |
| Continue…▼ | | | | | | |

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 7440-39-3 | Barium (Ba) | Extractable 1000 ppm | Dyes and Pigments 100 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. | Textiles: EN 16711-2:2016 with EN ISO 17075-1:2017 if Cr is detected. Leather: EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case extract causes interference. Alternatively, EN ISO 17075-2:2017 may be used on its own. Ageing test: ISO 10195:2018. | Extractable: 100 ppm |
| 7440-43-9 | Cadmium (Cd) | Extractable 0.1 ppm | 20 mg/kg (50 mg/kg for pigments) | Cadmium compounds may be used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides, and paints. | | Extractable: 0.05 ppm |
| | | Total 40 ppm | | | | Total: 5 ppm |
| 7440-47-3 | Chromium (Cr) | Extractable: Textiles: Babies: 1 ppm Adults and children: 2 ppm | Dyes and Pigments 100 mg/kg | Chromium compounds can be used as dyeing additives; dye fixing agents; colorfastness aftertreatments; dyes for wool, silk, and polyamide (especially dark shades); and leather tanning. 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). | | Extractable: 0.5 ppm |
| 18540-29-9 | Chromium VI | Extractable: Textiles: 0.5 ppm Leather: 3 ppm | 10 mg/kg | | | Extractable: Textiles 0.5ppm Leather 3 ppm |
| 7440-48-4 | Cobalt (Co) | Extractable: Adults: 4 ppm Children and babies: 1 ppm | Dyes 500 mg/kg | Cobalt and its compounds can be used in alloys, pigments, dyestuff, and the production of plastic buttons. | All materials except leather: EN 16711-2:2016 Leather: EN ISO 17072-1:2019 | Extractable: 0.5 ppm |
| 7440-50-8 | Copper (Cu) | Extractable: Adults: 50 ppm Children and babies: 25 ppm | Dyes 250 mg/kg | Copper and its compounds can be found in alloys and pigments, and in textiles as an antimicrobial agent. Copper is exempt from restriction limits in Metal parts. | | Extractable: 0.2 ppm Total: 10 ppm |

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| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 7439-92-1 | Lead (Pb) | Extractable:<br>Adults: 1 ppm<br>Children and babies: 0.2 ppm<br><br>Total: 90 ppm | 100 mg/kg | May be associated with alloys,<br>plastics, paints, inks, pigments, and surface coatings.<br>Crystal or “lead glass” is exempt from total Lead restrictions.<br>Indonesia Ministerial Regulation No. 18 limits extractable Lead to 0.2 ppm in towels, bedding, and handkerchiefs. | Extractable:<br>All materials except leather:<br>EN 16711-2:2016<br>Leather: DIN EN ISO 17072-1:2019<br>Total:<br>Non-metal: CPSC-CH-E1002-08.3<br>Metal: CPSC-CH-E1001-08.3<br>Lead in paint and surface coatings:<br>CPSC-CH-E1003-09.1 | Extractable: 0.2 ppm<br><br>Total: 10 ppm |
| 7439-97-6 | Mercury (Hg) | Extractable 0.02 ppm<br><br>Total: 0.5 ppm | 4 mg/kg (25 mg/kg for pigments) | Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints and as catalysts in the manufacture of PU and vinyl chloride for use in PVC. | Extractable:<br>All materials except leather:<br>EN 16711-2:2016<br>Leather: DIN EN ISO 17072-1:2019<br><br>Total:<br>All materials except leather:<br>EN 16711-1:2016<br>Leather: DIN EN ISO 17072-2:2019 | Extractable: 0.02 ppm<br><br>Total: 0.1 ppm |
| 7440-02-0 | Nickel (Ni) | Extractable: 1 ppm | Dyes 250 mg/kg | They can occur as impurities in pigments and alloys. | | Extractable: 0.1 ppm |
| 7782-49-2 | Selenium (Se) | Extractable:500 ppm | Dye 20 mg/kg<br>Pigment 100 mg/kg | May be found in synthetic fibres, paints, inks, plastics, and metal trims. | | Extractable: 50 ppm |

| Heavy Metals (Extractable and Total) Jewelry | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 7440-36-0 | Antimony (Sb) | Paints & Coatings: Extractable: 60 ppm | Dye 50 mg/kg<br>Pigment 250 mg/kg | Antimony and its compounds can be used as a Flame Retardant in paints, as well as a colorant in pigments. | ASTM: F963-17 as referenced in ASTM F2923:2020 and ASTM F 2999:2019 | Extractable: 5 ppm |
| 7440-38-2 | Aresenic (As) | Paints & Coatings: Extractable: 25 ppm | 50 mg/kg | Arsenic and its compounds can be used in paints and inks. | | |
| 7440-39-3 | Barium (Ba) | Paints & Coatings: Extractable: 1000 ppm | Paints & Coatings: | Barium and its compounds can be used in pigments for inks | | Extractable: 100 ppm |
| 7440-43-9 | Cadmium (Cd) | Substrates, Paints & Coatings:<br>Total:<br>Adults: 75 ppm<br>Children: 40 ppm | Substrates, Paints & Coatings: | Cadmium and its compounds are used as pigments (especially in red, orange, yellow, and green).<br>It can also be used in alloys to improve hardness or be found as a contaminant | | Total: 5 ppm |
| 7440-47-3 | Chromium (Cr) | Paints & Coatings: Extractable: 60 ppm | Dyes and Pigments 100 mg/kg | Chromium and its compounds can be used as pigments in paints. It can also be used as part of alloys such as stainless steel. | | Extractable: 5 ppm |
| 7439-92-1 | Lead (Pb) | Substrates, Paints & Coatings:<br>Total: 90 ppm | 100 mg/kg | Lead and its compounds may be associated with plastics, paints, inks, pigments, and surface coatings. It can also be found in metals as a contaminant. Crystal or “lead glass” is exempt from total Lead restrictions. | | Total: 10 ppm |
| Continue…▼ | | | | | | |

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 7439-97-6 | Mercury (Hg) | Paints & Coatings:<br>Extractable:<br>60 ppm | 4 mg/kg (25 mg/kg for pigments) | Mercury and its compounds may be used in paints and can be found as a contaminant in alloys and in gold due to its use during the extraction process. | ASTM: F963-17 as referenced in ASTM F2923:2020 and ASTM F 2999:2019 | Extractable: 5 ppm |
| 7440-02-0 | Nickel (Ni) | Release (metal parts):<br>Prolonged skin contact:<br>0.5 µg/cm²/week<br>Pierced part:<br>0.2 µg/cm²/week | Dyes 250 mg/kg | Nickel and its compounds can be used for plating alloys and improving the corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys. | EN 12472:2020 and EN 1811:2011+A1:2015. Note that a new version of standard EN 1811: 2023 has been published and as soon as it will be harmonized the 2023 version shall be used. | Release:<br>Prolonged skin contact:<br>0.5 µg/cm²/week<br>Pierced part:<br>0.2 µg/cm²/week |
| 7782-49-2 | Selenium (Se) | Paints & Coatings:<br>Extractable:<br>500 ppm | Dyes 20 mg/kg<br>Pigments 100 mg/kg | Selenium and its compounds may be found in paints and inks. | ASTM: F963-17 as referenced in ASTM F2923:2020 and ASTM F 2999:2019 | Extractable: 50 ppm |
| Monomers | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 100-42-5 | Styrene | 500 ppm | N/A | May be present in various Styrene co-polymers like plastic buttons. Free styrene is restricted, not total styrene. | Extraction in Methanol GC/MS, sonication at 60°C for 60 minutes | 50 ppm |
| 924-42-5 | N-(hydroxymethyl)acrylamide | 1000 ppm | | It can be used in wet-strength and dry-strength agents for paper, in textile finishing agents for crease resistance, in antistatic agents, in dispersing agents, in cross-linking agents and in emulsion polymers. | GC/MS | 500 ppm |
| 75-01-4 | Vinyl Chloride | 1 ppm | | May be present in various PVC materials like prints, coatings, flip flops, and synthetic leather. | EN ISO 6401:2008 | 1 ppm |

| Nitrosamines | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 62-75-9 | N-nitrosodimethylamine (NDMA) | 0.5 ppm each | N/A | Can be formed as by-product in the production of rubber. | EN ISO 19577:2019 with LC/MS/MS verification if positive | 0.5 ppm each |
| 55-18-5 | N-nitrosodiethylamine (NDEA) | | | | | |
| 621-64-7 | N-nitrosodipropylamine (NDPA) | | | | | |
| 924-16-3 | N-nitrosodibutylamine (NDBA) | | | | | |
| 100-75-4 | N-nitrosopiperidine (NPIP) | | | | | |
| 930-55-2 | N-nitrosopyrrolidine (NPYR) | | | | | |
| 59-89-2 | N-nitrosomorpholine (NMOR) | | | | | |
| 614-00-6 | N-nitroso N-methyl N-phenylamine (NMPhA) | | | | | |
| 612-64-6 | N-nitroso N-ethyl N-phenylamine (NEPhA) | | | | | |
| Organotins Compounds | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| Various | Dibutyltin (DBT) | 1 ppm | 20 mg/kg | Class of chemicals combining tin and organics such as butyl and phenyl groups. Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterial), 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, | All materials: CEN ISO/TS 16179:2012 or EN ISO 22744-1:2020 | 0.1 ppm each |
| Various | Dioctyltin (DOT) | | N/A | | | |
| Various | Monobutyltin (MBT) | | | | | |
| Various | Tricyclohexyltin (TCyHT) | | 1 mg/kg | | | |
| Various | Trimethyltin (TMT) | | N/A | | | |
| Various | Trioctyltin (TOT) | | | | | |
| Various | Tripropyltin (TPT) | | 1 mg/kg | | | |
| Various | Tributyltin (TBT) | 0.5 ppm | N/A | | | |
| Various | Triphenyltin (TPhT) | | | | | |
| Continue…▼ | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Various | Monooctyltin compound (MOT) | | | and heat transfer material. | | |
| Various | Monooctyltin compound (MOT) | | | | | |
| Various | Monomethyltin compounds (MMT) | | | | | |
| Various | Dimethyltin Compounds (DMT) | | | | | |
| Various | Dipropyltin compounds (DPT) | N/A | 5 mg/kg | | | |
| Various | Diphenyltin Compounds (DPhT) | | N/A | | | |
| Various | Tetraethyltin Compounds (TeET) | | | | | |
| Various | Tetrabutyltin Compounds (TEBT) | | 1 mg/kg | | | |
| Various | Tetraoctyltin Compounds (TeOT) | | N/A | | | |
| Ortho-Phenylphenol | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 90-43-7 | Ortho-phenylphenol (OPP) | 1000 ppm | N/A | OPP is used for its preservative properties in leather or as a carrier in polyester dyeing processes. | All materials: DIN 50009:2021 | 100 ppm |
| Ozone-depleting Substances | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| Various | See Regulation (EC) No 1005/2009 for a complete list.<br><br>http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:286:0001:0030:EN:PDF | 5 ppm | N/A | **Prohibited from use.** Ozone-depleting substances have been used as a foaming agent in PU foams as well as a dry-cleaning agent. | All materials: GC/MS headspace 120°C for 45 minutes | 5 ppm |
| Ozone depleting substances (ODS) are a family of chemicals known to significantly damage the atmosphere's ozone layer. Ozone depleting substances are broken down by ultraviolet (UV) radiation to chlorine and bromine which in turn deplete the ozone layer. These can also have a high Global Warming Potential and thus contribute to global climate change. | | | | | | |

| Perfluorinated and Polyfluorinated Chemicals (PFCs or PFAS) (See also Appendix B) | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| Various | All PFAS as measured by total organic fluorine | 100 ppm by 2025<br>50 ppm by 2027 | varies | PFAS may be used in commercial water-, oil-, and stain-repellent agents as well as in breathable membranes that remove moisture, e.g., PTFE.<br><br>Refer to Appendix C for a list of PFAS substances and CAS nr for which testing can be conducted to indicate whether PFAS chemistry is present above restricted levels due to intended use or unintended contamination. | EN 14582:2016 or ASTM D7359:2018 | 50 ppm total |
| Various | Perfluoro octane Sulfonate (PFOS) and related substances | 1 µg/m2 | Sum = 2000 µg/kg | | All materials: EN ISO 23702-1 or EN 17681-1:2022 & 17681-2:2022 | 1 µg/m2 |
| Various | Perfluorooctanoic Acid (PFOA) and its salts | 25 ppb total | PFOA = 25 µg/kg PFOA-related substances = 1000 µg/kg | | | 25 ppb total |
| Various | PFOA-related substances | 1000 ppb total | | | | 1000 ppb |
| Various | Perfluorohexane-1-sulphonic acid (PFHxS) and its salts | 25 ppb total | 1000 µg/kg | | | 25 ppb total |
| Various | PFHxS-related substances | 1000 ppb total | N/A | | | 1000 ppb total |
| Various | C9-C14 Perfluorocarboxylic acids (PFCAs) and their salts | 25 ppb total | | | | 25 ppb total |
| Various | C9-C14 PFCA-related substances | 260 ppb total | | | | 260 ppb total |
| Various | Other Perfluoroalkyl Carboxylic Acids (PFCAs) | For information purposes only. Recommends testing to assess control levels. | | | | 100 ppb total |
| Various | Pesticides (see appendix D for a complete list) | 0.5 ppm each | varies | May be found in natural fibres, primarily cotton. | All materials:<br>EPA 8081/EPA 8151A | 0.5 ppm |
| Pesticides are substances or mixtures of substances intended to prevent, destroy, repel, or mitigate any pest. Pesticides can also include substances or mixtures of substances intended for use as a plant regulator, defoliant, or desiccant.<br>Pesticides may be used in upstream agricultural processes to manage a variety of pests. Pesticides may also be added to animal skins such as leather, or to natural fibres such as wool. Pesticides may also be used to control pests or vegetation around facilities. | | | | | | |

| Phthalates | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 28553-12-0 | Di-Iso-nonyl phthalate (DINP) | 50 ppm each<br>Total 1000 ppm | Sum 250 mg/kg | Plasticizers in polymeric materials and coatings<br><br>Phthalates can be found in:<br>o Flexible plastic components<br>o (e.g., PVC)<br>o Print pastes.<br>o Adhesives<br>o Plastic buttons<br>o Plastic sleevings<br>o Polymeric coatings<br><br>Listed here are all legally restricted phthalates as well as those included on the REACH substances of very high concern (SVHC) candidate list at the time of publication. | Sample preparation for all materials:<br>CPSC-CH-C1001-09.4<br><br>Measurement:<br>Textiles:<br>GC/MS, EN ISO 14389:2022 (8.1 Calculation based on weight<br>of print only, 8.2 Calculation based on weight of print and textile if print cannot be removed).<br><br>All materials except textiles:<br>GC/MS | 50 ppm each |
| 117-84-0 | Di-n-octyl phthalate (DNOP) | | | | | |
| 117-81-7 | Di(2-ethylhexyl)-phthalate (DEHP) | | | | | |
| 26761-40-0 | Diisodecylphthalate (DIDP) | | | | | |
| 85-68-7 | Butylbenzylphthalate (BBP) | | | | | |
| 84-74-2 | Dibutyl phthalate (DBP) | | | | | |
| 84-69-5 | Diisobutyl phthalate (DIBP) | | | | | |
| 84-75-3 | Di-n-hexylphthalate (DnHP) | | | | | |
| 84-66-2 | Diethyl phthalate (DEP) | | | | | |
| 131-11-3 | Dimethyl phthalate (DMP) | | N/A | | | |
| 131-18-0 | Di-n-pentyl phthalate (DPENP) | | Sum 250 mg/kg | | | |
| 84-61-7 | Dicyclohexyl phthalate (DCHP) | | | | | |
| 71888-89-6 | 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich | | | | | |
| 117-82-8 | Bis(2-methoxyethyl) phthalate | | | | | |
| 605-50-5 | Diisopentyl phthalate (DIPP) | | | | | |
| 131-16-8 | Dipropyl phthalate (DPRP) | | | | | |
| 27554-26-3 | Diisooctyl phthalate (DIOP) | | | | | |
| 68515-50-4 | Diisohexyl phthalate (DIHP) | | | | | |
| 68515-42-4 | 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) | | | | | |
| Continue…▼ | | | | | | |

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|---|---|---|---|---|---|---|
| 68648-93-1<br>68515-51-5 | 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate; 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters; 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters | | N/A | | | 50 ppm each |
| 71850-09-4 | Diisohexyl phthalate (DIHP) | N/A | Sum 250 mg/kg | | | |
| 84-76-4 | Dinonyl phthalate (DNP) | | | | | |
| 84777-06-0 | 1,2-Benzenedicarboxylic acid | | N/A | | | |
| 26040-51-7 | Bis(2-ethylhexyl) tetrabromophthalate | 50 ppm each<br>Total 1000 ppm | | | | |
| 776297-69-9 | n-pentyl-isopentyl phthalate | | Sum 250 mg/kg | | | |
| Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 83-32-9 | Acenaphthene | No Individual restriction<br>Total: 10 ppm | Sum = 200 mg/kg<br>Total: 10 ppm | PAHs are natural components of crude oil and are common residues from oil refining. PAHs have a characteristic smell similar to that of car tires or asphalt. 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. PAHs are often found in the outsoles of footwear and in printing pastes for screen prints. PAHs can be present as impurities in Carbon Black. They also may be formed from thermal | All materials:<br>AFPS GS 2019 or<br>EN 17132 or<br>ISO 16190 | 0.2 ppm each |
| 208-96-8 | Acenaphthylene | | | | | |
| 120-12-7 | Anthracene | | | | | |
| 191-24-2 | Benzo (g,h,i)perylene | | | | | |
| 86-73-7 | Fluorene | | | | | |
| 206-44-0 | Fluoranthene | | | | | |
| 193-39-5 | Indenol(1,2,3-cd) pyrene | | | | | |
| 91-20-3 | Naphthalene ** | | Sum = 200 mg/kg<br>200 mg/kg (leather)<br>Total: 10 ppm | | | |
| Continue…▼ | | | | | | |

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|---|---|---|---|---|---|---|
| 85-01-8 | Phenanthrene | No Individual restriction<br>Total 10 ppm | Total: 10 ppm | decomposition of recycled materials during reprocessing<br><br>Naphthalene: Dispersing agents for textile dyes may contain high residual naphthalene concentrations due to the use of low-quality Naphthalene derivatives (e.g., poor quality Naphthalene Sulphonate Formaldehyde condensation products). | All materials:<br>AFPS GS 2019 or<br>EN 17132 or<br>ISO 16190 | 0.2 ppm each |
| 129-00-0 | Pyrene | | | | | |
| 56-55-3 | Benzo(a)anthracene | 1 ppm each<br>Childcare products<br>0.5 ppm each | | | | |
| 50-32-8 | Benzo(a)pyrene | | | | | |
| 205-99-2 | Benzo(b)fluoranthene | | | | | |
| 192-97-2 | Benzo[e]pyrene | | | | | |
| 205-82-3 | Benzo[j]fluoranthene | | | | | |
| 192-97-2 | Benzo[e]pyrene | | | | | |
| 205-82-3 | Benzo[j]fluoranthene | | | | | |
| 207-08-9 | Benzo(k)fluoranthene | | | | | |
| 218-01-9 | Chrysene | | | | | |
| 53-70-3 | Dibenzo(a,h)anthracene | | | | | |

Some PAHs can be very toxic to aquatic organisms and, above certain exposure levels, may cause long-term adverse effects in the aquatic environment.
Above certain levels, long-term exposure to some PAHs may result in the development of particular cancers. Some PAHs, above certain exposure levels, may impair human fertility or cause harm to unborn children. Inhalation of PAHs in the air can irritate the eyes and the respiratory tract.

Quinoline

| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
|---|---|---|---|---|---|---|
| 91-22-5 | Quinoline | 50 ppm | 1000 mg/kg | Found as an impurity in polyester and some dyestuffs.<br><br>Quinoline can be included with disperse dye testing, as the same method is used for both. | All materials: DIN 54231:2022 with<br>methanol extraction at 70°C | 10 ppm |

Quinoline can appear as a contaminant in dispersing agents. In order to aid the dyeing process, disperse and vat dyes are formulated with dispersing agents. Naphthalene sulfonate formaldehyde condensates are a commonly used class of dispersing agents. These condensates are manufactured from naphthalene, and a minor by-product in the processing of naphthalene is quinoline. This can be carried out through the manufacturing of naphthalene sulfonate formaldehyde condensate dispersing agents. In addition to the manufacture of dispersing agents and dyes, quinoline also has biocidal properties and so may also be used as a fungicide.
Quinoline is classified as a carcinogenic substance.
Quinoline has a high solubility in water and is toxic to aquatic life. This makes it of concern in manufacturing processes where the dyed textiles are washed. There is potential for harm to downstream aquatic life.

| Silicones | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 556-67-2 | Octamethylcyclotetrasiloxane (D4) | 1000 ppm | 1000 mg/kg | Silicone is a type of synthetic rubber which can be found in rubber or latex material such as rugs or other type of backings, textile coatings such as Polyurethane, textile softeners, alternative water repellant coatings and different elastic plastic materials etc. | Solvent extraction, followed by GC-MS | 10 ppm |
| 541-02-6 | Decamethylcyclopentasiloxane (D5) | | | | | |
| 540-97-6 | Dodecamethylcyclohexasiloxane (D6) | | | | | |
| 31, 2020, was the Sunset date from which the substance, shall not be placed on the market in wash-off cosmetic products in a concentration equal to or greater than 0,1 % by weight of either substance133-49-3) | | | | | | |
| Pentachlorothiophenol (PCTP) | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 133-49-3 | Pentachlorothiophenol (PCTP) | 1% | N/A | Used in Rubber including but not limited to:<br>1. Butadiene rubber,<br>2. Isoprene rubber,<br>3. Natural rubber, and<br>4. Other rubber materials | Solvent extraction / GC-MS / LCMSMS / LC-DAD | 100 ppm |
| Solvents and Residuals | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 68-12-2 | Dimethylformamide (DMFa) | 500 ppm | 1000 mg/kg | Solvent is used in plastics, rubber, and polyurethane (PU) coating. Water based PU does not contain DMFa and is therefore preferable. | Textiles: EN 17131:2019<br>All other materials: ISO 16189:2021 | 50 ppm |
| 75-12-7 | Formamide | 1000 ppm | N/A | Byproduct in the production of EVA foams. | | |
| 127-19-5 | Dimethylacetamide (DMAC) | | 1000 mg/kg | Solvent used in the production of elastane fibres and some-times as substitute for DMFa. | | |
| Continue…▼ | | | | | | |

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|---|---|---|---|---|---|---|
| 2687-91-4 | N-Ethyl-2 pyrrolidone (NEP) | N/A | 1000 mg/kg | Adhesives and glues | GC-MS | |
| 872-50-4 | N-Methyl-2-pyrrolidone (NMP) | 1000 ppm | | Industrial solvent is used in the 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. | Textiles: EN 17131:2019<br>All other materials: ISO 16189:2021 | |
| DMFa is a colorless, fishy smelling liquid which is miscible with water and many other organic solvents. It is a solvent commonly used in the production of polyurethane coated materials such as synthetic leathers. It can also be used to process coatings, adhesives, plastics, acrylic fibres, PU resins, or as a cleaning solvent. DMAC and NMP have similar uses but are less common in manufacturing than DMFa. Formamide can be used as a solvent in the manufacture and processing of plastics or in the spinning of acrylonitrile copolymers.<br>May be found in; Dispersing agents for disperse dyes as an impurity, Polyester as an impurity, some cyanine dyestuffs (e.g., Disperse Yellow 54). | | | | | | |
| UV Absorbers / Stabilizers | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 2440-22-4 | UV-P (Drometrizole) | For informational purposes only. Recommends testing to assess content levels. | N/A | Used as UV Absorbers for Plastics (PVC, PET, PC, PA, ABS, and other Polymers), Rubber, and Polyurethane. | ISO 24040 with extraction in THF,<br>analysis by GC/MS | 100 ppm |
| 3846-71-7 | UV 320 | 1000 ppm | 1000 mg/kg | PU foam materials such as open cell foams for padding. Used as UV-absorbers for plastics (PVC, PET, PC, PA, ABS, and other polymers), rubber, polyurethane. | | |
| 3864-99-1 | UV 327 | | | | | |
| 25973-55-1 | UV 328 | | | | | |
| 36437-37-3 | UV 350 | | | | | |
| These substances may cause damage to organs through prolonged or repeated exposure, are harmful to aquatic life with long lasting effects, and are suspected of causing cancer. The last four UV Absorbers listed above are classified under REACH as SVHCs while the latter (Drometrizole) is known as a skin sensitizer and is also known to be very toxic to aquatic life. | | | | | | |

| Volatile Organic Compounds | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 71-43-2 | Benzene | 5 ppm | 50 mg/kg | These VOCs should not be used in textile auxiliary chemical preparations. 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. | For general VOC screening: GC/MS headspace 45 minutes at 120° C | Benzene: 5 ppm<br>Other: 20 ppm each |
| 75-15-0 | Carbon Disulfide | Total: 1000 ppm | N/A | | | |
| 56-23-5 | Carbon tetrachloride | | | | | |
| 67-66-3 | Chloroform | | | | | |
| 108-94-1 | Cyclohexanone | | | | | |
| 107-06-2 | 1,2-Dichloroethane | | 5 mg/kg | | | |
| 75-35-4 | 1,1-Dichloroethylene | | N/A | | | |
| 100-41-4 | Ethylbenzene | | | | | |
| 76-01-7 | Penta chloroethane | | | | | |
| 630-20-6 | 1,1,1,2- Tetrachloroethane | | | | | |
| 79-34-5 | 1,1,2,2- Tetrachloroethane | | | | | |
| 127-18-4 | Tetrachloroethylene (PER) | | 5 mg/kg | | | |
| 108-88-3 | Toluene | | 500 mg/kg | | | |
| 71-55-6 | 1,1,1- Trichloroethane | | N/A | | | |
| 79-00-5 | 1,1,2- Trichloroethane | | | | | |
| 79-01-6 | Trichloroethylene | | 40 mg/kg | | | |
| 1330-20-7 | Xylenes (meta-, ortho-, para-) | | N/A | | | |
| 108-38-3 | | | | | | |
| 95-47-6 | | | | | | |
| 106-42-3 | | | | | | |

| Glycols / Glycol Ethers | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 110-80-5 | 2-Ethoxyethanol | N/A | 50 mg/kg | In apparel and footwear, glycol ethers / glycol esters have a wide range of uses including as solvents for finishing / cleaning, printing agents and dissolving and diluting fats, oils, and adhesives (e.g. in degreasing or cleaning operations). | LC-MS, GC-MS | 50 ppm each |
| 111-15-9 | 2-Ethoxyethanol | | | | | |
| 109-86-4 | 2-Methoxyethanol | | | | | |
| 110-49-6 | 2-Methoxyethyl acetate | | | | | |
| 1589-47-5 | 2-Methoxypropanol | | | | | |
| 70657-70-4 | 2-Methoxypropyl acetate | | | | | |
| 111-96-6 | Bis (2-methoxyethyl) ether | | | | | |
| 110-71-4 | Ethylene glycol dimethyl ether | | | | | |
| 112-49-2 | Triethylene glycol dimethyl ether | | | | | |
| Other / Miscellaneous Chemicals | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 111-41-1 | 2-(2-Aminoethylamino)ethanol (AEEA) | | 100 mg/kg | Chelating agents, surfactants, and fabric softeners. | LC MS/MS or GC-MS | 50 ppm |
| 1332-07-6 | Borate, Zinc Salt | | 1000 mg/kg | Flame retardant as well as in paints, pigments, and adhesives | Acid digestion, ICP | 20 ppm |
| varies | Perboric acid, sodium salt | | | | DIN 54231, LC-MS | 20 ppm |
| 14464-46-1 | Silica (particles of respirable size) | 1000 ppm | N/A | Respirable particles of silica are often generated during the process of sand blasting. | due diligence | 20 ppm |
| 62-56-6 | Thiourea | N/A | 1000 mg/kg | Improves solubility. | LC MS/MS | 50 ppm |
| 13463-67-7 | Titanium Dioxide | | 1% (w/w) of TiO2 particles have aerodynamic diameter ≤10 µm. (Liquid mixtures or emulsions or pastes containing TiO2, having proper GHS/CLP classification, are allowed for use.) | Powders and mixtures | LC-DAD MS | 10 ppm |

| Other / Miscellaneous Chemicals | | | | | | |
|---|---|---|---|---|---|---|
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 1319-77-3 | Cresol (all isomers) | N/A | 500 mg/kg | Glues and adhesives | formulator should provide confirmed data to demonstrate conformance with particle size requirements for TiO2 | 5 mg/kg |
| 95-48-7 | o-Cresol | | | | GC-MS | 5 mg/kg |
| 108-39-4 | m-Cresol | | | | | 5 mg/kg |
| 106-44-5 | p-Cresol | | | | | 5 mg/kg |
| Anti-microbials and Biocides | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 90-43-7 | O-Phenylphenol (+salts) | N/A | 5000 mg/kg (textile & leather) | These chemicals have antimicrobial properties, which can be used to preserve formulations, preserve articles to which they are intentionally applied, or provide customers with benefits like odor control or insect repellency. | ISO 22992-1 (textile)<br>EN 17134<br>ISO 13365-1 (leather) | 5 mg/kg |
| 52645-53-1 | Permethrin | | 250 mg/kg | | Solvent extraction, LC MS, GC MS | |
| 3380-34-5 | Triclosan | | | | Solvent extraction, LC MS, DAD ISO 22992-2 | |
| Halogenated Solvents | | | | | | |
| CAS No. | Substance Name | Restriction | Restriction MRSL | Potential Uses | Test Method | Reporting Limit |
| 75-09-2 | Methylene chloride | N/A | 5 mg/kg | In apparel and footwear, halogenated solvents are used as finishing / cleaning and printing agents, for dissolving / diluting fats, oils, and adhesives (in degreasing or cleaning operations). | GC-MS | 0,5 mg/kg |

# APPENDICES

# Appendix A Fluorinated Greenhouse Gases

| CAS No.: | Substance Name | CAS No.: | Substance Name |
|---|---|---|---|
| various | Hydrofluorocarbons (HFCs) | 7783-54-2 | Nitrogen Trifluoride |
| various | Perfluorocarbons (PFCs) | 373-80-8 | Trifluoromethyl Sulphur Pentafluoride |
| 2551-62-4 | Sulphur Hexafluoride (SF6) | 931-91-9 | Hexafluorocyclopropane |
| various | Unsaturated Hydro(chloro) fluorocarbons | | |
| various | Fluorinated Ethers and Alcohols | | |
| 69991-67-9 | Perfluoropolymethylisopropyl-ether (PFPMIE) | | |

Fluorinated Gases have been used as substitutes for ozone-depleting substances. HFCs may be used as foam blowing agents, solvents, fire retardants, aerosol propellants, and refrigerants. PFCs are commonly used within electrical transmission equipment and circuit breakers.2 A detailed list of production information, F Gas usage, and related information is available.

Fluorinated Gases have a higher Global Warming Potential (GWP) than carbon dioxide and thus contribute more to global warming. Different greenhouse gases remain in the atmosphere for varying amounts of time. Actions to reduce emissions now will take years to result in changes in the atmosphere.

May Be Found In

- Foam blowing agents.
- Solvents
- Fire retardants
- Aerosol propellants
- Refrigerants
- Electrical transmission equipment

# Appendix B Perfluorinated and Polyfluorinated Chemicals (PFCs or 'PFAS')

Please note that the listing below are substances specifically restricted, and the list is not exhaustive.

| CAS No.: | PFC (PFAS) Name | CAS No.: | PFC (PFAS) Name |
|---|---|---|---|
| PFOS and Related Substances | | PFHxS and Its Salts | |
| 1763-23-1 | Perfluorooctanesulfonic acid (PFOS) | 355-46-4 | Perfluorohexane Sulfonic acid (PFHxS) |
| 2795-39-3 | Perfluorooctanesulfonic acid, potassium salt (PFOS-K) | 3871-99-6 | Perfluorohexane Sulfonic acid, potassium salt (PFHxS-K) |
| 29457-72-5 | Perfluorooctanesulfonic acid, lithium salt (PFOS-Li) | 55120-77-9 | Perfluorohexane Sulfonic acid, lithium salt (PFHxS-Li) |
| 29081-56-9 | Perfluorooctanesulfonic acid, ammonium salt (PFOS-NH4) | 68259-08-5 | Perfluorohexane Sulfonic acid, ammonium salt (PFHxS-NH4) |
| 70225-14-8 | Perfluorooctane sulfonate diethanolamine salt (PFOS-NH(OH)2) | 82382-12-5 | Perfluorohexane Sulfonic acid, sodium salt (PFHxS-Na) |
| 56773-42-3 | Perfluorooctanesulfonic acid, tetraethylammonium salt (PFOS-N(C2H5)4) | PFHxS-related Substances | |
| 251099-16-8 | Didecyldimethyl ammonium perfluorooctane sulfonate (PFOS-N(C10H21)2(CH3)2) | 68259-15-4 | N-Methylperfluoro-1-hexanesulfonamide (N-Me-FHxSA) |
| 4151-50-2 | N-Ethylperfluoro-1-octanesulfonamide (N-Et-FOSA) | 41997-13-1 | Perfluorohexane sulfonamide (PFHxSA) |
| 31506-32-8 | N-Methylperfluoro-1-octanesulfonamide (N-Me-FOSA) | C9 – C14 PFCAs and Their Salts | |
| 1691-99-2 | 2-(N-Ethylperfluoro-1-octanesulfonamido)-ethanol (N-Et-FOSE) | 375-95-1 | Perfluorononanoic Acid (PFNA, C9-PFCA) |
| 24448-09-7 | 2-(N-Methylperfluoro-1-octanesulfonamido)-ethanol (N-Me-FOSE) | 335-76-2 | Perfluorodecanoic Acid (PFDA, C10-PFCA) |
| 307-35-7 | Perfluoro-1-octanesulfonyl fluoride (POSF) | 2058-94-8 | Perfluoroundecanoic Acid (PFUnA, C11-PFCA) |
| 754-91-6 | Perfluorooctane sulfonamide (PFOSA) | 307-55-1 | Perfluorododecanoic Acid (PFDoA, C12-PFCA) |
| PFOA and Its Salts | | 72629-94-8 | Perfluorotridecanoic Acid (PFTrDA, C13-PFCA) |
| 335-67-1 | Perfluorooctanoic acid (PFOA) | 376-06-7 | Perfluorotetradecanoic Acid (PFTeDA, C14-PFCA) |
| 335-95-5 | Sodium perfluorooctanoate (PFOA-Na) | 172155-07-6 | Perfluoro-3-7-dimethyloctanecarboxylate (PF-3,7-DMOA) |
| 2395-00-8 | Potassium perfluorooctanoate (PFOA-K) | C9 – C14 PFCA-related Substances | |
| 335-93-3 | Silver perfluorooctanoate (PFOA-Ag) | 17741-60-5 | 1H,1H,2H,2H-Perfluorododecyl acrylate (10:2 FTA) |
| 335-66-0 | Perfluorooctanoyl fluoride (PFOA-F) | 2144-54-9 | 1H,1H,2H,2H-Perfluorododecyl methacrylate (10:2 FTMA) |
| 3825-26-1 | Ammonium pentadecafluorooctanoate (APFO) | 865-86-1 | 1H,1H,2H,2H-Perfluorododecanol (10:2 FTOH) |
| PFOA-related Substances | | 34598-33-9 | 2H,2H,3H,3H-Perufloroundecanoic acid (H4PFUnA) |
| 39108-34-4 | 1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS) | 678-39-7 | Perfluorocylethanol 8:2 (8:2 FTOH) |
| 376-27-2 | Methyl perfluorooctanoate (Me-PFOA) | 39239-77-5 | 1H,1H,2H,2H-perfluorotetradecan-1-ol (12:2 FTOH) |
| 3108-24-5 | Ethyl perfluorooctanoate (Et-PFOA) | 120226-60-0 | 1H,1H,2H,2H-Perfluorododecanesulphonic acid (10:2 FTS) |
| 678-39-7 | 2-Perfluorooctylethanol (8:2 FTOH) | 2043-54-1 | 1H,1H,2H,2H-Perfluorododecyl iodide (10:2 FTI) |
| 27905-45-9 | 1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA) | 30046-31-2 | 1H,1H,2H,2H-Perfluorotetradecyl iodide (12:2 FTI) |
| 1996-88-9 | 1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA) | Other Perfluoroalkyl Carboxylic Acids (PFCAs) | |
| 375-95-1 | PFNA (Perfluorononane Acid) | 307-24-4 | Perfluorohexanoic Acid (PFHxA, C6-PFCA) |
| 335-76-2 | PFDA (Perfluorodecanoic acid | | |
| 2058-94-8 | PFUdA (henicosafluoroundecanoic acid) | | |
| 307-55-1 | PFDoA (tricosafluorododecanoic acid) | | |
| 72629-94-8 | PFTrDA (Pentacosafluorotridecanoic acid) | | |
| 376-06-7 | PFTeDA (heptacosafluorotetradecanoic acid) | | |

In addition to this list, all PFOA- and PFOS-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.

Perfluorinated and Polyfluorinated Chemicals (PFCs) belong to the perfluoroalkyl family of substances. PFCs are synthetic substances that do not occur naturally in the environment. PFCs are substances with special properties including fire resistance and oil, stain, grease, and water repellency that have hundreds of important manufacturing and industrial applications.

Regulations around the world ban the use of PFAS in apparel and footwear, with partial or full exemptions for personal protective equipment and outdoor apparel for severe wet conditions. See California AB 1817 and check with your brand customer for their exemption policy, which may depend on the market. California AB-1817 Product safety: textile articles: perfluoroalkyl and polyfluoroalkyl substances (PFAS).(2021-2022)

# Appendix C Pesticides and Herbicides, Agricultural

| CAS No.: | Pesticide Name | CAS No.: | Pesticide Name |
|---|---|---|---|
| 93-72-1 | 2-(2,4,5-trichlorophenoxy) propionic acid, its | 72-20-8 | Endrine |
| 93-76-5 | 2,4,5-T | 66230-04-4 | Esfenvalerate |
| 94-75-7 | 2,4-D | 106-93-4 | Ethylendibromid |
| 309-00-2 | Aldrine | 56-38-2 | Ethylparathione; Parathion |
| 86-50-0 | Azinophosmethyl | 51630-58-1 | Fenvalerate |
| 2642-71-9 | Azinophosethyl | Various | Glyphosate and salts |
| 4824-78-6 | Bromophos-ethyl | Various | Halogenated naphthalenes, including polychlorinated naphthalenes (PCNs) |
| 2425-06-1 | Captafol | 76-44-8 | Heptachlor |
| 63-25-2 | Carbaryl | 1024-57-3 | Heptachloroepoxide |
| 510-15-6 | Chlorbenzilat | 319-84-6 | a-Hexachlorocyclohexane with & without Lindane |
| 57-74-9 | Chlordane | 319-85-7 | b-Hexachlorocyclohexane with & without Lindane |
| 6164-98-3 | Chlordimeform | 319-86-8 | g-Hexachlorocyclohexane with & without Lindane |
| 470-90-6 | Chlorfenvinphos | 118-74-1 | Hexachlorobenzene |
| 1897-45-6 | Chlorthalonil | 465-73-6 | Isodrine |
| 56-72-4 | Coumaphos | 4234-79-1 | Kelevane |
| 68359-37-5 | Cyfluthrin | 143-50-0 | Kepone |
| 91465-08-6 | Cyhalothrin | 58-89-9 | Lindane |
| 52315-07-8 | Cypermethrin | 121-75-5 | Malathione |
| 78-48-8 | S,S,S-Tributyl phosphorotrithioate (Tribufos) | 94-74-6 | MCPA |
| 52918-63-5 | Deltamethrin | 94-81-5 | MCPB |
| 53-19-0 | DDD | 93-65-2 | Mecoprop |
| 72-54-8 | | 10265-92-6 | Metamidophos |
| 3424-82-6 | DDE | 72-43-5 | Methoxychlor |
| 72-55-9 | | 2385-85-5 | Mirex |
| 50-29-3 | DDT | 6923-22-4 | Monocrotophos |
| 789-02-6 | | 298-00-0 | Parathion-methyl |
| 333-41-5 | Diazinone | 1825-21-4 | Pentachloroanisole |
| 1085-98-9 | Dichlofluanide | 7786-34-7 | Phosdrin/Mevinphos |
| 120-36-5 | Dichloroprop | 72-56-0 | Perthane |
| 115-32-2 | Dicofol | 31218-83-4 | Propethamphos |
| 141-66-2 | Dicrotophos | 41198-08-7 | Profenophos |
| 60-57-1 | Dieldrine | 13593-03-8 | Quinalphos |
| 60-51-5 | Dimethoate | 82-68-8 | Quintozene |
| 88-85-7 | Dinoseb, its salts and acetate | 8001-50-1 | Strobane |
| 63405-99-2 | DTTB (4, 6-Dichloro-7 (2,4,5-trichlorophenoxy) -2-Trifluoro methyl benz imidazole) | 297-78-9 | Telodrine |
| 115-29-7 | Endosulfan | 8001-35-2 | Toxaphene |
| 959-98-8 | Endosulfan I (alpha) | 731-27-1 | Tolylfluanide |
| 33213-65-9 | Endosulfan II (beta) | 1582-09-8 | Trifluraline |
| 87-68-3 | Hexachlorobutadiene (HCBD) | 3380-34-5 | Triclosan |

Pesticides are substances or mixtures of substances intended to prevent, destroy, repel, or mitigate any pest.
Pesticides can also include substances or mixtures of substances intended for use as a plant regulator, defoliant, or desiccant.
Pesticides may be used in upstream agricultural processes to manage a variety of pests.
Pesticides may also be added to animal skins such as leather, or to natural fibres such as wool.
Pesticides may also be used to control pests or vegetation around facilities.

# Appendix D Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs) all isomers

| CAS No.: | Alkylphenol (AP) | CAS No.: | Alkylphenol Ethoxylates (APEOs) |
|---|---|---|---|
| 140-66-9 | 4-tert-Octylphenol | 9002-93-1 | Polyethylene glycol 4-(tert-octylphenyl) ether |
| 1806-26-4 | 4-n-Octylphenol | 9036-19-5 | Polyethylene glycol mono(octyl)phenyl ether |
| 27193-28-8 | Octylphenol | 68987-90-6 | Poly (oxy-1,2-ethanediyl), alpha-(octylphenyl)omega-hydroxy-, branched |
| 104-40-5 | 4-nonylphenol | 9016-45-9 | Poly (oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy- |
| 11066-49-2 | Isononylphenol | 26027-38-3 | Poly (oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy |
| 25154-52-3 | Nonylphenol | 37205-87-1 | Poly (oxy-1,2-ethanediyl), alpha-(isononylphenyl)-omega-hydroxy |
| 84852-15-3 | Phenol, 4-nonyl-, branched | 68412-54-4 | Poly (oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy-, branched |
| | | 127087-87-0 | Poly (oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched |

There are many potential CAS numbers which comprise the APEO class of chemistry. Some of the more common ones are listed in this document, but the list is not inclusive of all the APEOs.

Alkylphenols (Aps) may found used in:

- Outsole materials of shoes
- Plastic and rubber components of apparel, footwear, and accessories
- Jelly plastic sandals

Alkylphenol Ethoxylates (APEOs) may be found in:

- Industrial laundry detergent
- Scouring agents (e.g., wool and leather)
- Wetting agents
- Softeners
- Spinning oils (yarn and fabric)
- Emulsifier/dispersing agents for dyes and prints
- Impregnating agents
- Degreasing agents for leather hides
- Leather-finishing preparations
- De-gumming agents for silk production
- Dyes and pigment preparations
- Polyester padding
- Down/feather fillings
- Binders for interlinings
- Facility cleaning products.

# Appendix 1 Regulatory References

| Country / Region | Regulation/Legislation | Link |
|---|---|---|
| USA | California Proposition 65 [Prop 65) | https://oehha.ca.gov/proposition-65/proposition-65-list |
| USA | CPSIA 2008 16 CFR Part 1610 | https://www.cpsc.gov/Regulations-Laws—Standards/Statutes/The-Consumer-Product-Safety-Improvement-Act |
| USA | Federal Hazardous Substance Act (15 U.S.C. ) | https://www.cpsc.gov/s3fs-public/pdfs/blk_pdf_fhsa.pdf |
| USA | National Waste Minimization Program | https://archive.epa.gov/epawaste |
| USA | Occupational Safety and Health Act of 1970 | https://www.osha.gov/laws-regs/oshact/completeoshact |
| USA | Toxic Substance Control Act (TSCA) | https://www.epa.gov/tsca-inventory. |
| USA | Washington Children's Safe Product ACT (CPSA) | https://ecology.wa.gov/Waste-Toxics. |
| USA | 18 V.S.A. chapter 38A | http://legislature.vermont.gov/statutes/fullchapter/18/038A |
| USA | 38 § 1693 | http://www.maine.gov/dep/safechem/highconcern/ |
| USA | RCW 70.240 | http://www.ecy.wa.gov/programs/hwtr/rtt/cspa/chcc.html |
| USA | SB 478 | https://public.health.oregon.gov/HealthyEnvironments/HealthyNeighborhoods/ToxicSubstances/Pages/childrens-chemicals-of-concern.aspx |
| TSCA | Toxic Substances Control Act | https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals |
| EU/EFTA | REACH ANNEX XVII RESTRICTIONS | https://echa.europa.eu/substances-restricted-under-reach |
| EU/EFTA | REACH SVHC CANDIDATE LIST | https://echa.europa.eu/candidate-list-table |
| EU/EFTA | POP Regulations | https://echa.europa.eu/list-of-substances-subject-to-pops-regulation |
| UK | UK REACH | https://www.hse.gov.uk/reach/index.htm |
| UK | UK REACH Annex 14 Authorization List | https://www.hse.gov.uk/reach/authorisation-list.htm |
| UK | UK REACH SVHC CANDIDATE LIST | https://www.hse.gov.uk/reach/svhc.htm |

# Appendix 2 Glossary

| | |
|---|---|
| Required limit value: | Limit value as agreed in the business sector and or by legal requirements. Note that limit value is measured in products. Weight percent shall be calculated from the weight of the whole product if nothing else is stated. |
| CAS RN: | Chemical abstract services registration number.<br>CAS Registry Number® (CAS RN) are given for specific defined substances. |
| Properties: | Human toxicological and Eco toxicological properties. |
| Use: | Identified uses on the market. |
| Comments: | Information on known alternatives and recommendations on how to avoid unwanted chemicals. |
| Detection limit: | Limit of detection (LOD). The lowest concentration the test equipment is able to detect. This can vary between different test laboratories. Note that detection limit is not relevant as required limit values for all substances as the background concentrations can be notably higher. |
| Legal background: | Current legal international and national framework and requirements.<br>Substances listed on Candidate List of Substances of Very High Concern for authorization of the Regulation (EC) No 1907/2006 (REACH) leads to information duty if the concentration is above 0.1 weight-% (1000 mg/kg). |
| MADL: | Maximum Allowable Dose Levels. Safe harbor levels for chemicals causing reproductive toxicity in Proposition 65. |
| NSRL: | No Significant Risk Levels. Safe harbor levels for cancer-causing chemicals in Proposition 65. |
| Quantification limit: | Limit of quantification (LOQ). The smallest concentration of an analyte, which can be reliably measured by an analytical procedure. |
| ppm: | Parts per million, which is the same as mg/kg. |
| SVHC: | Substances of Very High Concern |
| Test method: | Standardized test method if such exists. ISO/EN standards are prioritized over national or commercial standards. Test equipment if no standardized test method exists. Abbreviations of recommended test equipment are explained below. All substances in a chemical group may not be legally regulated, but still included as a chemical group in this guide. As it can distinguish between different laboratories which substances besides the legal restricted, they offer test for, this should be confirmed before ordering. |
| CHCC | Chemicals of high concern to children |