

# bluesign® Restricted Substances List (RSL) Consumer Safety Limits

Version 13.0 | July 1, 2022



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# 1 Introduction

Product stewardship with respect to consumer safety aspects is difficult to manage in a complex supply chain. Supplier compliance declarations, which attest conformity with the brand Restricted Substance List (brand RSL) can be a good way to start. They should be further accompanied by a responsible testing program that monitors reliability of suppliers' declarations.

The BSSL (bluesign® system substances list, consumer safety limits) specifies consumer safety limits for chemical substances in articles. Due to the quantity and range of listed substances only a comprehensive input stream management and a network of committed bluesign® SYSTEM PARTNERS (including chemical suppliers), that together result in a positive list of preferred chemicals (bluesign® FINDER), can assure best compliance with the BSSL limits.

The RSL at hand is an extract of the BSSL and contains consumer safety limits and recommended testing methods for the most important and legally restricted substances in textile and leather articles and accessories. Brands and retailers can use this RSL as an orientation for the terms and conditions of purchase. Together with a testing matrix the document can also be utilized as a guide for appropriate testing of articles such as textiles. The RSL is revised at least annually in alignment with the BSSL.

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## 2 Definitions

### 2.1 Accessory

A component of a consumer product which is not classified as textile fabric (e.g. button, label, zipper, etc.)

### 2.2 Article

An object which during production is given a special shape, surface or design, which determines its function to a greater degree than does its chemical composition (fibers, textile fabrics, buttons, zippers, etc.).

### 2.3 BSSL

*bluesign® system substances list (BSSL) consumer safety limits.* A list that specifies consumer safety limits for chemical substances in articles. It also defines usage bans for chemical substances prohibited from the manufacturing of articles.

### 2.4 CAS Number

CAS registry numbers are unique numerical identifiers for chemical elements, compounds, polymers, biological sequences, mixtures and alloys. Chemical Abstracts Service (CAS), a division of the American Chemical Society, assigns these identifiers to every chemical that has been described in the literature. The intention is to make database searches more convenient, as chemicals often have many names. Almost all molecule databases today allow searching by CAS number.

### 2.5 Chemical substance

A chemical element and its compounds with constant composition and properties. It is defined by the CAS number.

## **2.6 Component**

A part of an article that can be distinguished according to the material composition, the functionality and/or the color and is easily, mechanically separated from the other components.

## **2.7 Limit value**

Limit values are defined for single substances or substance groups. The limit value is the maximum amount of a chemical substance or substance group permitted in articles for the usage ranges A, B and C.

### **2.7.1 Detection limit (DL)**

The lowest quantity of a substance that can be distinguished from the absence of that substance with a stated confidence level.

### **2.7.2 Quantification limit (QL)**

The lowest analyte concentration, that can be quantitatively detected with a stated accuracy and precision.

### **2.7.3 Limitation**

For several substances or substance groups a limitation is defined. For these substances or substance group a usage ban is not given but only a consumer safety limit.

## **2.8 Member**

This term describes a member of a group of restricted substances. It can be a chemical substance or a subgroup of substances. See also chapter 2.13.

## **2.9 Mixture**

A chemical product composed of two or more substances. It can be, for example, a colorant or an auxiliary.

## **2.10 Monitoring**

For some chemical substances toxicological and/or ecological properties are not yet well defined. Therefore, the risk assessment is not complete. For some substances sufficient information on possible/typical contamination of articles and chemical products is not available now. Those substances are under observation. Exact restrictions will be defined as soon as more information exists. In cases where monitoring status is accompanied by a limit value, the limit value should be the goal.

## 2.11 Sector of Use

Bluesign® ASSESSMENT for chemical products defines sector of use categories. BLUESIGN uses an approach similar to REACH for the risk-based evaluation of chemical substances and transfers this to the evaluation of chemical products. This allows a product, process and industry specific assessment of risks to human and the environment, that can be adapted to all kind of industries. Some sectors of use are combined to groups as shown in the following table:

Sector of Use Group	Sector of Use
Textiles	Fibers/yarns
	Textile articles including fabrics, laminates and non-wovens
	Garments and other finished textile articles
Down/feather	Down and feather articles
Leather	Leather articles
Polymer parts	Plastic articles
	Rubber articles
Metal parts	Basic metals, including alloys
	Fabricated metal articles

## 2.12 Several

When a substance group is not defined by a single CAS number, the field CAS Number contains the entry "Several". In case of a restriction of the whole substance group this is reflected by a limit entry for the group or a corresponding comment. For substance groups, especially for large groups, some or all members are listed in the annex. When group members are listed in the annex, this is indicated in the comment for the group.

## 2.13 Substance groups

For better readability and to show the hierarchy of substance groups the RSL lists:

- Main substance group **(bold, normal letter)**
- Substance group **(bold, italic letter)**
- Substance subgroup *(italic letter)*
- Single substances (normal letter)

## 2.14 Usage ban

For several chemical substances or substance groups a usage ban is defined. For these substances or substance groups intentional use in manufacturing of articles is prohibited. That means that chemical products (e.g. colorants or textile auxiliaries) used for manufacturing of articles must not intentionally contain these substances or substance groups.

The aim of a usage ban is to avoid release of harmful substances to workers, to the environment and to avoid occurrence in the manufactured article by applying the precautionary principle.

### **2.15 Usage range**

Usage ranges classify consumer goods according to their consumer safety relevance.

Three usage ranges (A, B, C) are defined with A being the most stringent category concerning limit values/bans:

- Usage Range A: Next to skin use and baby articles (0 to 3 years)
- Usage Range B: Occasional skin contact
- Usage Range C: No skin contact

## **3 Scope and validity**

The document specifies restrictions (limits and bans) for chemical substances in

- Articles and accessories made for different sectors of use (like textile and leather); see chapter 2.11.

### **3.1 Scope**

The limits and restrictions shall be applied for each individual component of an intermediate or finished article. A component is each part of an article that can be distinguished according to the material composition and/or functionality and/or color and is easily mechanically separated from other components.

### **3.2 Validity**

This document comes into effect from July 1, 2022.

It replaces the Template bluesign® RESTRICTED SUBSTANCES LIST (RSL) Consumer safety limits, version 12.0 from July 1, 2021

For all bluesign® SYSTEM PARTNERS the implementation of the revised sections, unless stated otherwise, shall take place by July 1, 2023 at the latest.

This document is revised annually and in line with the latest legislation and research and supported by opinions of the bluesign® SYSTEM PARTNER experts.

### **3.3 PFAS chemistry**

- From July 2023 no new registration of articles finished with PFAS based chemicals. Exception: articles that are intended for essential use as defined in coming EU regulation (confirmed by manufacturer)
- From July 2024 all articles finished with PFAS chemistry will be phased out from the bluesign® GUIDE. Exception: articles that are intended for essential use as defined in coming EU regulation (confirmed by manufacturer)
- Analytical proof that PFAS chemicals are not used intentionally: Combustion ion chromatography (Quantification Limit: 50 mg/kg).

## 4 Testing methods

The testing methods listed in the table in chapter 5 are the recommended ones. The testing methods column consists of two entries: test method, e.g. GC-MS, LC-MS // sample preparation, e.g. extraction, digestion, derivatization.

Depending on their availability international or national standards are also given for several substances and these methods may be applied. Other methods can only be applied if it can be verified that equivalent results are obtained.

If not stated otherwise all test methods shall define the total content of the substance in the article. High recovery rate and low uncertainty shall be obtained. Robustness of method shall be given. Details of the respective sample preparation methods can be found in the table below:

Sample preparation	Solvent(s)	Temperature (°C)	Time (min)	Other requirements
Extraction with KOH	Potassium hydroxide (1M)	90	12-15h	Derivatization with Acetic anhydride
Extraction with MeOH	Methanol	70	60	Ultrasonic bath
Extraction with THF	Tetrahydrofuran	40	60	
Extraction with DCM	Dichloromethane	40	60	Ultrasonic bath
Extraction with MTBE	Methyl tert-butyl ether	60	60	Ultrasonic bath
Extraction with water	Deionized water			
Extraction with MeOH/Acetonitrile	Methanol/Acetonitrile (1:1)	70	30	Ultrasonic bath
Extraction with Potassium carbonate solution	Potassium carbonate solution	Room temp.	60	Ultrasonic bath
Extraction with THF/Acetone	Tetrahydrofuran/Acetone	60	60	Ultrasonic bath, derivatization with Acetonitrile
Extraction with Acetone	Acetone	70	60	Ultrasonic bath
Extraction with Hexane/Dichloroethane	Hexane/Dichloroethane	70	60	
ASE - Accelerated Solvent Extraction	Acetone/Hexane (1:1)	100	-	
ASE - Accelerated Solvent Extraction	Ethyl acetate	40	-	
Soxhlet Extraction	Acetone/Hexane (1:1)	-	480	
Headspace	-	120	45	
DIN EN ISO 105-E04 (2013)	Acidic sweat solution	37	60	Textile to liquor ratio 1:50



## 5 Restricted parameters and substances

### 5.1 Restricted parameters

Parameter	Limit	Test Method// Sample Preparation
pH-Value	Non-leather products: 4.0 - 7.5	ISO 3071 (2020)
	Leather products: 3.2 - 4.5	ISO 4045 (2018)
Odor	No unpleasant odor shall be emitted from the products	SNV 195 651
<b>Color Fastness Properties</b>		
Color fastness to perspiration	Textiles dyed with disperse or metal complex dyes: at least 3 - 4, the goal is > 4	ISO 105-E04 (2013)
Color fastness to saliva and perspiration	Fast (corresponds to level 5 of 5-step grey scale described in ISO 105-A02 (1993))	§64 LFGB BVL B 82.10-1 in combination with DIN 53160-1 and -2 (2010)

## 5.2 Restricted substances

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Aldehydes</b>									
Formaldehyde	50-00-0	Leather	Usage ban	15	75	300	mg/kg	EN ISO 17226-2 (2019) with EN ISO 17226-1 (2021) confirmation method in case of interferences.	Test method: Alternatively, EN ISO 17226-1 (2021) can be used on its own.
		Textiles Metal parts Polymer parts Down/feather articles	Limitation	15	75	300	mg/kg	ISO 14184-1 (2011)	
<b>Alkylphenoethoxylates (APEOs)</b>									
<b>Nonylphenol ethoxylates (NPEO)</b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		100		mg/kg	EN ISO 18254-1 (2016) with determination of APEO using LC/MS or LC/MS/MS	For sum of all allocated Members/Substances  (if traces above 10 ppm are detected the source of contamination has to be identified and phased out)
		Leather	Usage ban		100		mg/kg	Sample prep. and analysis using EN ISO 18218-1 (2015) with quantification according to EN ISO 18254-1 (2016)	
<b>Octylphenol ethoxylates (OPEO)</b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		100		mg/kg	See NPEO	
		Leather	Usage ban		100		mg/kg	See NPEO	
<b>Alkylphenols (APs)</b>									
<b>Nonylphenol (NP), mixed isomers</b>	Several	Textiles Leather	Usage ban		10		mg/kg	EN ISO 21084 (2019)	For sum of all allocated Members/Substances
		Metal parts Polymer parts Down/feather articles	Usage ban		10		mg/kg	EN ISO 21084 (2019), modified // 1 g sample / 20 ml THF with Sonication for 60 min at 70°C	
<b>Octylphenol (OP), mixed isomers</b>	Several	Textiles Leather	Usage ban		10		mg/kg	EN ISO 21084 (2019)	For sum of all allocated Members/Substances
		Metal parts Polymer parts Down/feather articles	Usage ban		10		mg/kg	EN ISO 21084 (2019), modified // 1 g sample / 20 ml THF with Sonication for 60 min at 70°C	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Amines</b>									
Aniline - free content	62-53-3	Leather	Usage ban		30		mg/kg	EN ISO 17234-1 (2015)	In case aniline is detected the test needs to be repeated without addition of sodium dithionite.
		Textiles Polymer parts	Usage ban		30		mg/kg	EN ISO 14362-1 (2017)	
<b>Arylamines</b>									
<b>Arylamines (including corresponding salts)</b>	Several	Leather	Usage ban		20 each		mg/kg	EN ISO 17234-1 (2015) EN ISO 17234-2 (2011) // for azo colorants which may release 4-Aminoazobenzene	Single substances listed in Annex (as substance for example in PU, and as decomposition product of azo colorants which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines)
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		20 each		mg/kg	EN ISO 14362-1 (2017) EN ISO 14362-3 (2017) // for azo colorants which may release 4-Aminoazobenzene	
<b>Biocides</b>									
Dimethylfumarate	624-49-7	All	Usage ban		0.1		mg/kg	ISO 16186 (2021)	
<b><i>o</i>-Phenylphenol and its salts</b>	Several	Leather	Limitation	50	100	200	mg/kg	DIN 50009 (2021)	
		Textiles	Limitation		50		mg/kg	DIN 50009 (2021)	
<b>Chlorinated Benzenes and Toluenes</b>									
<b>Chlorinated Benzenes and Toluenes</b>	Several	All	Usage ban		5.0		mg/kg	EN 17137 (2018)	For sum of all allocated chlorinated benzenes and toluenes // additional regulation for each allocated Member/Substance - Usage ban 1.0 mg/kg  Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Chlorinated Phenols</b>									
<b>Chlorinated Phenols</b>	Several	All	Usage ban	See limits of substance groups below				DIN 50009 (2021)	Usage ban for every allocated Member/Substance
<i>Pentachlorophenol, its salts, esters and compounds</i>	Several	All	Usage ban	0.05	0.5	0.5	mg/kg		Single substances listed in Annex
<i>Tetrachlorophenol, its salts and compounds</i>	25167-83-3	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated PCPs
<i>Trichlorophenol, all isomers</i>	25167-82-2	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated TeCPs
<b>Mono- and Dichlorophenols</b>	Several	All	Usage ban	1.0			mg/kg		For sum of all allocated TriCPs
									For sum of all allocated Mono- and DiCPs
<b>Colorants</b>									
<b>Colorants banned for other reasons</b>	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2005)	Single substances listed in Annex
<b>Colorants with allergenic potential</b>	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2005)	
<b>Colorants with carcinogenic potential</b>	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2005)	
<b>Dioxins and Furans</b>									
<b>Dioxins and Furans - Group 1 and 2</b>	Several	All	Usage ban	5.0			µg/kg	EPA 8290A	For sum of all allocated Members/Substances to Group 1 and 2
<i>Dioxins and Furans - Group 1</i>	Several	All	Usage ban	1.0			µg/kg		For sum of all allocated Members/Substances to Group 1
									Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Dioxins and Furans (continued)</b>									
<i>Dioxins and Furans - Group 3</i>	Several	All	Usage ban		95		µg/kg	EPA 8290A	For sum of all allocated Members/Substances to Group 3 - official regulation for sum of all allocated Members/Substances to Group 1, 2 and 3 - 100 µg/kg  Single substances listed in Annex
<b><i>Dioxins and Furans - Group 4 and 5</i></b>	Several	All	Usage ban		5.0		µg/kg		For sum of all allocated Members/Substances to Group 4 and 5  Single substances listed in Annex
<i>Dioxins and Furans - Group 4</i>	Several	All	Usage ban		1.0		µg/kg		For sum of all allocated Members/Substances to Group 4  Single substances listed in Annex
<b>Fibers</b>									
<b><i>Asbestos</i></b>	Several	All	Usage ban	Not detected				REM/EDX BGI 505-46 U.S. EPA/600/R-93/116	Single substances listed in Annex
<b>Flame retardants</b>									
<b>Flame retardants</b>	Several	All	Usage ban		5.0 each		mg/kg	EN ISO 17881-1 (2016) for brominated flame retardants EN ISO 17881-2 (2016) for phosphorus flame retardants	Single substances listed in Annex
<b><i>Chlorinated Paraffins, all chain lengths</i></b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		5.0 each		mg/kg	ISO 22818 (2021)	Single substances listed in Annex
		Leather	Usage ban		100 each		mg/kg	ISO 18219 (2021)	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Glycols</b>									
2-Ethoxyethanol	110-80-5	Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
2-Ethoxyethyl acetate	111-15-9	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
2-Methoxy-1-propanol	1589-47-5	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
2-Methoxyethanol	109-86-4	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
2-Methoxyethyl acetate	110-49-6	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Glycols (continued)</b>									
2-Methoxypropyl acetate	70657-70-4	Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
Bis(2-methoxyethyl) ether	111-96-6	Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
Ethylene glycol dimethyl ether	110-71-4	Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	
		Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
Triethylene glycol dimethyl ether	112-49-2	Plastic article	Usage ban	5.0			mg/kg	GC-MS // 2-Step extraction with THF and Methanol	
		Textiles Metal parts Rubber articles Down/feather articles Leather	Usage ban	5.0			mg/kg	GC-MS // Extraction with Methanol	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Halogenated Biphenyls, halogenated Terphenyls and halogenated Naphthalenes</b>									
<b>Polybrominated Biphenyls</b>	59536-65-1	All	Usage ban		5.0		mg/kg	EN ISO 17881-1 (2016) for brominated compounds ISO/TR 17881-3 (2018) for chlorinated compounds	For sum of all allocated Members/Substances
<b>Polybrominated Naphthalenes</b>	Several	All	Usage ban		1.0		mg/kg		For sum of all allocated Members/Substances
<b>Polybrominated Terphenyls</b>	Several	All	Usage ban		1.0		mg/kg		For sum of all allocated Members/Substances
<b>Polychlorinated Biphenyls</b>	1336-36-3	All	Usage ban		1.0		mg/kg		For sum of all allocated Members/Substances
<b>Polychlorinated Naphthalenes</b>	Several	All	Usage ban		1.0 each		mg/kg		Usage ban 1.0 mg/kg for every allocated Member/Substance
<b>Polychlorinated Terphenyls</b>	61788-33-8	All	Usage ban		1.0		mg/kg		For sum of all allocated Members/Substances
<b>Halogenated Diarylalkanes</b>									
<b>Halogenated Diarylalkanes</b>	Several	All	Usage ban		1.0 each		mg/kg	GC-MS // Extraction following DIN EN 62321-6 (2016)	Single substances listed in Annex
<b>Isocyanates</b>									
<b>Isocyanates</b>	Several	All	Limitation		1.0		mg/kg	EN 13130-8 (2004)	Free content applies to sum of all allocated isocyanates Single substances listed in Annex
<b>Metals</b>									
<b>Antimony, its salts and compounds</b>	Several	Leather	Limitation	5	10	10	mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content // Usage as flame retardant: bluesign® CRITERIA for flame retardants have to be followed
		Textiles	Limitation	5	10	10	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
		Metal parts Polymer parts Down/feather articles	Limitation		60		mg/kg	DIN EN ISO 11885 (2009) EN 71-3 (2019) // Acidic solution migration simulating gastric juices DIN EN ISO 17294-2 (2017)	
		Fibers/yarn	Limitation		260		mg/kg	DIN EN 16711-1 (2016) // Total content	



Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Metals (continued)</b>									
<b>Arsenic, its salts and compounds</b>		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		0.2		mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
		Leather	Usage ban		0.2		mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	
<b>Cadmium, its salts and compounds</b>	Several	Textiles Polymer parts Down/feather articles	Usage ban		0.1		mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
		Leather	Usage ban		0.1		mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	
		Textiles Polymer parts Down/feather articles Metal parts	Usage ban		40		mg/kg	DIN EN 16711-1 (2016) // Total content	As total metal content
		Leather	Usage ban		40		mg/kg	EN ISO 17072-2 (2019) // Total content	
<b>Chromium VI, its salts and compounds</b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		0.5		mg/kg	EN ISO 17075-1 (2017)	As extractable metal content
		Metal parts	Usage ban		0.5		mg/kg	EN 62321-7-1 (2016)	
		Leather	Usage ban		3.0		mg/kg	EN ISO 17075-1 (2017) EN ISO 17075-2 (2017) DIN EN ISO 4044 (2017)	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Metals (continued)</b>									
<b>Chromium, its salts and compounds</b>	Several	Metal parts Polymer parts Down/feather articles	Limitation	60			mg/kg	DIN EN ISO 11885 (2009) EN 71-3 (2019) // Acidic solution migration simulating gastric juices DIN EN ISO 17294-2 (2017)	If products are covered with a metal layer, including a chromium layer, coating must be constantly in good condition // as extractable metal content
		Textiles	Limitation	0.5			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content // for textiles dyed with chromium containing metal complex dyes A: 1.0 // B: 2.0 // C: 2.0 mg/kg
<b>Cobalt, its salts and compounds</b>	Several	Leather	Limitation	1.0			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content // for textiles and leather dyed with cobalt containing metal complex dyes A: 1.0 // B: 4.0 // C: 4.0 mg/kg
		Textiles	Limitation	1.0			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
		Metal parts Polymer parts Down/feather articles	Limitation	1.0	4.0	4.0	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
<b>Copper, its salts and compounds</b>	Several	Textiles	Limitation	25	50	50	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content
		Leather	Limitation	25	50	50	mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Metals (continued)</b>									
<b>Lead, its salts and compounds</b>	Several	Metal parts	Usage ban	90			mg/kg	DIN EN 16711-1 (2016) // Total content	As total metal content
		Leather	Usage ban	40			mg/kg	EN ISO 17072-2 (2019) // Total content	
		Textiles Polymer parts Down/feather articles	Usage ban	40			mg/kg	DIN EN 16711-1 (2016) // Total content	
		Leather	Usage ban	0.2	1.0	1.0	mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content
		Textiles Polymer parts Down/feather articles	Usage ban	0.2	1.0	1.0	mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
<b>Mercury, its salts and compounds</b>	Several	Metal parts	Usage ban	60			mg/kg	EN 71-3 (2019) // Acidic solution migration simulating gastric juices EN ISO 12846 (2012)	As extractable metal content
		Leather	Usage ban	0.02			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	
		Textiles Polymer parts Down/feather articles	Usage ban	0.02			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	
<b>Nickel, its salts and compounds</b>	Several	Textiles	Limitation	1.0			mg/kg	DIN EN 16711-2 (2016) // Acidic sweat solution	As extractable metal content // for textiles dyed with nickel containing metal complex dyes A: 1.0 // B: 4.0 // C: 4.0 mg/kg
		Leather	Limitation	1.0			mg/kg	EN ISO 17072-1 (2019) // Acidic sweat solution	As extractable metal content // for leather dyed with nickel containing metal complex dyes A: 1.0 // B: 4.0 // C: 4.0 mg/kg
		Metal parts Polymer parts	Usage ban for A and B	0.5	0.5	-	µg/cm <sup>2</sup> /week	EN 1811 (2011) + A1 (2015) // Release EN 12472 (2020)	As released metal content

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Monomers</b>									
Acrylamide	79-06-1	All	Usage ban	1.0			mg/kg	CEN/TS 13130-10 (2005)	
<b>Other Chemical Substances</b>									
2-Phenyl-2-propanol	617-94-7	All	Limitation	10	50	50	mg/kg	GC-MS // Extraction with Methanol	
Acetophenone	98-86-2	All	Limitation	20			mg/kg	GC-MS // Extraction with Methanol	
Azodicarbonamide (ADCA)	123-77-3	All	Limitation	100	200	200	mg/kg	Solvent Extraction // GC-MS or LC-MS or LC-DAD	
Benzyl chloride	100-44-7	All	Usage ban	1.0			mg/kg	GC-MS // Extraction with Dichloromethane	
Bisphenol A	80-05-7	All	Usage ban	1.0	10	10	mg/kg	EN ISO 18857-2 (2012) // Extraction with Methanol EN ISO 18857-2 (2012) // Extraction with THF	
<b>Cresol, all isomers</b>	1319-77-3	All	Usage ban	See isomers					10 mg/kg for each isomer
m-Cresol	108-39-4	All	Usage ban	10			mg/kg	BVL B 82.02-8 (2001) // Extraction with KOH	
o-Cresol	95-48-7	All	Usage ban	10			mg/kg	DIN EN ISO 17070 (2015) // Extraction with KOH	
p-Cresol	106-44-5	All	Usage ban	10			mg/kg		
Formamide	75-12-7	Textiles	Usage ban	50	50	100	mg/kg	EN 17131 (2019)	
		Metal parts Polymer parts Down/feather articles Leather	Usage ban	50	50	100	mg/kg	CEN ISO/TS 16189 (2013)	
Isoquinoline	119-65-3	All	Usage ban	50			mg/kg	LC-MS/MS // Extraction with Methanol LC-DAD // Extraction with THF LC-DAD // Extraction with Methanol LC-MS/MS // Extraction with THF	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Other Chemical Substances (continued)</b>									
Phenol	108-95-2	All	Limitation	10	50	100	mg/kg	LC-MS // Extraction with Methanol GC-MS // Extraction with Methanol	
Quinoline	91-22-5	All	Usage ban		50		mg/kg	LC-MS/MS // Extraction with Methanol LC-DAD // Extraction with THF or Methanol LC-MS/MS // Extraction with THF	
<b>Siloxanes</b>	Several	All	Usage ban						
Octamethyl cyclotetrasiloxane (D4)	556-67-2	All	Usage ban		30		mg/kg	GC // with reference to TEGEWA method	Usage ban for every allocated member/substances
Decamethyl cyclopentasiloxane (D5)	541-02-6	All	Usage ban		50		mg/kg		
Dodecamethyl cyclohexasiloxane (D6)	540-97-6	All	Usage ban		50		mg/kg		
<b>Ozone Depleting Substances</b>									
<b>Ozone depleting substances (CFCs) class I</b>	Several	All	Usage ban		0.1 each		mg/kg	GC-MS // Headspace	Usage ban for direct use in manufacturing of articles
<b>Ozone depleting substances (CFCs) class II</b>	Several	All	Usage ban		0.1 each		mg/kg	GC-MS // Headspace	See Regulation (EC) No 1005/2009 for a complete list of single substances
<b>Pesticides</b>									
<b>Pesticides</b>	Several	All	Limitation		0.5		mg/kg	GC-MS // ASE with Acetone/Hexane LC-MS // ASE with Acetone/Hexane GC-MS // Soxhlet Extraction with Acetone/Hexane LC-MS // Soxhlet Extraction with Acetone/Hexane	Applies to total sum of all allocated members/substances  Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Perfluoroalkyl sulfonic acids and derivatives – PFSA</b>									
<b>General usage ban for all PFSA/PFCA chemicals.</b>									
<b>Exceptions only possible for articles, based on C6 chemistry, that are intended for essential use as defined in coming EU regulation (see also Chapter 3.3)</b>									
<b><i>Perfluorooctane sulfonic acid and its derivatives</i></b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		1.0		µg/m <sup>2</sup>	CEN/TS 15968 (2014)	Single substances listed in Annex
		Leather	Usage ban		1.0		µg/m <sup>2</sup>	EN ISO 23702-1 (2018)	
<b>Perfluoroalkyl carboxylic acids and derivatives – PFCA</b>									
<b>General usage ban for all PFSA/PFCA chemicals.</b>									
<b>Exceptions only possible for articles, based on C6 chemistry, that are intended for essential use as defined in coming EU regulation (see also Chapter 3.3)</b>									
<b><i>Perfluorocarboxylic acids and its salts</i></b>	Several	Leather	Usage ban		0.1		mg/kg	EN ISO 23702-1 (2018)	For sum of all allocated Members/Substances
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		0.1		mg/kg	CEN/TS 15968 (2014)	
<b><i>Perfluorohexanoic acid and its salts</i></b>	Several	Leather	Usage ban		0.05		mg/kg	EN ISO 23702-1 (2018)	Single substances listed in Annex.
		Textiles Metal parts Polymer parts Down/feather articles	Usage ban		0.05		mg/kg	CEN/TS 15968 (2014)	
<b><i>Perfluorooctanoic acid and its salts</i></b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		25		µg/kg	CEN/TS 15968 (2010)	Single substances listed in Annex
		Leather	Usage ban		25		µg/kg	EN ISO 23702-1 (2018)	
<b><i>Perfluorooctanoic acid related substances</i></b>	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		1000		µg/kg	CEN/TS 15968 (2014)	For the sum of PFOA-related substances.
		Leather	Usage ban		1000		µg/kg	EN ISO 23702-1 (2018)	Single substances listed in Annex

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Plasticizers</b>									
<b>Phthalic acid esters</b>	Several	Textiles	Usage ban	50 each			mg/kg	EN ISO 14389 (2014) CPSC-CH-C1001-09.4	Single substances listed in Annex
		Metal parts Polymer parts Down/feather articles Leather	Usage ban	50 each			mg/kg	CPSC-CH-C1001-09.4	
<b>Polyaromatic hydrocarbons (PAHs)</b>									
<b>Polyaromatic hydrocarbons (PAHs)</b>	Several	All	Usage ban	10			mg/kg	AfPS GS 2019	For sum of all allocated PAHs  PAHs without substance specific limit are listed in Annex
Benzo(a)anthracene	56-55-3	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(a)pyrene	50-32-8	All	Usage ban	0.2			mg/kg		
Benzo(b)fluoroanthene	205-99-2	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(e)pyrene	192-97-2	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(j)fluoroanthene	205-82-3	All	Usage ban	0.5	1.0	1.0	mg/kg		
Benzo(k)fluoroanthene	207-08-9	All	Usage ban	0.5	1.0	1.0	mg/kg		
Chrysene	218-01-9	All	Usage ban	0.5	1.0	1.0	mg/kg		
Dibenzo(a,h)anthrene	53-70-3	All	Usage ban	0.5	1.0	1.0	mg/kg		
<b>Polymers</b>									
Polyvinyl chloride	9002-86-2	All	Usage ban	See comment				FTIR Beilstein test // FTIR measurement only if result of Beilstein test was positive	Usage ban for usage range A and B - Not detected // for usage range C: for special applications. BLUESIGN has the right to make an individual decision
<b>Solvents</b>									
1,2-Dichloroethane	107-06-2	All	Usage ban	1.0			mg/kg	GC-MS // Headspace	
Benzene	71-43-2	All	Usage ban	5.0			mg/kg	VDA 278 (2011)	
Dichloromethane	75-09-2	All	Usage ban	5.0			mg/kg	GC-MS // Headspace	Usage ban for direct use in manufacturing of articles

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
<b>Solvents (continued)</b>									
N,N-Dimethylacetamide (DMAc)	127-19-5	Textiles	Usage ban	5.0			mg/kg	EN 17131 (2019)	<p>Exceptions: Articles produced by solvent coating, lamination or fiber manufacturing - A/B/C 50 mg/kg.</p> <p>As residual fiber solvent in elastane and PAN fibers with Monitoring status - A: 10 mg/kg, B/C: 50 mg/kg.</p> <p>Aramid fibers: For special applications bluesign technologies has the right to make an individual decision.</p>
		Leather	Usage ban	5.0			mg/kg	EN ISO 19070 (2016)	
		Metal parts Polymer parts Down/feather articles	Usage ban	5.0			mg/kg	CEN ISO/TS 16189 (2013)	
N,N-Dimethylformamide (DMF)	68-12-2	Textiles	Usage ban	5.0			mg/kg	EN 17131 (2019)	<p>Exceptions: Specific limits are defined for articles produced by solvent coating, lamination or fiber manufacturing - A/B/C 50 mg/kg.</p> <p>Exception is valid for PAN fibers.</p>
		Metal parts Polymer parts Down/feather articles	Usage ban	5.0			mg/kg	CEN ISO/TS 16189 (2013)	
		Leather	Usage ban	5.0			mg/kg	EN ISO 19070 (2016)	
N-Ethyl-2-pyrrolidone (NEP)	2687-91-4	Leather	Usage ban	10	10	100	mg/kg	EN ISO 19070 (2016)	
		Metal parts Polymer parts Down/feather articles	Usage ban	10	10	100	mg/kg	CEN ISO/TS 16189 (2013)	
		Textiles	Usage ban	10	10	100	mg/kg	EN 17131 (2019)	
N-Methylpyrrolidone (NMP)	872-50-4	Textiles	Usage ban	10	10	100	mg/kg	EN 17131 (2019)	<p>Exception is valid for Aramid fibers: for special applications BLUESIGN has the right to make an individual decision</p>
		Metal parts Polymer parts Down/feather articles	Usage ban	10	10	100	mg/kg	CEN ISO/TS 16189 (2013)	
		Leather	Usage ban	10	10	100	mg/kg	EN ISO 19070 (2016)	



Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Solvents (continued)</b>									
Tetrachloroethylene	127-18-4	All	Usage ban		1.0		mg/kg	GC-MS // Headspace	
Toluene	108-88-3	All	Usage ban	10	50	50	mg/kg	GC-MS // Headspace	Usage ban not valid for solvent coating, laminating and painting/lacquering.
Trichloroethylene	79-01-6	All	Usage ban		5.0		mg/kg	GC-MS // Headspace	
<b>Xylene, all isomers</b>	1330-20-7	All	Usage ban	50	100	100	mg/kg	GC-MS // Headspace	Sum of all isomers. Usage ban not valid for solvent coating, laminating and painting/lacquering.
<b>Tin-organic Compounds</b>									
<b>Tin-organic Compounds - as mono-, di- and tri-, tetraalkyltin organics</b>	Several	All	Usage ban					CEN ISO/TS 16179 (2012)	Usage ban for all allocated Members/Substances
<b>Ethyltin compounds</b>	Several		Usage ban						
<i>Tetraethyltin compounds (TET)</i>	Several	All	Usage ban		1.0		mg/kg		
<b>Hexyltin compounds</b>	Several		Usage ban						
<i>Tricyclohexyltin compounds (TCyHT)</i>	Several	All	Usage ban		0.5		mg/kg		
<b>Butyltin compounds</b>	Several		Usage ban						
<i>Dibutyltin compounds (DBT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Monobutyltin compounds (MBT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Tetrabutyltin compounds (TeBT)</i>	Several	All	Usage ban		0.5		mg/kg		
<i>Tributyltin compounds (TBT)</i>	Several	All	Usage ban		0.5		mg/kg		
<b>Methyltin compounds</b>	Several		Usage ban						
<i>Dimethyltin compounds (DMT)</i>	Several	All	Usage ban		0.5		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>Tin-organic Compounds (continued)</b>									
<i>Monomethyltin compounds (MMT)</i>	Several	All	Usage ban		2.0		mg/kg	CEN ISO/TS 16179 (2012)	Usage ban for all allocated Members/Substances
<i>Trimethyltin compounds (TMT)</i>	Several	All	Usage ban		0.5		mg/kg		
<b>Octyltin compounds</b>	Several		Usage ban						
<i>Diocyltin compounds (DOT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Monooctyltin compounds (MOT)</i>	Several	All	Usage ban		2.0		mg/kg		
<i>Tetraoctyltin compounds (TeOT)</i>	Several	All	Usage ban		0.5		mg/kg		
<i>Triocyltin compounds (TOT)</i>	Several	All	Usage ban		0.5		mg/kg		
<b>Phenyltin compounds</b>	Several		Usage ban						
<i>Diphenyltin compounds (DPhT)</i>	Several	All	Usage ban		2.0		mg/kg		
<i>Monophenyltin compounds (MPhT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Triphenyltin compounds (TPhT)</i>	Several	All	Usage ban		0.5		mg/kg		
<b>Propyltin compounds</b>	Several		Usage ban						
<i>Dipropyltin compounds (DPT)</i>	Several	All	Usage ban		1.0		mg/kg		
<i>Tripropyltin compounds (TPT)</i>	Several	All	Usage ban		0.5		mg/kg		
<b>UV stabilizers</b>									
2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol	36437-37-3	All	Usage ban		1000		mg/kg	DIN EN 62321-6 (2016) // Extraction with THF	
2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)phenol	25973-55-1	All	Usage ban		1000		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
<b>UV stabilizers (continued)</b>									
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)-phenol	3864-99-1	All	Usage ban		1000		mg/kg	DIN EN 62321-6 (2016) // Extraction with THF	
2-benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	All	Usage ban		1000		mg/kg		

## 6 Annex (Compilation of individual substances)

In the following tables single substances belonging to groups:

- Arylamines
- Biocides
- Chlorinated Benzenes and Toluenes
- Chlorinated Phenols
- Colorants
- Dioxins and Furans
- Fibers
- Flame Retardants
- Halogenated Diarylalkanes
- Isocyanates
- Pesticides
- PFSA Chemicals
- PFCA Chemicals
- Plasticizers
- Polyaromatic hydrocarbons (PAHs)

are listed.

Limit values and test methods are provided in chapter 5.2.

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Arylamines</b>		<b>Xylidines and its salts - with the exception of those specified elsewhere</b>	Several
<i>2,4-Diaminoanisole and its salts</i>	Several		
2,4-Diaminoanisole	615-05-4	<i>2,4-Xylidine and its salts</i>	Several
2,4-Diaminoanisole sulphate	39156-41-7	2,4-Xylidine	95-68-1
<i>2,4-Diaminotoluene and its salts</i>	Several	<i>2,6-Xylidine and its salts</i>	Several
2,4-Diaminotoluene	95-80-7	2,6-Xylidine	87-62-7
<i>2-Naphthylamine and its salts</i>	Several	<b>Nitrotoluidines and its salts</b>	Several
2-Naphthylamine	91-59-8		
2-Naphthylammoniumacetate	553-00-4	<i>2-Amino-4-nitrotoluene and its salts</i>	Several
<i>4,4'-Diaminodiphenylmethane and its salts</i>	Several	2-Amino-4-nitrotoluene	99-55-8
4,4'-Diaminodiphenylmethane	101-77-9	<b>Anisidines and its salts</b>	Several
<i>4,4'-Methylenebis-(2-chloraniline) and its salts</i>	Several	Anisidine (o-, p-isomers)	29191-52-4
4,4'-Methylenebis-(2-chloraniline)	101-14-4	<i>2-Anisidine and its salts</i>	Several
<i>4-Amino-3-fluorophenol and its salts</i>	Several	2-Anisidine	90-04-0
4-Amino-3-fluorophenol	399-95-1	<b>Benzidines and its salts</b>	Several
<i>4-Aminobiphenyl and its salts</i>	Several		
4-Aminobiphenyl	92-67-1	<i>3,3'-Dichlorobenzidine and its salts - with the exception of those specified elsewhere</i>	Several
<i>4-Chloroaniline and its salts</i>	Several		
4-Chloroaniline	106-47-8	3,3'-Dichlorobenzidine	91-94-1
<i>6-Amino-2-ethoxynaphthalene and its salts</i>	Several	<i>o-Dianisidines and its salts - with the exception of those specified elsewhere</i>	Several
6-Amino-2-ethoxynaphthalene	293733-21-8		
<i>o-Aminoazotoluene and its salts</i>	Several	3,3'-Dimethoxybenzidine	119-90-4
o-Aminoazotoluene	97-56-3	<i>3,3'-Dimethylbenzidine and its salts</i>	Several
<i>p-Aminoazobenzene and its salts</i>	Several	3,3'-Dimethylbenzidine	119-93-7
p-Aminoazobenzene	60-09-3	<i>Benzidine and its salts</i>	Several
<b>Trimethylanilines and its salts</b>	Several	Benzidine	92-87-5
		Benzidine acetate	36341-27-2
<i>2,4,5-Trimethylaniline and its salts</i>	Several	Benzidine dihydrochloride	531-85-1
2,4,5-Trimethylaniline	137-17-7	Benzidine, sulfate	21136-70-9
2,4,5-Trimethylaniline hydrochloride	21436-97-5	Benzidine, sulfate (1:1)	531-86-2

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Arylamines (continued)</b>		<i>Tetrachlorobenzenes, all isomers</i>	Several
<b><i>Toluidines and its salts</i></b>	Several	1,2,3,4-Tetrachlorobenzene	634-66-2
<i>4,4'-Methylenedi-o-toluidine and its salts</i>	Several	1,2,3,5-Tetrachlorobenzene	634-90-2
4,4'-Methylenedi-o-toluidine	838-88-0	1,2,4,5-Tetrachlorobenzene	95-94-3
<i>m-Toluidine and its salts</i>	Several	<i>Trichlorobenzenes, all isomers</i>	Several
m-Toluidine	108-44-1	1,2,3-Trichlorobenzene	87-61-6
<i>o-Toluidine and its salts</i>	Several	1,2,4-Trichlorobenzene	120-82-1
o-Toluidine	95-53-4	1,3,5-Trichlorobenzene	108-70-3
<i>p-Cresidine and its salts</i>	Several	<i>Dichlorobenzenes, all isomers</i>	Several
p-Cresidine	120-71-8	1,2-Dichlorobenzene	95-50-1
<i>p-Toluidine and its salts</i>	Several	1,3-Dichlorobenzene	541-73-1
p-Toluidine	106-49-0	1,4-Dichlorobenzene	106-46-7
<b><i>Dianilines and its salts</i></b>	Several	<b><i>Chlorinated Toluenes</i></b>	Several
<i>4,4'-Oxydianiline and its salts</i>	Several	Chlorotoluene, unspecified mixture	25168-05-2
4,4'-Oxydianiline	101-80-4	Pentachlorotoluene	877-11-2
<i>4,4'-Thiodianiline and its salts</i>	Several	<i>Trichlorotoluenes, all isomers</i>	Several
4,4'-Thiodianiline	139-65-1	2,3,4-Trichlorotoluene	7359-72-0
<b><i>Chlorotoluidines and its salts</i></b>	Several	2,3,6-Trichlorotoluene	2077-46-5
<i>4-Chloro-2-toluidine and its salts</i>	Several	2,4,5-Trichlorotoluene	6639-30-1
4-Chloro-2-toluidine	95-69-2	2,4,6-Trichlorotoluene	23749-65-7
4-chloro-2-toluidine hydrochloride	3165-93-3	3,4,5-Trichlorotoluene	21472-86-6
<b>Biocides</b>		a,a,a-Trichlorotoluene	98-07-7
o-Phenylphenol	90-43-7	<i>Dichlorotoluenes, all isomers</i>	Several
<b>Chlorinated Benzenes and Toluenes</b>		2,3-Dichlorotoluene	32768-54-0
<b><i>Chlorinated Benzenes</i></b>	Several	2,4-Dichlorotoluene	95-73-8
Hexachlorobenzene	118-74-1	2,5-Dichlorotoluene	19398-61-9
Hexachlorobenzene	118-74-1	2,6-Dichlorotoluene	118-69-4
Monochlorobenzene	108-90-7	3,4-Dichlorotoluene	95-75-0
Pentachlorobenzene	608-93-5	3,5-Dichlorotoluene	25186-47-4
		<i>Monochlorotoluenes, all isomers</i>	Several

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Chlorinated Benzenes and Toluenes (continued)</b>		3,4-Dichlorophenol	95-77-2
2-Chlorotoluene	95-49-8	3,5-Dichlorophenol	591-35-5
3-Chlorotoluene	108-41-8	<i>Monochlorophenols, all isomers</i>	25167-80-0
4-Chlorotoluene	106-43-4	2-Chlorophenol	95-57-8
<i>Tetrachlorotoluenes, all isomers</i>	Several	3-Chlorophenol	108-43-0
2,3,4,5-Tetrachlorotoluene	1006-32-2	4-Chlorophenol	106-48-9
2,3,4,6-Tetrachlorotoluene	875-40-1	<b>Colorants</b>	
2,3,5,6-Tetrachlorotoluene	1006-31-1	<b>Colorants banned for other reasons</b>	
a,a,a,2-Tetrachlorotoluene	2136-89-2	Acid Orange 24	1320-07-6
a,a,a,4-Tetrachlorotoluene	5216-25-1	Acid Violet 49	1694-09-3
<b>Chlorinated Phenols</b>		Basic Blue 26 - with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	2580-56-5
<i>Tetrachlorophenol, its salts and compounds</i>	25167-83-3	Direct Black 91	6739-62-4
2,3,4,5-Tetrachlorophenol	4901-51-3	Direct Blue 218	28407-37-6
2,3,4,6-Tetrachlorophenol	58-90-2	Direct Blue 76	16143-79-6
2,3,5,6-Tetrachlorophenol	935-95-5	Direct Yellow 1	6472-91-9
<i>Trichlorophenol, all isomers</i>	25167-82-2	Disperse Orange 149	85136-74-9
2,3,4-Trichlorophenol	15950-66-0	Disperse Yellow 23	6250-23-3
2,3,5-Trichlorophenol	933-78-8	<i>Navy Blue: 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)chromat</i>	Several
2,3,6-Trichlorophenol	933-75-5		
2,4,5-Trichlorophenol	95-95-4		
2,4,6-Trichlorophenol	88-06-2		
3,4,5-Trichlorophenol	609-19-8	Disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-)	118685-33-9
<i>Pentachlorophenol, its salts, esters and compounds</i>	Several	Trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromat	
Pentachlorophenol	87-86-5		
<b>Mono- and Dichlorophenols</b>		Basic Violet 1	8004-87-3
<i>Dichlorophenols, all isomers</i>	Several		
2,3-Dichlorophenol	576-24-9	Basic Violet 3 - with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	548-62-9
2,4-Dichlorophenol	120-83-2		
2,5-Dichlorophenol	583-78-8		
2,6-Dichlorophenol	87-65-0		

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Colorants (continued)</b>		Disperse Orange 37/59/76 [3]	51811-42-8
Basic Violet 3 [1]	548-62-9	<b>Colorants with carcinogenic potential</b>	Several
Basic Violet 3 [2]	603-48-5	Acid Red 26	3761-53-3
Basic Violet 3 [3]	14426-25-6	Basic Red 9	569-61-9
Solvent Blue 4	6786-83-0	Basic Violet 14	632-99-5
<b>Colorants with allergenic potential</b>	Several	Direct Black 38	1937-37-7
Disperse Blue 102	12222-97-8	Direct Blue 6	2602-46-2
Disperse Blue 106	12223-01-7	Direct Brown 95	16071-86-6
Disperse Blue 124	61951-51-7	Direct Red 28	573-58-0
Disperse Blue 26	3860-63-7	Disperse Blue 1	2475-45-8
Disperse Blue 3	2475-46-9	Disperse Orange 11	82-28-0
Disperse Blue 7	3179-90-6	Disperse Yellow 3	2832-40-8
Disperse Brown 1	23355-64-8	Pigment Red 104	12656-85-8
Disperse Orange 1	2581-69-3	Pigment Yellow 34	1344-37-2
Disperse Orange 3	730-40-5	Solvent Red 80	6358-53-8
Disperse Red 1	2872-52-8	Solvent Yellow 2	60-11-7
Disperse Red 11	2872-48-2	Solvent Violet 8 - with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	561-41-1
Disperse Red 17	3179-89-3		
Disperse Yellow 1	119-15-3	<b>Basic Green 4</b>	Several
Disperse Yellow 39	12236-29-2	Leucomalachite green	129-73-7
Disperse Yellow 49	54824-37-2	Malachite green	10309-95-2
Disperse Yellow 9	6373-73-5	Malachite green chloride	569-64-2
Solvent Yellow 14	842-07-9	Malachite green oxalate	2437-29-8
<b>Disperse Blue 35</b>	Several	<b>Dioxins and Furans</b>	
Disperse Blue 35 [1]	12222-75-2	<b>Dioxins and Furans - Group 3</b>	Several
Disperse Blue 35 [2]	56524-77-7	1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0
Disperse Blue 35 B	56524-76-6	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9
<b>Disperse Orange 37/59/76</b>	Several	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4
Disperse Orange 37/59/76 [1]	12223-33-5	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
Disperse Orange 37/59/76 [2]	13301-61-6	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7



Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Dioxins and Furans (continued), Group 4 and 5</b>		Anthophyllite	77536-67-5
<i>Dioxins and Furans - Group 5</i>	Several	Chrysotile	12001-29-5 132207-32-0
1,2,3,4,7,8-Hexabromodibenzo-p-dioxin	110999-44-5	Crocidolite	12001-28-4
1,2,3,6,7,8-Hexabromodibenzo-p-dioxin	110999-45-6	Tremolite	77536-68-6
1,2,3,7,8,9-Hexabromodibenzo-p-dioxin	110999-46-7	<b>Flame retardants</b>	
1,2,3,7,8-Pentabromodibenzofuran	107555-93-1	<b>Brominated alkyl alcohols</b>	
<i>Dioxins and Furans - Group 4</i>	Several	2,2-Bis(bromomethyl)-1,3-propanediol	Several 3296-90-0
1,2,3,7,8-Pentabromodibenzo-p-dioxin	109333-34-8	1-Propanol, 2,2-dimethyl-, tribromo derivates	36483-57-5 1522-92-5
2,3,4,7,8-Pentabromodibenzofuran	131166-92-2	2,3-Dibromopropan-1-ol-(2,3-DBPA)	96-13-9
2,3,7,8-Tetrabromodibenzofuran	67733-57-7	Bis(2,3-dibromopropyl) phosphate	5412-25-9
2,3,7,8-Tetrabromodibenzo-p-dioxin	50585-41-6	Tetrabromobisphenol A	79-94-7
<b>Dioxins and Furans - Group 1 and 2</b>	Several	Tetrabromobisphenol A bis(2,3-dibromopropylether)	21850-44-2
<i>Dioxins and Furans - Group 2</i>	Several	Tri(aziridin-1-yl) phosphine oxide	545-55-1
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	Trimethyl phosphate	512-56-1
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	Tri-o-cresyl phosphate	78-30-8
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	Tris(2,3-dibromopropyl) phosphate	126-72-7
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	Tris-(2-chloro-1-methylethyl) phosphate	13674-84-5
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	Tris(2-chloroethyl) phosphate	115-96-8
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	Tris(methylphenyl) phosphate	1330-78-5
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	Tris-[2-chloro-1-(chloromethyl)ethyl] phosphate	13674-87-8
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	Trixylyl phosphate	25155-23-1
<i>Dioxins and Furans - Group 1</i>	Several	<b>Hexabromocyclododecan, all isomers - group for all major diastereoisomers identified</b>	
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	μ-Hexabromocyclododecane	134237-52-8
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	1,2,5,6,9,10-Hexabromocyclododecane	3194-55-6
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	Hexabromocyclododecane	25637-99-4
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	α-Hexabromocyclododecane	134237-50-6
<b>Fibers</b>		β-Hexabromocyclododecane	134237-51-7
<b>Asbestos</b>	Several		
Actinolite	77536-66-4		
Amosite	12172-73-5		

Chemical Name	CAS Number
<b>Flame retardants (continued)</b>	
<b>Chlorinated Paraffins, all chain lengths</b>	Several
<i>Paraffin wax, chlorinated</i>	63449-39-8
<i>Paraffin, C10-C13, chlorinated</i>	85535-84-8
<i>Paraffin, C14-C17, chlorinated</i>	85535-85-9
<i>Paraffin, C18-C28, chlorinated</i>	85535-86-0
<b>Polybrominated diphenyl ethers</b>	Several
Decabromodiphenyl ether	1163-19-5
Tetrabromodiphenyl ether	40088-47-9
Pentabromodiphenyl ether	32534-81-9
Octabromodiphenyl ether	32536-52-0
Nonabromodiphenyl ether	63936-56-1
Hexabromodiphenyl ether	36483-60-0
Heptabromodiphenyl ether	68928-80-3
Monobromodiphenyl ether	Several
2-Bromodiphenyl ether	7025-06-1
3-Bromodiphenyl ether	6876-00-2
4-Bromodiphenyl ether	101-55-3
<b>Polybrominated diphenyl ethanes</b>	Several
Decabromodiphenylethane	84852-53-9

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Halogenated Diarylalkanes</b>		<b>Pesticides</b>	
<b>Monomethyl-dibromo-diphenyl methane</b>	99688-47-8	Aldrin	309-00-2
<b>Monomethyl-dichloro-diphenyl methane</b>	81161-70-8	Azinphos ethyl	2642-71-9
<b>Monomethyl-tetrachloro-diphenyl methane</b>	76253-60-6	Azinphos methyl	86-50-0
<b>Isocyanates</b>		Bromophos-ethyl	4824-78-6
1,3-bis(isocyanatomethyl)benzene	3634-83-1	Captafol	2425-06-1
Hexamethylene-di-isocyanate	822-06-0	Carbaryl	63-25-2
Isophorone-di-isocyanate	4098-71-9	Chlordane	57-74-9
Tetramethylxylene-di-isocyanate	2778-42-9	Chlordecone	143-50-0
<b>Diphenylmethane-di-isocyanates</b>	Several	Chlordimeform	6164-98-3
Diphenylmethane-2,2-di-isocyanate	2536-05-2	Chlorfenvinphos	470-90-6
Diphenylmethane-2,4-di-isocyanate	5873-54-1	Chlorobenzilate	510-15-6
Diphenylmethane-4,4-di-isocyanate	101-68-8	Clothianidin	210880-92-5
Methylenediphenyl diisocyanate - mixed isomers	26447-40-5	Coumaphos	56-72-4
<b>Toluene-di-isocyanates</b>	Several	Cyfluthrin	68359-37-5
Toluene-2,4-di-isocyanate	584-84-9	Cyhalothrin, lambda	91465-08-6
Toluene-2,6-di-isocyanate	91-08-7	Cypermethrin	52315-07-8
		Deltamethrin	52918-63-5
		Diazinon	333-41-5
		Dichlorprop	120-36-5
		Dicrotophos	141-66-2
		Dieldrine	60-57-1
		Dimethoate	60-51-5
		Dinotefuran	165252-70-0
		Endosulfan, alpha	959-98-8
		Endosulfan, beta	33213-65-9
		Endrin	72-20-8

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Pesticides (continued)</b>		Phosphamidon	13171-21-6
Esfenvalerate	66230-04-4	Profenophos	41198-08-7
Ethyl parathion	56-38-2	Propetamphos	31218-83-4
Fenvalerate	51630-58-1	Quinalphos	13593-03-8
Heptachlor	76-44-8	Strobane	8001-50-1
Heptachlor epoxide	1024-57-3	Telodrin	297-78-9
Imidacloprid (ISO)	105827-78-9	Thiamethoxam	153719-23-4
	138261-41-3	Tiacloprid	111988-49-9
Isodrin	465-73-6	Toxaphene	8001-35-2
Kelevan	4234-79-1	Tribufos (DEF)	78-48-8
Lindane (ISO)	58-89-9	Trifluralin - containing < 0.5 ppm NPDA	1582-09-8
Malathion	121-75-5	<b>Hexachlorocyclohexane, all isomers</b>	608-73-1
MCPA	94-74-6	<b>Acetamipirid, its salts, esters and compounds</b>	Several
MCPB	94-81-5	Acetamipirid (ISO)	135410-20-7
Mecoprop	93-65-2	Acetamipirid [2]	160430-64-8
Methamidophos	10265-92-6	<b>Dinoseb, its salts, esters and acetate</b>	Several
Methoxychlor	72-43-5	Dinoseb	88-85-7
Methyl parathion	298-00-0	<b>2,4-Dichlorophenoxyacetic acid, salts, esters and compounds</b>	Several
Mevinophos	7786-34-7		
Mirex	2385-85-5	2,4-Dichlorophenoxy acetic acid	94-75-7
Monocrotophos	6923-22-4	<b>Nitenpyram, its salts, esters and compounds</b>	Several
o,p'-Dichlorodiphenyl-dichloroethane	53-19-0	Nitenpyram [1]	150824-47-8
o,p'-Dichlorodiphenyl-dichloroethylene	3424-82-6	Nitenpyram [2]	120738-89-8
o,p'-Dichlorodiphenyl-trichloroethane and its isomers - preparations containing DDT and its isomers	789-02-6	<b>2,4,5-Trichlorophenoxyacetic acid, its salts, esters and compounds</b>	Several
p,p'-Dichlorodiphenyldichloroethane	72-54-8	2,4,5-Trichlorophenoxy acetic acid	93-76-5
p,p'-Dichlorodiphenyl-dichloroethylene	72-55-9	<b>Perfluoroalkyl sulfonic acids and derivatives - PFSA</b>	
p,p'-Dichlorodiphenyl-trichloroethane and its isomers - preparations containing DDT and its isomers	50-29-3	<b>Perfluorooctane sulfonic acid and its derivatives</b>	Several
		<i>Perfluorooctane sulphononic acid and its salts</i>	Several
Perthane	72-56-0	Ammonium perfluorooctane sulfonate	29081-56-9

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Perfluoroalkyl sulfonic acids and derivatives - PFSA (continued)</b>		<b>Perfluorooctanoic acid related substances</b>	
Diethanolamine perfluorooctane sulfonate	70225-14-8	Methyl perfluorooctanoate	376-27-2
Lithium perfluorooctane sulfonate	29457-72-5	Ethyl perfluorooctanoate	3108-24-5
Perfluorooctane sulfonate	45298-90-6	<i>Perfluorooctylethyl alcohols</i>	Several
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Perfluorooctylethanol	678-39-7
Potassium heptadecafluoro-octane-1-sulphonate	2795-39-3	<i>Perfluorooctylethyl olefins</i>	Several
<i>Perfluorooctane sulfon amidoethanols</i>	Several	Perfluorooctylethene	21652-58-4
1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	4151-50-2	<i>Perfluorooctylethyl halides</i>	Several
		1H,1H,2H,2H-Perfluorodecyl iodide	2043-53-0
1-Octanesulfonamide, N-ethyl-1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-N-(2-hydroxyethyl)-	1691-99-2	Heptadecafluoro-1-iodooctane	507-63-1
		Pentadecafluorooctyl fluoride	335-66-0
Heptadecafluoro-N-methyloctane sulfonamide ethanol	24448-09-7	Perfluorooctylethyl acrylate or methacrylate	Several
<i>Perfluorooctane sulfon polymers</i>	Several	<i>Perfluorooctylethyl polymers</i>	Several
<i>Perfluorooctane sulfon halides</i>	Several	<b>Plasticizers</b>	
1-Octanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	307-35-7	<b>Phthalic acid esters</b>	Several
		Bis-(2-methoxyethyl) phthalate	117-82-8
<i>Perfluorooctane sulfon amides</i>	Several	Butylbenzyl phthalate	85-68-7
Heptadecafluoro-N-methyloctane sulfonamide	31506-32-8	Dibutyl phthalate	84-74-2
Perfluorooctane sulfonamide	754-91-6	Di-cyclohexyl phthalate	84-61-7
<i>Perfluorooctane sulfon amidoethyl (meth)acrylates</i>	Several	Diethyl phthalate	84-66-2
<b>Perfluoroalkyl carboxylic acids and derivatives - PFCA</b>		Diethylhexyl phthalate	117-81-7
<b>Perfluorocarboxylic acids and its salts</b>	Several	Di-iso-butyl phthalate	84-69-5
<i>Perfluorohexanoic acid and its salts</i>	Several	Di-iso-hexyl phthalate	71850-09-4
Perfluorohexanoic acid (PFHxA)	307-24-4	Di-iso-octyl phthalate	27554-26-3
<i>Perfluorooctanoic acid and its salts</i>	Several	Di-iso-pentyl phthalate	605-50-5
Ammonium pentadecafluoro octanoate	3825-26-1	Dimethyl phthalate	131-11-3
Octanoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-, sodium salt (1:1)	335-95-5	Di-n-hexyl phthalate	84-75-3
		Di-n-octyl phthalate	117-84-0
Perfluorooctanoic acid (PFOA)	335-67-1	Dinonyl phthalate	84-76-4
Potassium perfluorooctanoate	2395-00-8	Di-n-pentyl phthalate	131-18-0

Chemical Name	CAS Number	Chemical Name	CAS Number
<b>Plasticizers (continued)</b>		Fluoranthene	206-44-0
Di-n-propyl phthalate	131-16-8	Fluorene	86-73-7
n-Pentyl-isopentyl phthalate	776297-69-9	Indeno(1,2,3-cd) pyrene	193-39-5
<i>1,2-Benzenedicarboxylic acid, benzyl C7-9-branched and linear alkyl esters</i>	68515-40-2	Methylpyrene, 1-	2381-21-7
<i>1,2-Benzenedicarboxylic acid, di-C6-8-branched alkylesters, C7-rich</i>	71888-89-6	Naphthalene	91-20-3
<i>1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkylesters</i>	68515-42-4	Naphtho[1,2,3,4-def]chrysene	192-65-4
<i>1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear</i>	68515-50-4	Phenanthrene	85-01-8
<i>1,2-Benzenedicarboxylic acid, dipentylester, branched and linear</i>	84777-06-0	Pyrene	129-00-0
Di-iso-nonyl phthalate - iso & n-Butene based	68515-48-0		
<i>1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters</i>	Several		
1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	68515-51-5		
1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1		
<i>Di-iso-decyl phthalate</i>	Several		
Di-iso-decyl phthalate [1]	26761-40-0		
Di-iso-decyl phthalate [2]	68515-49-1		
<b>Polyaromatic hydrocarbons (PAHs)</b>			
Acenaphthene	83-32-9		
Acenaphthylene	208-96-8		
Anthracene	120-12-7		
Benzo[ <i>rst</i> ]pentaphene	189-55-9		
Dibenzo[ <i>b,def</i> ]chrysene	189-64-0		
Dibenzo[ <i>def,p</i> ]chrysene	191-30-0		
Cyclopenta[ <i>c,d</i> ]pyrene	27208-37-3		
Benzo( <i>ghi</i> )perylene	191-24-2		