

bluesign® Restricted Substances List (RSL) Consumer Safety Limits

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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) 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.

The content of this document has been prepared by bluesign technologies ag for information purposes only and does not constitute legal advice. bluesign has been as diligent as possible in compiling and updating the information in this document. However, bluesign does not guarantee the correctness and completeness of the information provided here.

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). 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". Several does not in every case mean that the whole substance group is restricted (e.g. aldehydes, amines), 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

Common consumer goods and allocated usage ranges are listed in the separate document "Usage Ranges".

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, 2023.

It replaces the bluesign® Restricted Substances List (RSL) Consumer Safety Limits, version 13.0 from July 1, 2022

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 Articles from recycled material

Textile recycling is an important factor for sustainability, but often a black box regarding the mix of (restricted) chemicals inside.

Instructions regarding the use of recycled materials are given in our guidance documents, the "Guidance sheet Input stream management of non chemical raw materials/intermediates at manufacturers" and the "Guideline Input Stream Management at Manufacturers". To enable bluesign® APPROVED articles from recycled materials, bluesign reserves the right to accept in exceptional cases higher limits than given in this document under the precondition of legal compliance, consumer safety and proper input stream management.

3.4 PFAS chemistry

- Since July 2022 no new registration of PFAS based chemical products in bluesign® FINDER.
- Since July 2023 all PFAS based chemicals have been phased out from bluesign® FINDER.
- Since July 2023 no new registration of articles finished with PFAS based chemicals in the bluesign® GUIDE.
- From July 2024 all articles finished with PFAS chemistry will be phased out from the bluesign® GUIDE.
- Exceptions might be possible, for more details see "Guidance Sheet PFAS phase out".

Analytical proof that PFAS chemicals are not included:

At first screening test for total Fluorine via combustion ion chromatography (EN14582 or ASTM 07359; Quantification Limit: 50 mg/kg).

Followed by confirmatory testing on single substances in case of findings (requires information from the supply chain on possible fluorine compounds).

Regarding the definition of PFAS, bluesign follows the EU restriction proposal with the title "Per- and polyfluoroalkyl substances (PFAS)":

Any substance that contains at least one fully fluorinated methyl (CF₃-) or methylene (-CF₂-) carbon atom (without any H/Cl/Br/I attached to it).

A substance that only contains the following structural elements is excluded from the scope of the restriction:

CF₃-X or X-CF₂-X', where X = -OR or -NRR' and X' = methyl (-CH₃), methylene (-CH₂-), an aromatic group, a carbonyl group (-C(O)-), -OR'', -SR'' or -NR''R'''';

and where R/R'/R''/R'''' is a hydrogen (-H), methyl (-CH₃), methylene (-CH₂-), an aromatic group or a carbonyl group (-C(O)-).

This definition might also affect substances that do not fall into the typical application of water/oil/stain repellents. For the time being, as the EU general PFAS restriction is not yet in force and exceptions are not fixed, bluesign will focus in its phase out concept on PFAS substances that are used in water/oil/stain repellents. bluesign reserves the right to extend the restriction to other applications after expert judgement.

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: sample preparation, e.g. extraction, digestion, derivatization, and the test method, e.g. GC-MS, LC-MS, etc.

Depending on their availability international or national standards are also given for several substances and these methods may be applied. Other accredited 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 (chrome tanned leather products) 3.5 – 7.9 (other leather products)	ISO 4045 (2018)
Odor	No unpleasant odor shall be emitted from the products	SNV 195 651
Color Fastness Properties		
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
Aldehydes									
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)	
Alkylphenolethoxylates (APEOs)									
Alkylphenolethoxylates (APEOs)	Several	All	Usage ban		100		mg/kg		For sum of all restricted APEO. Goal should be 100 mg/kg for APEOs + APs. Test methods: See NPEO.
Nonylphenol ethoxylates (NPEO)	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)	
Octylphenol ethoxylates (OPEO)	Several	Textiles Metal parts Polymer parts Down/feather articles	Usage ban		100		mg/kg	See NPEO	
		Leather	Usage ban		100		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Alkylphenols (APs)									
Alkylphenols (APs)	Several	All	Usage ban		10		mg/kg		For sum of all alkylphenols.
<i>Nonylphenol (NP), mixed isomers</i>	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	
<i>Octylphenol (OP), mixed isomers</i>	Several	Textiles Leather	Usage ban		10		mg/kg	See NP	
		Metal parts Polymer parts Down/feather articles	Usage ban		10		mg/kg		
Amines									
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)	
Arylamines									
Arylamines (including corresponding salts)	Several	Leather	Usage ban		20 each		mg/kg	EN ISO 17234-1 (2020) 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	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Biocides									
Biocides: Independent from the biocidal substances listed in the RSL, the supplier shall always be requested to declare whether biocides were used or not. Identity of the relevant biocides shall be disclosed by name and CAS No. Declaration duty shall be laid down in the purchase specification.									
Dimethylfumarate	624-49-7	All	Usage ban	0.1			mg/kg	ISO 16186 (2021)	
<i>o</i>-Phenylphenol and its salts	Several	Leather	Limitation	50	100	200	mg/kg	DIN 50009 (2021)	
		Textiles	Limitation	50			mg/kg		
Pyrithione zinc	13463-41-7	All	Usage ban	10			mg/kg	DIN EN 16711-1 (2016) // Total content	Testing: Zn metal content, in case of positive result further testing with CE/ICP-MS.
Chlorinated Benzenes and Toluenes									
Chlorinated Benzenes and Toluenes	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.
Chlorinated Phenols									
Chlorinated Phenols	Several	All	Usage ban	See groups				DIN 50009 (2021) EN ISO 17070 (Leather)	Single substances listed in Annex.
<i>Mono- and Dichlorophenols</i>	Several	All	Usage ban	1.0			mg/kg		For sum of all allocated Mono- and DiCPs.
<i>Trichlorophenol, all isomers</i>	25167-82-2	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated TriCPs.
<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 TeCPs.
<i>Pentachlorophenol, its salts, esters and compounds</i>	Several	All	Usage ban	0.05	0.5	0.5	mg/kg		For sum of all allocated PCPs.
Colorants									
<i>Colorants banned for other reasons</i>	Several	All	Usage ban	20 each			mg/kg	DIN 54231 (2022)	Single substances listed in Annex.
<i>Colorants with allergenic potential</i>	Several	All	Usage ban	20 each			mg/kg		
<i>Colorants with carcinogenic potential</i>	Several	All	Usage ban	20 each			mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Dioxins and Furans									
Dioxins and Furans - Group 1 and 2	Several	All	Usage ban		5.0		µg/kg	EPA 8290A	For sum of all allocated Members/Substances to Group 1 and 2. Single substances listed in Annex.
<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.
<i>Dioxins and Furans - Group 3</i>	Several	All	Usage ban		95		µg/kg		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.
Dioxins and Furans - Group 4 and 5	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.
Fibers									
Asbestos	Several	All	Usage ban	Not detected				REM/EDX BGI 505-46 U.S. EPA/600/R-93/116	Single substances listed in Annex.
Flame retardants									
Flame retardants	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.
Chlorinated Paraffins, all chain lengths	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
Glycols									
2-Ethoxyethanol	110-80-5	All	Usage ban		5.0		mg/kg	GC-MS // Extraction with Methanol Plastic articles: 2-Step extraction with THF and Methanol	
2-Ethoxyethyl acetate	111-15-9	All	Usage ban		5.0		mg/kg		
2-Methoxy-1-propanol	1589-47-5	All	Usage ban		5.0		mg/kg		
2-Methoxyethanol	109-86-4	All	Usage ban		5.0		mg/kg		
2-Methoxyethyl acetate	110-49-6	All	Usage ban		5.0		mg/kg		
2-Methoxypropyl acetate	70657-70-4	All	Usage ban		5.0		mg/kg		
Bis(2-methoxyethyl) ether	111-96-6	All	Usage ban		5.0		mg/kg		
Ethylene glycol dimethyl ether	110-71-4	All	Usage ban		5.0		mg/kg		
Triethylene glycol dimethyl ether	112-49-2	All	Usage ban		5.0		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Halogenated Biphenyls, halogenated Terphenyls and halogenated Naphthalenes									
Polybrominated Biphenyls	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.
Polybrominated Naphthalenes	Several	All	Usage ban		1.0		mg/kg		
Polybrominated Terphenyls	Several	All	Usage ban		1.0		mg/kg		
Polychlorinated Biphenyls	1336-36-3	All	Usage ban		1.0		mg/kg		Usage ban 1.0 mg/kg for every allocated Member/Substance.
Polychlorinated Naphthalenes	Several	All	Usage ban		1.0 each		mg/kg		
Polychlorinated Terphenyls	61788-33-8	All	Usage ban		1.0		mg/kg		
Halogenated Diarylalkanes									
Halogenated Diarylalkanes	Several	All	Usage ban		1.0 each		mg/kg	GC-MS // Extraction following DIN EN 62321-6 (2016)	Single substances listed in Annex.
Isocyanates									
Isocyanates	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.

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Metals									
Antimony, its salts and compounds	Several								
Antimony – as content	7440-36-0	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	
Arsenic, its salts and compounds	Several								
Arsenic – as content	7440-38-2	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	Limit for total metal content: 10 mg/kg
Barium, its salts and compounds	Several								
Barium - as content	7440-39-3	All	Limitation	1000			mg/kg	EN 71-3 (2019) // Acidic solution migration simulating gastric juices DIN EN ISO 17294-2 (2017) DIN EN ISO 11885 (2009)	As extractable metal content.

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method// Sample Preparation	Comment
Metals (continued)									
<i>Cadmium, its salts and compounds</i>	Several								
Cadmium – as content	7440-43-9	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	
<i>Chromium VI, its salts and compounds</i>	Several								
Chromium VI – as content	18540-29-9	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)	For leather: Thermal pre-ageing test required in advance: ISO 10195:2018.
<i>Chromium, its salts and compounds</i>	Several								
Chromium – as content	7440-47-3	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.

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Metals (continued)									
<i>Cobalt, its salts and compounds</i>	Several								
Cobalt – as content	7440-48-4	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.
<i>Copper, its salts and compounds</i>	Several								
Copper – as content	7440-50-8	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	
<i>Lead, its salts and compounds</i>	Several								
Lead – as content	7439-92-1	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	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Metals (continued)									
Mercury, its salts and compounds	Several								
Mercury as content	7439-97-6	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	
Nickel, its salts and compounds	Several								
Nickel – as content	7440-02-0	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 ² /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	
Monomers										
Acrylamide	79-06-1	All	Usage ban	1.0			mg/kg	CEN/TS 13130-10 (2005)		
Other Chemical Substances										
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	Usage ban	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	For usage range A: 10 mg/kg is accepted when article is not intended to come into contact with mouth.	
Bisphenol AF	1478-61-1	All	Usage ban	100			mg/kg			
Bisphenol F	620-92-8	All	Usage ban	100			mg/kg			
Bisphenol S	80-09-1	All	Usage ban	100			mg/kg			Specific limit for leather tanning and textile aftertreatment: 500 ppm.
Cresol, all isomers	1319-77-3	All	Usage ban	See isomers						
m-Cresol	108-39-4	All	Usage ban	10			mg/kg	BVL B 82.02-8 (2001) // Extraction with KOH DIN EN ISO 17070 (2015) // Extraction with KOH	10 mg/kg for each isomer.	
o-Cresol	95-48-7	All	Usage ban	10			mg/kg			
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	200	mg/kg	CEN ISO/TS 16189 (2013)		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Other Chemical Substances (continued)									
Phenol	108-95-2	All	Limitation	20	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	
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	
Siloxanes	Several	All	Usage ban						
Octamethyl cyclotetrasiloxane (D4)	556-67-2	All	Usage ban		30		mg/kg	GC // with reference to TEGEWA method (2021)	Usage ban for every allocated member/substance.
Decamethyl cyclopentasiloxane (D5)	541-02-6	All	Usage ban		200		mg/kg		
Dodecamethyl cyclohexasiloxane (D6)	540-97-6	All	Usage ban		200		mg/kg		
Ozone Depleting Substances									
Ozone depleting substances (CFCs) class I	Several	All	Usage ban		0.1 each		mg/kg	GC-MS // Headspace	Usage ban for direct use in manufacturing of articles.
Ozone depleting substances (CFCs) class II	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.

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Pesticides									
Pesticides	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.
PFAS (Poly- and perfluoroalkyl substances)									
PFAS (Poly- and perfluoroalkyl substances)	Several	All	Usage ban		50		mg/kg	EN 14582 (total fluorine) ASTM 07359 (total fluorine)	Limit refers to total fluorine content. Exceptions might be possible for specific uses, see "Guidance Sheet PFAS phase out" and PFAS statement in section 3.4. Articles need to comply latest 01 January 2025.
Perfluorohexane sulfonic acid and its derivatives	Several	All	Usage ban						Limits defined for subgroups.
<i>Perfluorohexane sulfonic acid and its salts</i>	Several	All	Usage ban		20		µg/kg	Leather: EN ISO 23702-1 (2018) Other materials: CEN/TS 15968 (2014)	
<i>Perfluorohexane sulfon amides</i>	Several	All	Usage ban		20		µg/kg		
<i>Perfluorohexane sulfon amidoethanols</i>	Several	All	Usage ban		20		µg/kg		
<i>Perfluorohexane sulfon amidoethyl (meth)acrylates</i>	Several	All	Usage ban		20		µg/kg		
<i>Perfluorohexane sulfon halides</i>	Several	All	Usage ban		20		µg/kg		
<i>Perfluorohexane sulfon polymers</i>	Several	All	Usage ban		20		µg/kg		
Perfluorooctane sulfonic acid and its derivatives	Several	All	Usage ban		1.0		µg/m ²		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
PFAS (Poly- and perfluoroalkyl substances) - continued									
<i>Perfluorohexanoic acid and its salts</i>	Several	All	Usage ban	25			µg/kg	Leather: EN ISO 23702-1 (2018) Other materials: CEN/TS 15968 (2014)	Single substances listed in Annex.
<i>Perfluorooctanoic acid and its salts</i>	Several	All	Usage ban	25			µg/kg		
<i>Perfluorocarboxylic acids (C9-C14) and its salts</i>	Several	All	Usage ban	25			µg/kg		
<i>Perfluorohexanoic acid related substances</i>	Several	All	Usage ban	1000			µg/kg		
<i>Perfluorooctanoic acid related substances</i>	Several	All	Usage ban	1000			µg/kg		
<i>Perfluorocarboxylic acids (C9-C14) related substances</i>	Several	All	Usage ban	260			µg/kg		
Plasticizers									
<i>Phthalic acid esters</i>	Several	All	Usage ban	50 each			mg/kg	CPSC-CH-C1001-09.4 Textile: EN ISO 14389 (2014)	Single substances listed in Annex.
Polyaromatic hydrocarbons (PAHs)									
Polyaromatic hydrocarbons (PAHs)	Several	All	Usage ban	10			mg/kg	AfPS GS 2019 Alternative test methods: EN17132 or ISO 16190	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		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Polymers									
Polyvinyl chloride	9002-86-2	All	Usage ban	See comment				Total chlorine (EN 14582) // FTIR (when chlorine detected)	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.
Solvents									
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.
N,N-Dimethylacetamide (DMAc)	127-19-5	Textiles	Usage ban	5.0			mg/kg	EN 17131 (2019)	Exceptions: Textile articles produced by solvent coating, lamination or fiber manufacturing - A/B/C 50 mg/kg. As residual fiber solvent in elastane and PAN fibers with Monitoring status - A: 10 mg/kg, B/C: 50 mg/kg. Aramid fibers: For special applications bluesign technologies has the right to make an individual decision.
		Leather	Usage ban	5.0			mg/kg	EN ISO 19070 (2016)	
		Metal parts Polymer parts Down/feather articles	Usage ban	5.0			mg/kg	ISO 16189 (2021)	
N,N-Dimethylformamide (DMF)	68-12-2	Textiles	Usage ban	5.0			mg/kg	EN 17131 (2019)	Exceptions for textiles: Specific limits are defined for articles produced by lamination and fiber manufacturing - A/B/C = 50 mg/kg or by solvent coating, A/B/C = 50/50/250 mg/kg. For PAN fibers bluesign has the right to make individual decisions.
		Metal parts Polymer parts Down/feather articles	Usage ban	5.0			mg/kg	ISO 16189 (2021)	
		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	ISO 16189 (2021)	
		Textiles	Usage ban	10	10	100	mg/kg	EN 17131 (2019)	

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Solvents (continued)									
N-Methylpyrrolidone (NMP)	872-50-4	Textiles	Usage ban	10	10	100	mg/kg	EN 17131 (2019)	Exception is valid for Aramid fibers: for special applications bluesign has the right to make an individual decision.
		Metal parts Polymer parts Down/feather articles	Usage ban	10	10	100	mg/kg	ISO 16189 (2021)	
		Leather	Usage ban	10	10	100	mg/kg	EN ISO 19070 (2016)	
Trichloroethylene	79-01-6	All	Usage ban		5.0		mg/kg	GC-MS // Headspace	
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.
<i>Xylene, all isomers</i>	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.
Tin-organic Compounds									
Tin-organic Compounds - as mono-, di- and tri-, tetraalkyltin organics	Several	All	Usage ban					CEN ISO/TS 16179 (2012)	Usage ban for all allocated Members/Substances.
<i>Methyltin compounds</i>	Several		Usage ban						
<i>Monomethyltin compounds (MMT)</i>	Several	All	Usage ban		2.0		mg/kg		
<i>Dimethyltin compounds (DMT)</i>	Several	All	Usage ban		0.5		mg/kg		
<i>Trimethyltin compounds (TMT)</i>	Several	All	Usage ban		0.5		mg/kg		
<i>Ethyltin compounds</i>	Several		Usage ban						
<i>Tetraethyltin compounds (TET)</i>	Several	All	Usage ban		1.0		mg/kg		

Chemical Name	CAS Number	Sector of Use	Limit Type	A	B	C	Unit	Test Method // Sample Preparation	Comment
Tin-organic Compounds (continued)									
Propyltin compounds	Several		Usage ban					CEN ISO/TS 16179 (2012)	Usage ban for all allocated Members/Substances.
<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				
Butyltin compounds	Several		Usage ban						
<i>Monobutyltin compounds (MBT)</i>	Several	All	Usage ban	1.0	mg/kg				
<i>Dibutyltin compounds (DBT)</i>	Several	All	Usage ban	1.0	mg/kg				
<i>Tributyltin compounds (TBT)</i>	Several	All	Usage ban	0.5	mg/kg				
<i>Tetrabutyltin compounds (TeBT)</i>	Several	All	Usage ban	0.5	mg/kg				
Hexyltin compounds	Several		Usage ban						
<i>Tricyclohexyltin compounds (TCyHT)</i>	Several	All	Usage ban	0.5	mg/kg				
Octyltin compounds	Several		Usage ban						
<i>Monooctyltin compounds (MOT)</i>	Several	All	Usage ban	2.0	mg/kg				
<i>Dioctyltin compounds (DOT)</i>	Several	All	Usage ban	1.0	mg/kg				
<i>Trioctyltin compounds (TOT)</i>	Several	All	Usage ban	0.5	mg/kg				
<i>Tetraoctyltin compounds (TeOT)</i>	Several	All	Usage ban	0.5	mg/kg				
Phenyltin compounds	Several		Usage ban						
<i>Monophenyltin compounds (MPhT)</i>	Several	All	Usage ban	1.0	mg/kg				
<i>Diphenyltin compounds (DPhT)</i>	Several	All	Usage ban	2.0	mg/kg				
<i>Triphenyltin compounds (TPhT)</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
UV stabilizers									
UV 320	3846-71-7	All	Usage ban		1000		mg/kg	ISO 24040 // Extraction with Tetrahydrofuran // GC-MS	
UV 327	3864-99-1	All	Usage ban		1000		mg/kg		
UV 328	25973-55-1	All	Usage ban		1000		mg/kg		
UV 350	36437-37-3	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
- PFAS (Poly- and perfluoroalkyl substances)
- 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
Arylamines		<i>Xylidines and its salts - with the exception of those specified elsewhere</i>	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	<i>Nitrotoluidines and its salts</i>	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	<i>Anisidines and its salts</i>	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	<i>Benzidines and its salts</i>	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
<i>Trimethylanilines and its salts</i>	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
Arylamines (continued)		Chlorinated Benzenes and Toluenes (continued)	
Toluidines and its salts	Several	1,4-Dichlorobenzene	106-46-7
<i>4,4'-Methylenedi-o-toluidine and its salts</i>	Several	<i>Trichlorobenzenes, all isomers</i>	Several
4,4'-Methylenedi-o-toluidine	838-88-0	1,2,3-Trichlorobenzene	87-61-6
<i>m-Toluidine and its salts</i>	Several	1,2,4-Trichlorobenzene	120-82-1
m-Toluidine	108-44-1	1,3,5-Trichlorobenzene	108-70-3
<i>o-Toluidine and its salts</i>	Several	<i>Tetrachlorobenzenes, all isomers</i>	Several
o-Toluidine	95-53-4	1,2,3,4-Tetrachlorobenzene	634-66-2
<i>p-Cresidine and its salts</i>	Several	1,2,3,5-Tetrachlorobenzene	634-90-2
p-Cresidine	120-71-8	1,2,4,5-Tetrachlorobenzene	95-94-3
<i>p-Toluidine and its salts</i>	Several	Pentachlorobenzene	608-93-5
p-Toluidine	106-49-0	Hexachlorobenzene	118-74-1
Dianilines and its salts	Several	Chlorinated Toluenes	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
Chlorotoluidines and its salts	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
Biocides		a,a,a-Trichlorotoluene	98-07-7
o-Phenylphenol	90-43-7	<i>Dichlorotoluenes, all isomers</i>	Several
Chlorinated Benzenes and Toluenes		2,3-Dichlorotoluene	32768-54-0
Chlorinated Benzenes	Several	2,4-Dichlorotoluene	95-73-8
Monochlorobenzene	108-90-7	2,5-Dichlorotoluene	19398-61-9
<i>Dichlorobenzenes, all isomers</i>	Several	2,6-Dichlorotoluene	118-69-4
1,2-Dichlorobenzene	95-50-1	3,4-Dichlorotoluene	95-75-0
1,3-Dichlorobenzene	541-73-1	3,5-Dichlorotoluene	25186-47-4
		<i>Monochlorotoluenes, all isomers</i>	Several

Chemical Name	CAS Number	Chemical Name	CAS Number
Chlorinated Benzenes and Toluenes (continued)		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	Colorants	
2,3,5,6-Tetrachlorotoluene	1006-31-1	Colorants banned for other reasons	
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
Chlorinated Phenols		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		
<i>Pentachlorophenol, its salts, esters and compounds</i>	Several	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
Pentachlorophenol	87-86-5	Trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromat	
Mono- and Dichlorophenols	Several		
<i>Dichlorophenols, all isomers</i>	25167-81-1	Basic Violet 1	8004-87-3
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
Colorants (continued)		Disperse Orange 37/59/76 [3]	51811-42-8
Basic Violet 3 [1]	548-62-9	Colorants with carcinogenic potential	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
Colorants with allergenic potential	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 15141-18-1	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	<i>Basic Green 4</i>	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
<i>Disperse Blue 35</i>	Several	Dioxins and Furans	
Disperse Blue 35 [1]	12222-75-2	<i>Dioxins and Furans - Group 3</i>	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
<i>Disperse Orange 37/59/76</i>	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
Dioxins and Furans (continued), Group 4 and 5		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	Flame retardants	
1,2,3,7,8-Pentabromodibenzofuran	107555-93-1	Brominated alkyl alcohols	
<i>Dioxins and Furans - Group 4</i>	Several	2,2-Bis(bromomethyl)-1,3-propanediol	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		
2,3,7,8-Tetrabromodibenzofuran	67733-57-7	2,3-Dibromopropan-1-ol-(2,3-DBPA)	96-13-9
2,3,7,8-Tetrabromodibenzo-p-dioxin	50585-41-6	Bis(2,3-dibromopropyl) phosphate	5412-25-9
Dioxins and Furans - Group 1 and 2	Several	Tetrabromobisphenol A	79-94-7
<i>Dioxins and Furans - Group 2</i>	Several	Tetrabromobisphenol A bis(2,3-dibromopropylether)	21850-44-2
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	Tri(aziridin-1-yl) phosphine oxide	545-55-1
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	Trimethyl phosphate	512-56-1
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	Tri-o-cresyl phosphate	78-30-8
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	Tris(2,3-dibromopropyl) phosphate	126-72-7
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	Tris-(2-chloro-1-methylethyl) phosphate	13674-84-5
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	Tris(2-chloroethyl) phosphate	115-96-8
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	Tris(methylphenyl) phosphate	1330-78-5
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	Tris-[2-chloro-1-(chloromethyl)ethyl] phosphate	13674-87-8
<i>Dioxins and Furans - Group 1</i>	Several	Trixylyl phosphate	25155-23-1
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	Hexabromocyclododecan, all isomers - group for all major diastereoisomers identified	Several
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4		
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9		
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	μ -Hexabromocyclododecane	134237-52-8
Fibers		1,2,5,6,9,10-Hexabromocyclododecane	3194-55-6
Asbestos	Several	Hexabromocyclododecane	25637-99-4
Actinolite	77536-66-4	α -Hexabromocyclododecane	134237-50-6
Amosite	12172-73-5	β -Hexabromocyclododecane	134237-51-7

Chemical Name	CAS Number
Flame retardants (continued)	
Chlorinated Paraffins, all chain lengths	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
Polybrominated diphenyl ethers	Several
<i>Monobromodiphenyl ether (MonoBDE)</i>	Several
2-Bromodiphenyl ether	7025-06-1
3-Bromodiphenyl ether	6876-00-2
4-Bromodiphenyl ether	101-55-3
<i>Tribromodiphenyl ether (TriBDE)</i>	49690-94-0
<i>Tetrabromodiphenyl ether (TetraBDE)</i>	40088-47-9
<i>Pentabromodiphenyl ether (PentaBDE)</i>	32534-81-9
<i>Hexabromodiphenyl ether</i>	36483-60-0
<i>Heptabromodiphenyl ether</i>	68928-80-3
<i>Octabromodiphenyl ether</i>	32536-52-0
<i>Nonabromodiphenyl ether</i>	63936-56-1
Decabromodiphenyl ether	1163-19-5
Polybrominated diphenyl ethanes	Several
Decabromodiphenylethane	84852-53-9

Chemical Name	CAS Number	Chemical Name	CAS Number
Halogenated Diarylalkanes		Pesticides	
Monomethyl-dibromo-diphenyl methane	99688-47-8	Aldrin	309-00-2
Monomethyl-dichloro-diphenyl methane	81161-70-8	Azinphos ethyl	2642-71-9
Monomethyl-tetrachloro-diphenyl methane	76253-60-6	Azinphos methyl	86-50-0
Isocyanates		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
Diphenylmethane-di-isocyanates	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
Toluene-di-isocyanates	26471-62-5	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
Pesticides (continued)		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	Hexachlorocyclohexane, all isomers	608-73-1
MCPA	94-74-6	Acetamipirid, its salts, esters and compounds	Several
MCPB	94-81-5	Acetamipirid (ISO)	135410-20-7
Mecoprop	93-65-2	Acetamipirid [2]	160430-64-8
Methamidophos	10265-92-6	Dinoseb, its salts, esters and acetate	Several
Methoxychlor	72-43-5	Dinoseb	88-85-7
Methyl parathion	298-00-0	2,4-Dichlorophenoxyacetic acid, salts, esters and compounds	Several
Mevinophos	7786-34-7		
Mirex	2385-85-5	2,4-Dichlorophenoxy acetic acid	94-75-7
Monocrotophos	6923-22-4	Nitenpyram, its salts, esters and compounds	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	2,4,5-Trichlorophenoxyacetic acid, its salts, esters and compounds	Several
p,p'-Dichlorodiphenyldichloroethane	72-54-8		
p,p'-Dichlorodiphenyl-dichloroethylene	72-55-9	2,4,5-Trichlorophenoxy acetic acid	93-76-5
p,p'-Dichlorodiphenyl-trichloroethane and its isomers - preparations containing DDT and its isomers	50-29-3		
Perthane	72-56-0		

Chemical Name	CAS Number	Chemical Name	CAS Number
PFAS (Poly- and perfluoroalkyl substances)		Potassium perfluorooctanoate	2395-00-8
Perfluorooctane sulfonic acid and its derivatives	Several	Perfluorooctanoic acid related substances	Several
<i>Perfluorooctane sulphononic acid and its salts</i>	Several	Methyl perfluorooctanoate	376-27-2
Ammonium perfluorooctane sulfonate	29081-56-9	Ethyl perfluorooctanoate	3108-24-5
Diethanolamine perfluorooctane sulfonate	70225-14-8	<i>Perfluorooctylethyl alcohols</i>	Several
Lithium perfluorooctane sulfonate	29457-72-5	Perfluorooctylethanol	678-39-7
Perfluorooctane sulfonate	45298-90-6	<i>Perfluorooctylethyl olefins</i>	Several
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	Perfluorooctylethene	21652-58-4
Potassium heptadecafluoro-octane-1-sulphonate	2795-39-3	<i>Perfluorooctylethyl halides</i>	Several
<i>Perfluorooctane sulfon amidoethanols</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-	4151-50-2	Heptadecafluoro-1-iodooctane	507-63-1
		Pentadecafluorooctyl fluoride	335-66-0
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	<i>Perfluorooctylethyl acrylate or methacrylate</i>	Several
		<i>Perfluorooctylethyl polymers</i>	Several
Heptadecafluoro-N-methyloctane sulfonamide ethanol	24448-09-7	Perfluorocarboxylic acids (C9-C14) related substances	Several
<i>Perfluorooctane sulfon polymers</i>	Several	<i>Perfluorodecanoic acid related substances</i>	Several
<i>Perfluorooctane sulfon halides</i>	Several	10:2 Fluorotelomer alcohol - (10:2 FTOH)	865-86-1
1-Octanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-heptadecafluoro-	307-35-7		
<i>Perfluorooctane sulfon amides</i>	Several		
Heptadecafluoro-N-methyloctane sulfonamide	31506-32-8		
Perfluorooctane sulfonamide	754-91-6		
<i>Perfluorooctane sulfon amidoethyl (meth)acrylates</i>	Several		
Perfluorohexanoic acid and its salts	Several		
Perfluorohexanoic acid (PFHxA)	307-24-4		
Perfluorooctanoic acid and its salts	Several		
Ammonium pentadecafluoro octanoate	3825-26-1		
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		
Perfluorooctanoic acid (PFOA)	335-67-1		

Chemical Name	CAS Number	Chemical Name	CAS Number
Plasticizers		1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters	68515-51-5
Phthalic acid esters	Several	1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1
Bis-(2-methoxyethyl) phthalate	117-82-8	<i>Di-iso-nonyl phthalate - (DINP)</i>	Several
Butylbenzyl phthalate	85-68-7	Di-iso-nonyl phthalate - iso & n-Butene based	68515-48-0
Dibutyl phthalate	84-74-2	<i>Di-iso-decyl phthalate</i>	Several
Di-cyclohexyl phthalate	84-61-7	Di-iso-decyl phthalate [1]	26761-40-0
Diethyl phthalate	84-66-2	Di-iso-decyl phthalate [2]	68515-49-1
Diethylhexyl phthalate	117-81-7	Polyaromatic hydrocarbons (PAHs)	
Di-iso-butyl phthalate	84-69-5	Acenaphthene	83-32-9
Di-iso-hexyl phthalate	71850-09-4	Acenaphthylene	208-96-8
Di-iso-octyl phthalate	27554-26-3	Anthracene	120-12-7
Di-iso-pentyl phthalate	605-50-5	Benzo[rs]t]pentaphene	189-55-9
Dimethyl phthalate	131-11-3	Dibenzo[b,def]chrysene	189-64-0
Di-n-hexyl phthalate	84-75-3	Dibenzo[def,p]chrysene	191-30-0
Di-n-octyl phthalate	117-84-0	Cyclopenta[c,d]pyrene	27208-37-3
Dinonyl phthalate	84-76-4	Benzo(ghi)perylene	191-24-2
Di-n-pentyl phthalate	131-18-0	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
<i>1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters</i>	Several		