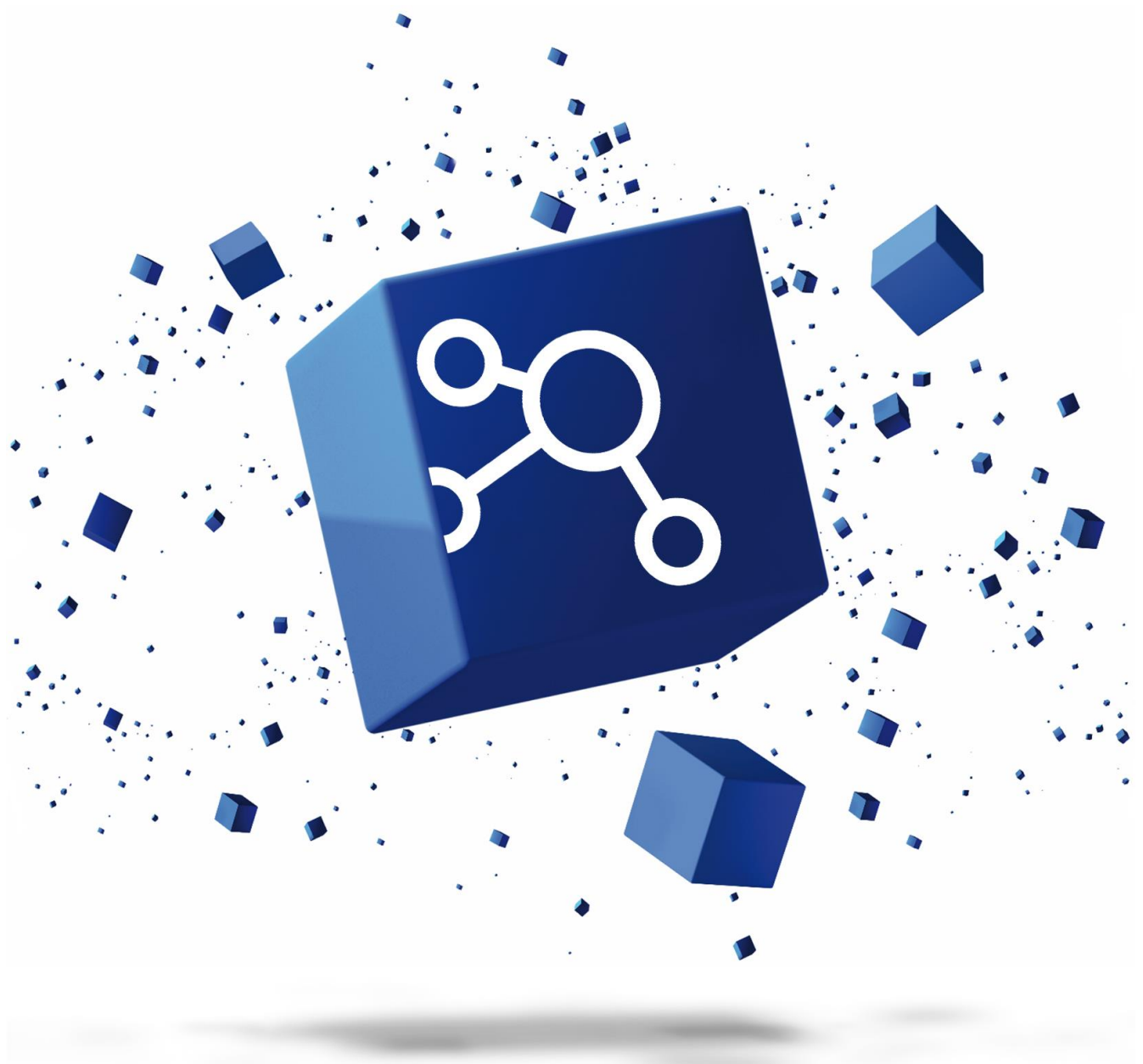


# bluesign® system black limits (BSBL)

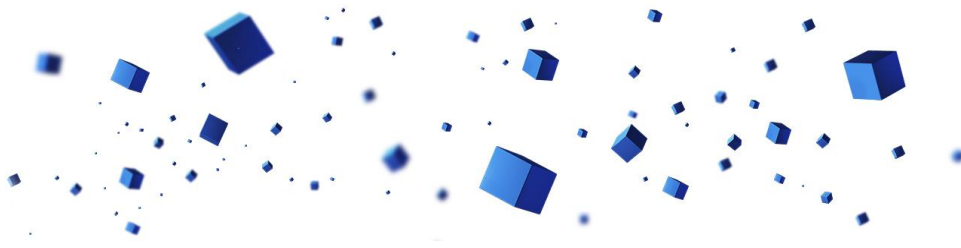
Threshold limits for chemical substances in chemical products

Version 1.0, July 2019





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## 1 Introduction

The *bluesign® system black limits (BSBL)* specify threshold limits for chemical substances in finished chemical products such as auxiliaries or dyes. All chemical substances regulated under the bluesign® SYSTEM are managed via the bluesign® TOOL - the web-based software application for chemical assessment and rating. The compilation of substances in the BSBL is an extract of the bluesign® TOOL and includes all substances from the publicly available *bluesign® system substances list (BSSL) Consumer safety limits* for which the usage ban in articles is defined. These could, for instance, be substances with carcinogenic, mutagenic or reprotoxic properties, or those falling under the POPs Regulation (The European Commission Regulation on persistent organic pollutants). One substantial example of these substances are monomers such as acrylamide, acrylonitrile or ethylene oxide. All of them might be present in polymers and must be controlled by system partners from the chemical industry.

Some substances of very high concern (SVHC, according to EU definition) are mentioned in the BSBL directly with limits which can be lower than the EU defined limit of declaration, which is 1000 ppm. For all SVHCs not directly listed in the BSBL, a threshold limit of 1000 ppm is fixed.

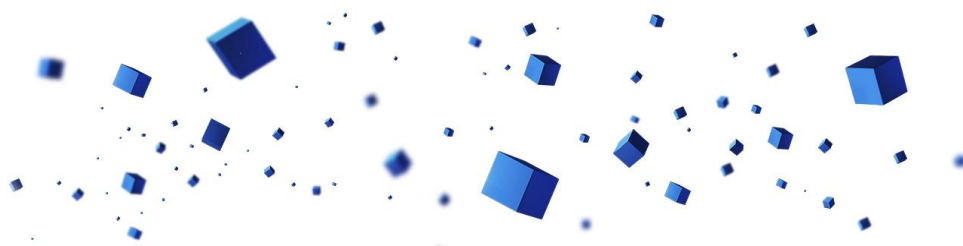
Whereas the bluesign® TOOL includes, apart from the BSBL substances, also many other substances with limits in mixtures (e.g. dyes or auxiliaries) that depend on the relevant application situation and exposure scenario, the BSBL limits illustrate the minimum threshold limits independent from any type of application and strictly follow the precautionary hazard-based approach.

The BSBL threshold limits are to be seen as a minimum requirement, as a gate keeper for undesirable substances following a hazard-based approach. Independent from this, the bluesign® TOOL calculates individual limits considering process and application conditions which can lead to even more stringent limits.

All chemicals registered in the bluesign® FINDER, a positive list of commercially available chemical products that passed the bluesign® CHEMICAL ASSESSMENT, comply with the BSBL limits. Data on all bluesign® FINDER registered chemicals are delivered by system partners from the chemical industry which all follow a Responsible Care approach with excellent knowledge on Product Stewardship and have outstanding environmental and occupational health & safety performance. Only by these means can a well-founded assessment of the respective chemical products be performed. Further, limits for substances in chemical products (included in the BSBL) as well as in articles (included in the BSSL) can be derived.

The BSBL is not intended to be send out to the supply chain for the purpose of obtaining a less substantial and conclusive compliance declaration. Rather, its main purpose is to inform on threshold limits the bluesign® FINDER registered chemicals comply with.

Through bluesign® CHEMICAL ASSESSMENT and CHEMICALS MANAGEMENT, of which the BSBL is just one building block, bluesign® drives a powerful, conscientious and sustainable change towards safer chemicals in textile manufacturing.



## 2 Definitions and abbreviations

### 2.1 BSBL

*bluesign® system black limits (BSBL)*. A list that specifies threshold limits for chemical substances in finished chemical products such as auxiliaries or dyes.

### 2.2 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.

### 2.3 bluesign® FINDER

Web-based online database containing positive list of preferred chemicals (e.g. dyestuffs, auxiliaries). It serves as a search engine designed to help manufacturers in finding bluesign® APPROVED chemical products.

### 2.4 bluesign® SYSTEM

The bluesign® SYSTEM integrates the relevant players across the supply chain, sets criteria and defines actions that determine their behavior towards human and environmentally friendly production and products.

### 2.5 bluesign® TOOL

Web-based software application for chemical assessment and rating of chemical products.

### 2.6 CAS

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.

### 2.7 Chemical intermediate

Any chemical used to make a final chemical product, but not used in downstream manufacturing (e.g. textile industry).

### 2.8 Chemical product / Chemical

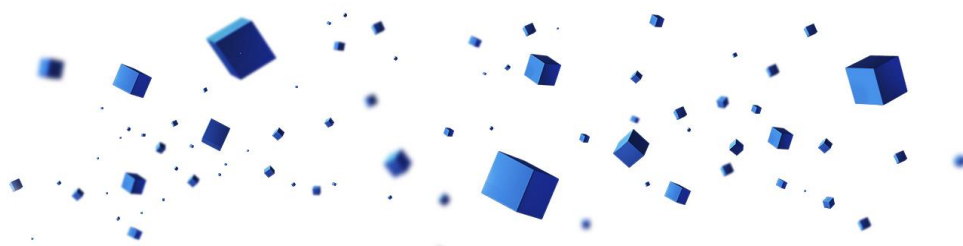
A commercial product which can be a chemical substance or a mixture.

### 2.9 Chemical substance

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

### 2.10 Mixture

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



#### 2.11 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.

#### 2.12 Threshold limit value

The maximum amount of chemical substance permitted in a finished chemical product allowed to be registered in bluesign® FINDER.

### 3 Testing methods

Testing shall be the last resort to confirm the absence of BSBL substances in finished chemical products (mixtures). This evidence is preferably adduced by Input Stream Management. That means for example appropriate selection of raw material suppliers, defining raw materials specifications, raw material control, process- and quality management at the production site.

In the last column of the table in Chapter 7 measuring methods (e.g. GC-MS or LC-MS) are recommended. Wherever possible reference to a standard method (e.g. ISO) is given.

Sample preparation depends strongly on the sample matrix (powder, liquid, solvent- or water based, pH, viscosity of the mixture, other substances in the mixture, etc.). Therefore, the choice of sample preparation is tailor made for each single tested chemical product and shall always be adjusted to the sample matrix.

All testing methods shall define the total content of the substance in the mixture. High recovery rate and low uncertainty shall be obtained. Robustness of the method shall be given.

### 4 SVHC

For all substances of very high concern (SVHC; Candidate List in accordance with Article 59(10) of the REACH Regulation) not included directly in this list a threshold limit of 1000 mg/kg is valid.

### 5 Scope and validity

The document specifies threshold limits for chemical substances in finished chemical products. All bluesign® APPROVED chemical products have to comply with these limits.

#### 5.1 Validity

This document comes into effect from July 1, 2019.

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



## 6 Threshold limit values

Section 6.1 informs on threshold limits for chemical substances in chemical products. For these substances also consumer safety limits are defined in the BSSL.

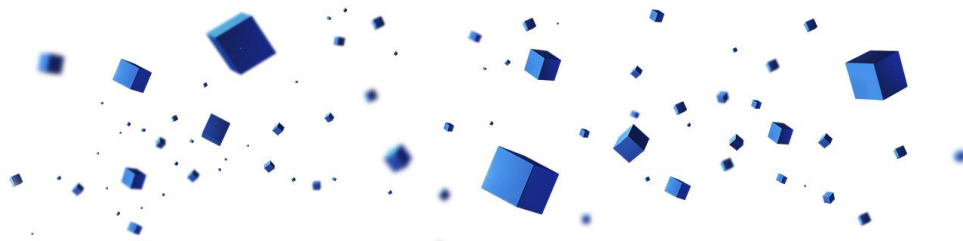
Section 6.2 lists additional substances which are either not relevant concerning consumer safety aspects, or which are normally not to be found as residues in the articles (they are used in very early manufacturing steps) but their use is banned or restricted under the bluesign® SYSTEM.

Annex I lists single substances belonging to groups: chlorinated benzenes and toluenes, colorants which can cleave into carcinogenic amines, dioxins and furans, fluorinated greenhouse gases, ozone depleting substances and pesticides.

Please note that not all ETAD-listed metals (ETAD Code of Ethics Annex A, <https://etad.com/en/about-etad/code-of-ethics.html>) are explicitly mentioned here. The reason is that BSBL contains only substances of very high concern regarding people and environment and follows a precautionary hazard-based approach. ETAD restricts also metals only for other reasons, for example iron. All bluesign® SYSTEM PARTNERS are obliged to keep the ETAD limits for metals in colorants (see bluesign® CRITERIA, *effective version*).

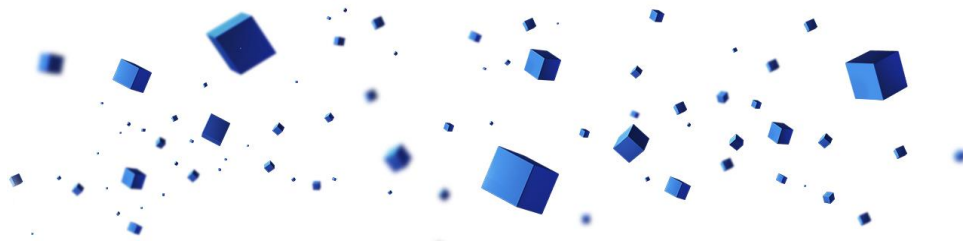
### 6.1 Threshold limits for substances with consumer safety limits

Aldehydes			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Acrolein	107-02-8	10	LC-MS



Alkylphenols and Alkylphenoethoxylates			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Alkylphenols (APs)	Several	For every single substance: 100	LC-MS
Nonylphenol, mixed isomers	25154-52-3		
Isononylphenol	11066-49-2		
4-Nonylphenol	104-40-5		
4-Nonylphenol, branched	84852-15-3		
Octylphenol	27193-28-8		
4-Octylphenol	1806-26-4		
4-tert-Octylphenol	140-66-9		
4-Heptylphenol, branched and linear	-		
4-Nonylphenol, branched and linear	-		
p-(1,1-Dimethylpropyl)phenol	80-46-6		
Alkylphenoethoxylates (APEOs) (EO) <sub>3-20</sub>	Several	For every single substance: 100	LC-MS
Isononylphenol, ethoxylated	37205-87-1		
Nonylphenol, branched, ethoxylated	68412-54-4		
Nonylphenol, branched, ethoxylated, phosphated	68412-53-3		
4-Nonylphenol, branched, ethoxylated	127087-87-0		
Octylphenol, ethoxylated	9036-19-5		
Octyl phenol ethoxylate, branched 9.5EO	68987-90-6		
Polyoxyethylated octyl phenol	9002-93-1		
Polyoxyethylated nonyl phenol	9016-45-9		
Polyoxyethylated p-nonyl phenol	26027-38-3		
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-		
4-Nonylphenol, branched and linear, ethoxylated	-		

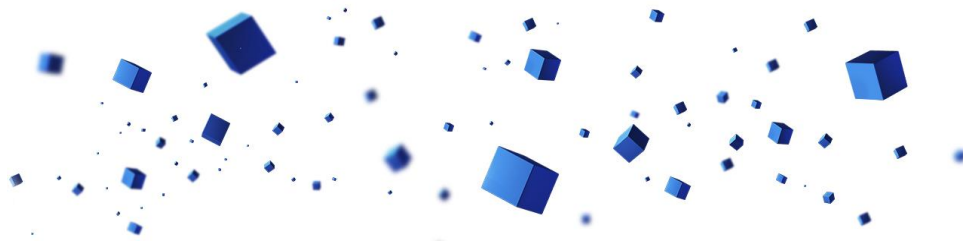




Amines			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Aminoethylethanolamine (AEEA)	111-41-1	10	GC-MS
Aniline	62-53-3	2000 (in case of >2000 minimization requirement and further information necessary)	LC-MS
Fatty acid condensation products with AEEA which may cleave to AEEA	Several	100	LC-MS
Ethylenediamine	107-15-3	1000	GC-MS
Imidazole	288-32-4	10	
2-Naphthylphenylamine	135-88-6	10	
p-Phenylenediamine	106-50-3	150	
p-Phenylenediamine-dihydrochloride	624-18-0	150	



Arylamines (including corresponding salts) Part 1 (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)			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
p-Aminoazobenzene	60-09-3	For every single substance: 150; Goal is 100	With reference to ISO 14362-1 (2017) and ISO 14362-3 (2017) LC-MS, LC-DAD
o-Aminoazotoluene	97-56-3		
4-Aminobiphenyl	92-67-1		
6-Amino-2-ethoxynaphthalene	293733-21-8		
4-Amino-3-fluorophenol	399-95-1		
2-Amino-4-nitrotoluene	99-55-8		
2-Anisidine	90-04-0		
Benzidine	92-87-5		
4-Chloroaniline	106-47-8		
4-Chlor-2-toluidine	95-69-2		
4-Chloro-o-toluidinium chloride	3165-93-3		
p-Cresidine	120-71-8		
2,4-Diaminoanisole	615-05-4		
4,4'-Diaminodiphenylmethane	101-77-9		
2,4-Diaminotoluene	95-80-7		
3,3'-Dichlorobenzidine	91-94-1		
3,3'-Dimethoxybenzidine	119-90-4		
3,3'-Dimethylbenzidine	119-93-7		
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0		
4-Methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7		
4,4'-Methylenebis-(2-chloroaniline)	101-14-4		
2-Naphthylamine	91-59-8		
2-Naphthylammoniumacetate	553-00-4		
4,4'-Oxydianiline	101-80-4		
4,4'-Thiodianiline	139-65-1		
m-Toluidine	108-44-1		
o-Toluidine	95-53-4		

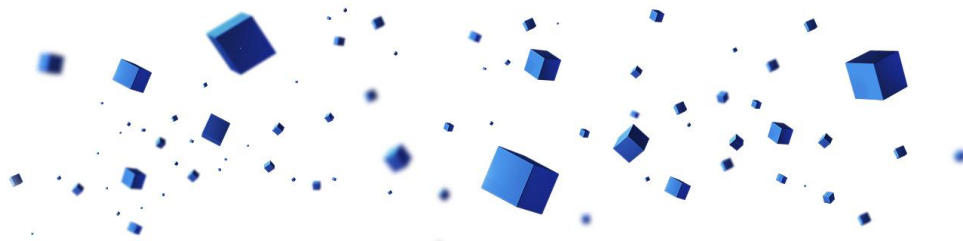


Arylamines (including corresponding salts)			
Part 2 (as substance, for example in PU, and as decomposition product of azo colorants which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines)			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
p-Toluidine	106-49-0	For every single substance: 150 Goal is 100	With reference to ISO 14362-1 (2017) and ISO 14362-3 (2017) LC-MS, LC-DAD
2,4,5-Trimethylaniline	137-17-7		
2,4,5-Trimethylaniline hydrochloride	21436-97-5		
2,4-Xylidine	95-68-1		
2,6-Xylidine	87-62-7		

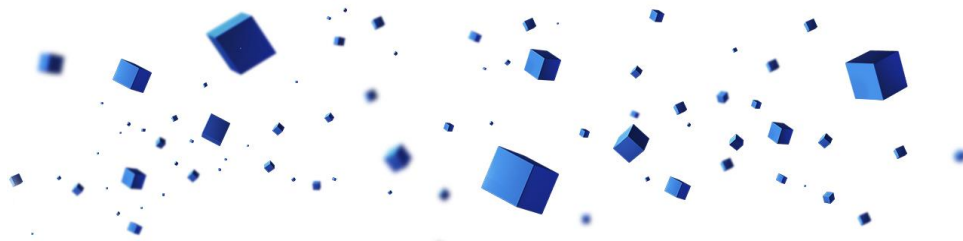
Biocides			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
2-Chloroacetamide	79-07-2	10	GC-MS
Dichlorophen	97-23-4	10	LC-MS
Chlorinated and non-chlorinated Isothiazolinone-derivatives			LC-MS
5-Chloro-2-methyl-4-isothiazolin-3-one (CIT)	26172-55-4	100	
2-Methyl-4-isothiazolin-3-one (MIT)	2682-20-4	1000	
Mixture (3:1) of CIT and MIT	55965-84-9	100	
2-n-Octyl-4-isothiazolin-3-one (OIT)	26530-20-1	1000	
1,2-Benzisothiazol-3(2H)-one (BIT)	2634-33-5	1000	
Dichlorooctylisothiazolinone (DCOIT)	64359-81-5	1000	
N-Methylol-chloroacetamide	2832-19-1	100	GC-MS
Permethrin	52645-53-1	10 Exception - usage range C: see bluesign® criteria for biocidal products and antimicrobial active substances	GC-MS or LC-MS
Triclosan (5-Chloro-2-(2,4-dichlorophenoxy)phenol)	3380-34-5	10	GC-MS



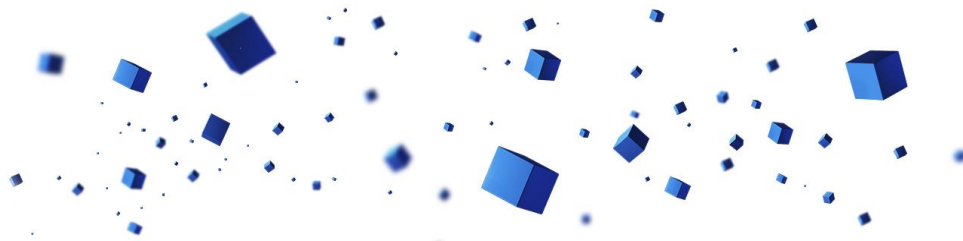
Chlorinated Benzenes and Toluenes			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Chlorinated benzenes		<p>For sum of all chlorinated benzenes and toluenes: 25; Goal is 10</p> <p>For every single substance: 10; Goal is 5</p>	<p>With reference to DIN 54232 (2010) GC-MS</p>
Monochlorobenzene	108-90-7		
Dichlorobenzenes, all isomers (Single substances listed in Annex I)	Several		
Trichlorobenzenes, all isomers (Single substances listed in Annex I)	Several		
Tetrachlorobenzenes, all isomers (Single substances listed in Annex I)	Several		
Pentachlorobenzene	608-93-5		
Hexachlorobenzene	118-74-1		
Chlorinated toluenes			
Monochlorotoluenes, all isomers (Single substances listed in Annex I)	Several		
Dichlorotoluenes, all isomers (Single substances listed in Annex I)	Several		
Trichlorotoluenes, all isomers (Single substances listed in Annex I)	Several		
Tetrachlorotoluenes, all isomers (Single substances listed in Annex I)	Several		
Pentachlorotoluene	877-11-2		
Chlorotoluene, unspecific mixture	25168-05-2		



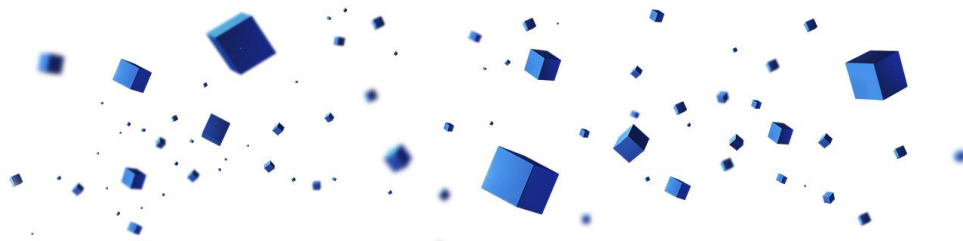
Chlorinated Phenols			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Monochlorophenols (MonoCPs), all isomers	25167-80-0	For sum of all MonoCPs and DiCPs: 10  For every single substance: 5	With reference to ISO 17070 (2015) GC-ECD, GC-MS
2-Chlorophenol	95-57-8		
3-Chlorophenol	108-43-0		
4-Chlorophenol	106-48-9		
Dichlorophenols (DiCPs), all isomers	25167-81-1		
2,3-Dichlorophenol	576-24-9		
2,4-Dichlorophenol	120-83-2		
2,5-Dichlorophenol	583-78-8		
2,6-Dichlorophenol	87-65-0		
3,4-Dichlorophenol	95-77-2		
3,5-Dichlorophenol	591-35-5		
Trichlorophenols (TriCPs), all isomers	25167-82-2	For sum of all TriCPs: 5  For every single substance: 5	
2,3,4-Trichlorophenol	15950-66-0		
2,3,5-Trichlorophenol	933-78-8		
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		
Tetrachlorophenols (TeCPs), salts and compounds	25167-83-3	For sum of all TeCPs: 5  For every single substance: 5	
2,3,4,5-Tetrachlorophenol	4901-51-3		
2,3,4,6-Tetrachlorophenol	58-90-2		
2,3,5,6-Tetrachlorophenol	935-95-5		
Pentachlorophenol (PCP), salts, esters and compounds	87-86-5	For sum of all PCP: 5	



Colorants			
Colorants with carcinogenic potential			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Acid Red 26	3761-53-3	For every single substance: 200	With reference to DIN 54231 (2005) LC-DAD or LC-MS
Basic Green 4	Several		
Malachit green	10309-95-2		
Malachit green chloride	569-64-2		
Malachit green oxalate	2437-29-8		
Basic Red 9	569-61-9		
Basic Violet 14	632-99-5		
Direct Black 38	1937-37-7		
Direct Blue 6	2602-46-2		
Direct Red 28	573-58-0		
Disperse Blue 1	2475-45-8		
Disperse Orange 11	82-28-0		
Disperse Yellow 3	2832-40-8		
Pigment Black 25	68186-89-0		
Pigment Yellow 34	1344-37-2		
Pigment Yellow 157	68610-24-2		
Pigment Red 104	12656-85-8		
Solvent Yellow 2 (4-Dimethylaminoazobenzene)	60-11-7		

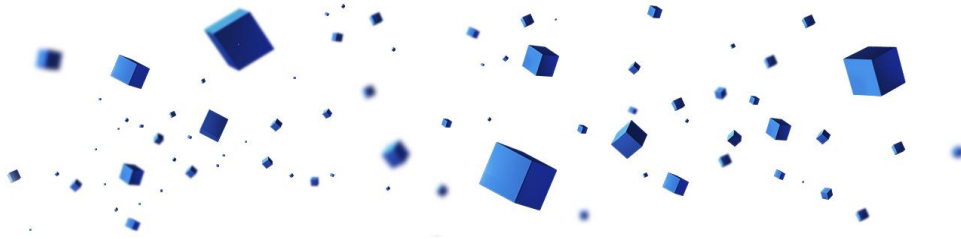


Colorants with allergenic potential			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Disperse Blue 3	2475-46-9	For every single substance: 200	With reference to DIN 54231 (2005) LC-DAD or LC-MS
Disperse Blue 7	3179-90-6		
Disperse Blue 26	3860-63-7		
Disperse Blue 35	12222-75-2 56524-77-7		
Disperse Blue 102	12222-97-8		
Disperse Blue 106	12223-01-7		
Disperse Blue 124	61951-51-7		
Disperse Brown 1	23355-64-8		
Disperse Orange 1	2581-69-3		
Disperse Orange 3	730-40-5		
Disperse Orange 37/59/76	12223-33-5 13301-61-6 51811-42-8		
Disperse Red 1	2872-52-8		
Disperse Red 11	2872-48-2		
Disperse Red 17	3179-89-3		
Disperse Yellow 1	119-15-3		
Disperse Yellow 9	6373-73-5		
Disperse Yellow 39	12236-29-2		
Disperse Yellow 49	54824-37-2		
Solvent Yellow 14	842-07-9		



Colorants banned for other reasons			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Acid Orange 24	1320-07-6	For every single substance: 200	With reference to DIN 54231 (2005) LC-DAD or LC-MS
Acid Violet 49	1694-09-3		
Basic Blue 26	2580-56-5		
Basic Violet 1	8004-87-3		
Basic Violet 3	548-62-9 603-48-5 14426-25-6		
Direct Black 91	6739-62-4		
Direct Blue 76	16143-79-6		
Direct Blue 218	28407-37-6		
Direct Yellow 1	6472-91-9		
Disperse Yellow 23	6250-23-3		
Disperse Orange 149	85136-74-9		
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)chromate(1-) Component 1: CAS-No: 118685-33-9 C <sub>39</sub> H <sub>23</sub> ClCrN <sub>7</sub> O <sub>12</sub> S <sub>2</sub> Na <sub>2</sub>   Component 2: C <sub>46</sub> H <sub>30</sub> CrN <sub>10</sub> O <sub>20</sub> S <sub>2</sub> .3Na	EC-number: 405-665-4  Component 1: 118685-33-9  Component 2: Not allocated		
Solvent Blue 4	6786-83-0		



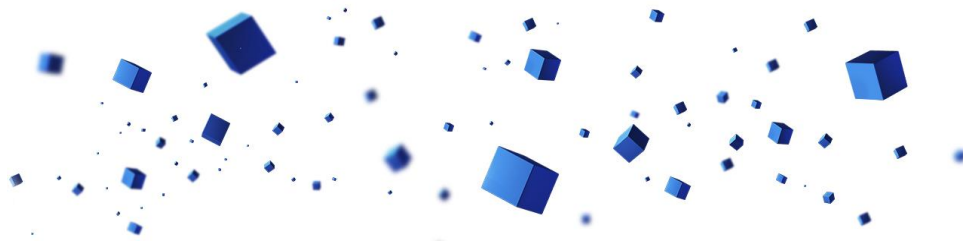


Colorants which can cleave in carcinogenic amines			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Colorants which can cleave in carcinogenic amines (Single substances listed in Annex I)	Several	200	With reference to DIN 54231 (2005) LC-DAD or LC-MS

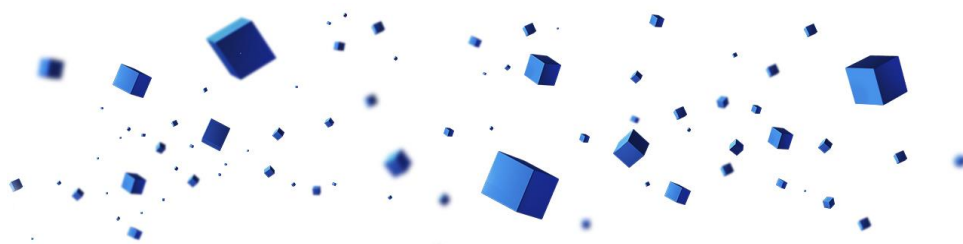
Dioxins and Furans			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Group 1 (Single substances listed in Annex I)	Several	Sum of all traces Group 1: 1.0 [µg/kg]	With reference to EPA 8290A
Group 2 (Single substances listed in Annex I)	Several	Sum of all traces Group 1 and 2: 5.0 [µg/kg]	
Group 3 (Single substances listed in Annex I)	Several	Sum of all traces Group 1, 2 and 3: 100 [µg/kg]	
Group 4 (Single substances listed in Annex I)	Several	Sum of all traces Group 4: 1.0 [µg/kg]	
Group 5 (Single substances listed in Annex I)	Several	Sum of all traces Group 5: 5.0 [µg/kg]	



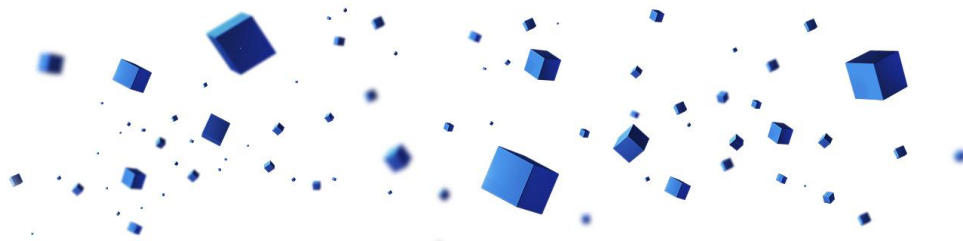
Flame Retardants Part 1			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	50	With reference to ISO 17881-1 (2016) GC-MS
Bis(2,3-dibromopropyl)phosphate (BDBPP)	5412-25-9	50	With reference to ISO 17881-2 (2016) LC-MS
Chlorinated paraffins, all chain lengths	Several		
Paraffin wax, chlorinated	63449-39-8	For every single substance: 50  Exception - Leather chemicals: 250	With reference to ISO 18219 (2015) GC-MS
Paraffin, C10-C13, chlorinated (SCCP)	85535-84-8		
Paraffin, C14-C17, chlorinated (MCCP)	85535-85-9		
Paraffin, C18-C28, chlorinated (LCCP)	85535-86-0		
Hexabromocyclododecan (HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	50	With reference to ISO 17881-1 (2016) GC-MS
Polybrominated diphenyl ethers (PBDE)	Several		
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	For every single substance: 50	With reference to ISO 17881-1 (2016) GC-MS
Pentabromodiphenyl ether (PentaBDE)	32534-81-9		
Hexabromodiphenyl ether (HexaBDE)	36483-60-0		
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3		
Octabromodiphenyl ether (OctaBDE)	32536-52-0		
Nonabromodiphenyl ether (NonaBDE)	63936-56-1		
Decabromodiphenyl ether (DecaBDE)	1163-19-5		
Tetrabromobisphenol A (TBBP A)	79-94-7		
Tetrabromobisphenol A bis(2,3-dibromopropylether)	21850-44-2	50	
Tri(aziridin-1-yl)phosphine oxide Triethylenephosphoramidate (TEPA)	545-55-1	50	With reference to ISO 17881-2 (2016) LC-MS



Flame Retardants Part 2			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Trimethyl phosphate	512-56-1	50	With reference to ISO 17881-2 (2016) LC-MS
Tri-o-cresyl phosphate	78-30-8	50	
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	50	
Tris-(2-chloro-1-methylethyl)phosphate (TCPP)	13674-84-5	50	
Tris-[2-chloro-1-(chloromethyl)ethyl]phosphate (TDCP or TDCPP)	13674-87-8	50	
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	50	
Trixylyl phosphate (TXP)	25155-23-1	50	



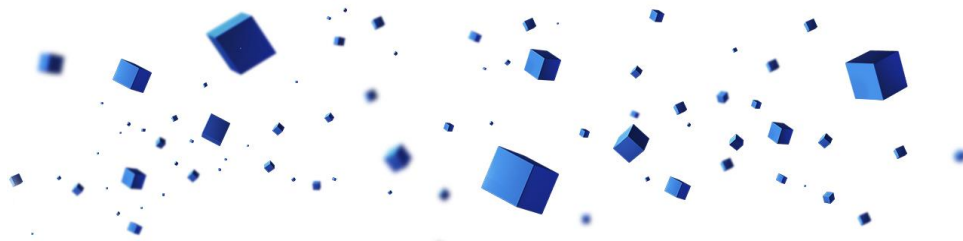
Fluorinated Substances			
Part 1			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
PFSA Chemicals*	Several		LC-MS
Perfluoroalkylsulfonates $F(CF_2)_nSO_3^-$ [n ≥ 5]	Several	100 [µg/kg]	
Perfluorohexane sulfonic acid / Perfluorohexane sulfonate (PFHxS)	355-46-4 / 432-50-7	100 [µg/kg]	
Perfluorooctane sulfonic acid / Perfluorooctane sulfonate (PFOS)	1763-23-1	100 [µg/kg]	
Perfluoroalkylsulfonamides $F(CF_2)_nSO_2NH_2$ [n ≥ 5]	Several	100 [µg/kg]	
Perfluoroalkylsulfonamidoethanols $F(CF_2)_nSO_2N(R)CH_2CH_2OH_2$ [n ≥ 5, R = H, -CH <sub>3</sub> , - CH <sub>2</sub> CH <sub>3</sub> ]	Several	100 [µg/kg]	
Perfluoroalkylsulfonamidoethyl (meth)acrylates $F(CF_2)_nSO_2N(R)CH_2CH_2OC(O)CH(R)=CH_2$ [n ≥ 5, R = H, -CH <sub>3</sub> , -CH <sub>2</sub> CH <sub>3</sub> ]	Several	100 [µg/kg]	
PFBS Chemicals	Several		
Perfluorobutane sulfonic acid / Perfluorobutanesulfonates (PFBS) $F(CF_2)_4SO_3^-$	375-73-5 29420-43-3	10 Monitoring	
Perfluorobutanesulfonamide $F(CF_2)_4SO_2NH_2$		500 Monitoring	
Perfluorobutanesulfonamidoethanols $F(CF_2)_4SO_2N(R)CH_2CH_2OH_2$ [R = H, -CH <sub>3</sub> , -CH <sub>2</sub> CH <sub>3</sub> ]	Several	150 Monitoring	
Perfluorobutanesulfonamidoethyl (meth)acrylates $F(CF_2)_4SO_2N(R)CH_2CH_2OC(O)CH(R)=CH_2$ [R = H, -CH <sub>3</sub> , -CH <sub>2</sub> CH <sub>3</sub> ]	Several	150 Monitoring	
Fluorotelomer alcohols (FTOHs) $F(CF_2)_nCH_2CH_2OH$ (not included in the 'PFOA- related substances' group)	Several		
6:2 FTOH, Perfluorohexylethanol	647-42-7	2000 Monitoring	
Fluorotelomer Olefins (FTOs) (not included in the 'PFOA-related substances' group)	Several		
Perfluorohexylethene	25291-17-2	2000 Monitoring	



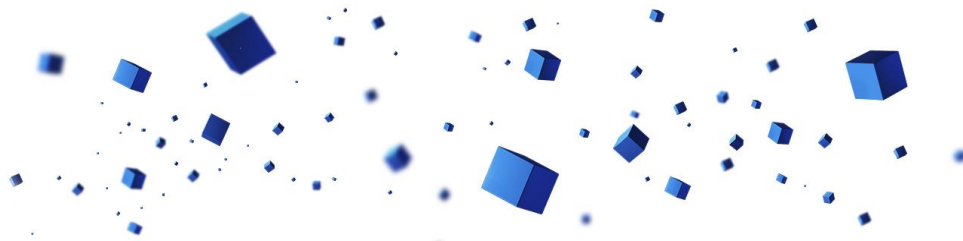
Fluorinated Substances Part 2			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Fluorotelomer (Meth)Acrylates (not included in the 'PFOA-related substances' group)	Several		LC-MS
Perfluorohexylethyl acrylate or methacrylate	Several	2000 Monitoring	
Perfluorocarboxylic acid and salts (PFCA)	Several	Sum of all: 2000 [µg/kg]	
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	25 [µg/kg]	
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 or Several	2000 [µg/kg]	
Henicosfluoroundecanoic acid	2058-94-8	2000 [µg/kg]	
Tricosfluorododecanoic acid	307-55-1	2000 [µg/kg]	
Pentacosfluorotridecanoic acid	72629-94-8	2000 [µg/kg]	
Heptacosfluorotetradecanoic acid	376-06-7	2000 [µg/kg]	
Perfluorobutanoic acid (PFBA)	375-22-4	2000 [µg/kg]	
Perfluorohexanoic acid (PFHxA)	307-24-4	2000 [µg/kg]	
Perfluoroheptanoic acid (PFHpA)	375-85-9	2000 [µg/kg]	
Perfluorooctanoic acid (PFOA)**	335-67-1	25 [µg/kg]	
Perfluorononanoic acid (PFNA)**	375-95-1	2000 [µg/kg]	
PFOA-related substances	Several		
Heptadecafluoro-1-iodooctane**	507-63-1	For sum of all PFOA-related substances: 1000 [µg/kg]	
1H,1H,2H,2H-Perfluorodecyl iodide**	2043-53-0		
8:2 FTOH, Perfluorooctylethanol**	678-39-7		
Perfluorooctylethene**	21652-58-4		
Perfluorooctylethyl acrylate or methacrylate**	Several		

\* Ban on long-chain compounds in manufacturing based on long-chain electrofluorination chemistry (C6 and higher).

\*\* Phase-out of long-chain compounds in manufacturing based on long-chain telomer chemistry (C8 and higher) until end of 2014.

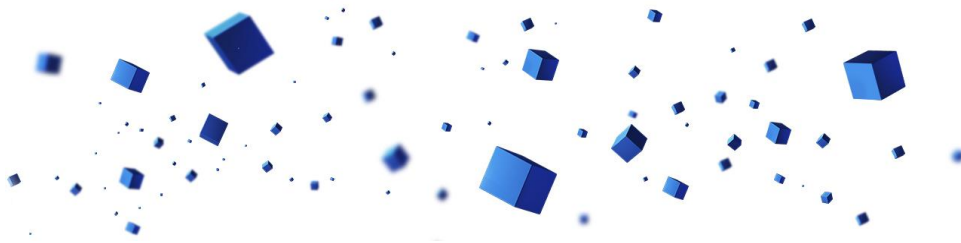


Glycols			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Bis(2-methoxyethyl)-ether	111-96-6	50	GC-MS
2-Ethoxyethanol	110-80-5	50	
2-Ethoxyethyl acetate	111-15-9	50	
Ethylene glycol dimethyl ether	110-71-4	50	
2-Methoxyethanol	109-86-4	50	
2-Methoxyethylacetate	110-49-6	50	
2-Methoxy-1-propanol	1589-47-5	50 Exception - Leather chemicals: 200	
2-Methoxypropylacetate	70657-70-4	50 Exception - Leather chemicals: 200	
Triethylene glycol dimethyl ether	112-49-2	50	



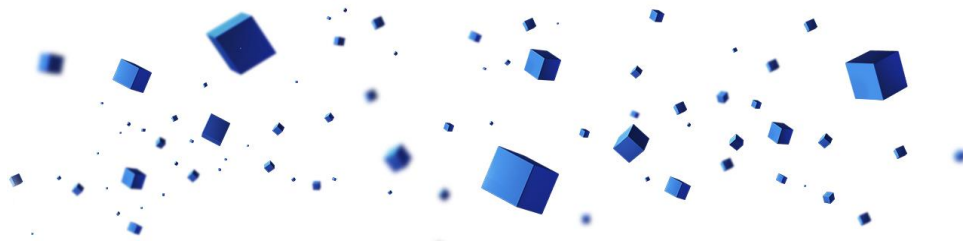
Greenhouse Gases, fluorinated			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Greenhouse gases, fluorinated (Single substances listed in Annex I)	Several	For every single substance: 10	Headspace GC-MS

Halogenated Biphenyls, halogenated Terphenyls and halogenated Naphthalenes			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Polybrominated biphenyls (PBBs)	59536-65-1	For single substance: 10	With reference to ISO 17881-1 (2016) GC-MS
Hexabromo biphenyl	36355-01-8	For sum of all polybrominated biphenyls: 10	
Polychlorinated biphenyls (PCBs)	1336-36-3	10	
Polychlorinated terphenyls (PCTs)	61788-33-8	10	
Polybrominated terphenyls (PBTs)	Several	10	
Polychlorinated naphthalenes (PCNs)	Several	For every single substance: 10  For sum of all polychlorinated naphthalenes: 10	
Monochloronaphthalene	25586-43-0		
Dichloronaphthalene	28699-88-9		
Trichloronaphthalene	1321-65-9		
Tetrachloronaphthalene	1335-88-2		
Pentachloronaphthalene	1321-64-8		
Hexachloronaphthalene	1335-87-1		
Heptachloronaphthalene	32241-08-0		
Octachloronaphthalene	2234-13-1	For sum of all polybrominated naphthalenes: 10	
Polybrominated naphthalenes (PBNs)	Several		



Halogenated Diarylalkanes			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Halogenated diarylalkanes	Several	For every single substance: 10	GC-MS
Monomethyl-dibromo-diphenyl methane	99688-47-8		
Monomethyl-dichloro-diphenyl methane	81161-70-8		
Monomethyl-tetrachloro-diphenyl methane	76253-60-6		

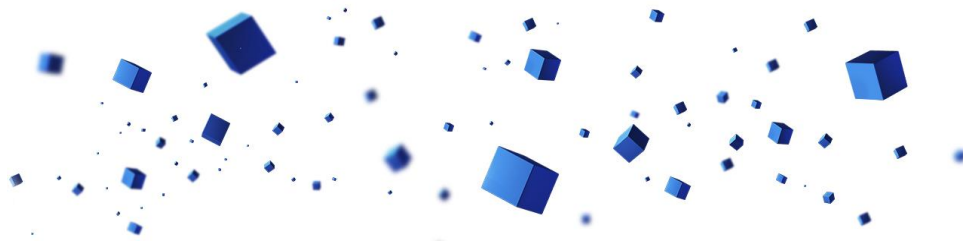




Metals			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Arsenic	7440-38-2	50	With reference to DIN EN 16711-1 (2016) ICP or AAS
Cadmium	7440-43-9	20 Exception - for pigments: 50	With reference to DIN EN 16711-1 (2016) ICP or AAS
Chromium (VI)	18540-29-9	10	With reference to EN ISO 17075-1 or -2 (2017) IC
Lead	7439-92-1	100	With reference to DIN EN 16711-1 (2016) ICP or AAS
Mercury	7439-97-6	4 Exception - for pigments: 25	With reference to DIN EN 16711-1 (2016) ICP or AAS



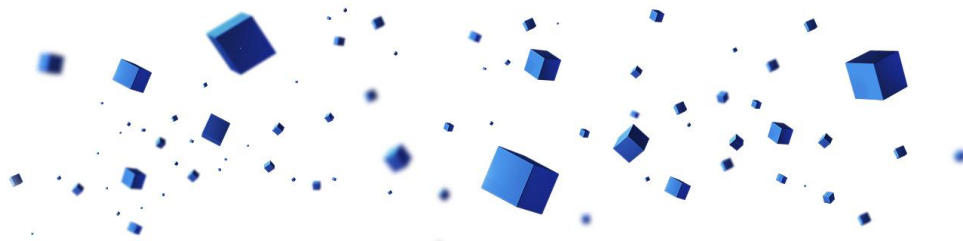
Monomers			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Acrylamide	79-06-1	1000 Goal is 500; BSSL consumer safety limit must be assured	LC-MS
Acrylonitrile	107-13-1	100	With reference to EN 13130-3 (2004) Headspace GC-MS
2-Chlorobuta-1,3-diene (Chloroprene)	126-99-8	100	With reference to BVL B 80.68-1 Headspace GC-MS
Epichlorohydrin	106-89-8	100	With reference to CEN/TS 13130-20 (2005) LC-MS
Vinyl chloride	75-01-4	100	With reference to ISO 6401 (2008) GC-MS



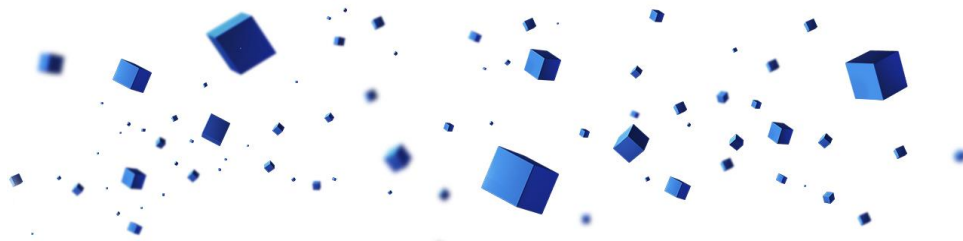
Nitrosamines (as substance and as reaction product from secondary amines for example in elastomers or rubbers)			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Nitrosamines			
N-Nitroso-di-n-butylamine	924-16-3	For every single substance: 1.0	With reference to GB/T 24513 (2009) or prEN 19577 (2017) GC-MS
N-Nitroso-di-ethanolamine	1116-54-7		
N-Nitroso-di-ethylamine	55-18-5		
N-Nitroso-di-isopropylamine	601-77-4		
N-Nitroso-di-methylamine	62-75-9		
N-Nitroso-di-benzylamine	5336-53-8		
N-Nitroso-di-isobutylamine	997-95-5		
N-Nitroso-di-isononylamine	1207995-62-7		
N-Nitroso-di-n-propylamine	621-64-7		
N-Nitroso-ethylphenylamine	612-64-6		
N-Nitroso-methylphenylamine	614-00-6		
N-Nitroso-morpholine	59-89-2		
N-Nitroso-piperidine	100-75-4		
N-Nitroso-pyrrolidine	930-55-2		



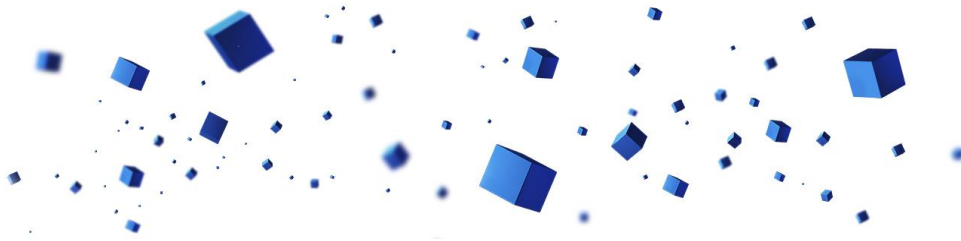
Other Chemical Substances Part 1			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Alkyl-naphthalenes; all derivatives	Several	10	GC-MS
Azobenzene	103-33-3	100	GC-MS or LC-MS
Benzyl chloride	100-44-7	100	GC-MS
Bisphenol A	80-05-7	10 for textile and leather chemicals only	GC-MS
Boric acid and derivatives			
Borate, zinc salt	1332-07-6		
Boric acid	10043-35-3 // 11113-50-1		
Diboron trioxide	1303-86-2		
Disodium tetraborate	1303-96-4 (decahydrate) 1330-43-4 (anhydrous) 12179-04-3 (pentahydrate)		
Disodium octaborate anhydrous	12008-41-2 12280-03-4		
Orthoboric acid sodium salt	13840-56-7		
Perboric acid, sodium salt	11138-47-9 10332-33-9 12040-72-1 37244-98-7		
Sodium perborate	15120-21-5		
Sodium perborate, anhydrous	7632-04-4		
Tetraboron disodium heptaoxide, hydrate	12267-73-1		
4-tert-Butyltoluene	98-51-1	10	GC-MC
Colophony (Rosin)	8050-09-7	10	GC-MC



Other Chemical Substances Part 2			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Cresol, all isomers	1319-77-3	For every single substance: 100	GC-MS
m-Cresol	108-39-4		
o-Cresol	95-48-7		
p-Cresol	106-44-5		
D4-Siloxane (Octamethylcyclotetrasiloxane)	556-67-2	For every single substance: 1000	TEGEWA Method
D5-Siloxane (Decamethylcyclopentasiloxan)	541-02-6		
D6-Siloxane (Dodecamethylcyclohexasiloxan)	540-97-6		
1,3-Dichloro-2-propanol	96-23-1	100	GC-MS
Dimethylfumarate	624-49-7	1	With reference to ISO/TS 16186 (2012) GC-MS
Dimethyl sulfate	77-78-1	100	GC-MS
2,4-Dinitrotoluene	121-14-2	100	GC-MS
Ethyleneimine	151-56-4	100	GC-MS

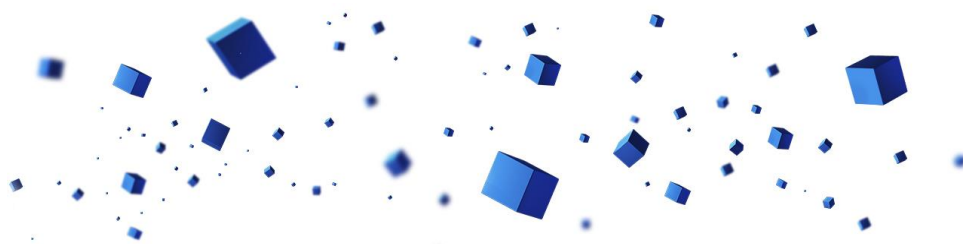


Other Chemical Substances Part 3			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Formaldehyde oligomeric reaction product with aniline (polymeric MDA, MDA technical grade)	25214-70-4	20	Indirect testing via Diaminodiphenylmethane LC-MS
Formamide	75-12-7	100	GC-MS
Hydrazine, its salts and hydrates	Several		GC-MS
Hydrazine	302-01-2	10	
Isoquinoline	119-65-3	1000	LC-MS/MS or LC-DAD
2-Methylaziridine (Propylenimine)	75-55-8	10	GC-MS
2-Nitropropane	79-46-9	100	GC-MS
Potassium bromate	7758-01-2	100	IC
Quinoline	91-22-5	1000	LC-MS/MS or LC-DAD
Sodium bromate	7789-38-0	100	IC
Terpene hydrocarbons	Several	For every single listed substance: 10	GC-MS
D-Limonene	5989-27-5		
DL-Limonene	138-86-3		
L-Limonene	5989-54-8		
Thiourea	62-56-6	1000	LC-MS



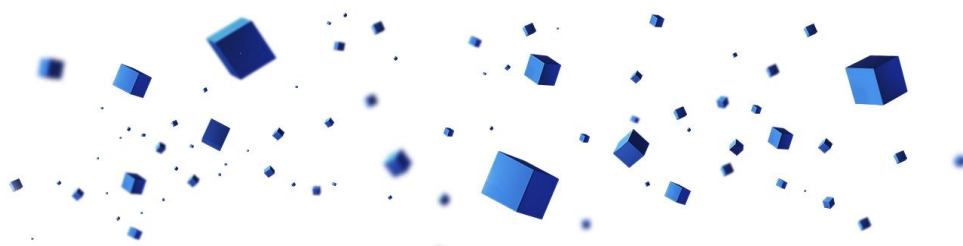
Ozone Depleting Substances			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Ozone depleting substances (CFCs) class I (Single substances listed in Annex I)	Several	For sum of all Ozone depleting substances (Class I and II): 100	GC-MS
Ozone depleting substances (CFCs) class II (Single substances listed in Annex I)	Several		

Pesticides			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Pesticides (Single substances listed in Annex I)	Several	For sum of all pesticides: 5	GC-MS or LC-MS



Plasticizers			
Part 1			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Phthalic acid esters	Several		
1,2-Benzenedicarboxylic acid, di-C <sub>6-8</sub> -branched alkyl esters, C <sub>7</sub> -rich (DIHP)	71888-89-6		
1,2-Benzenedicarboxylic acid, benzyl C <sub>7-9</sub> -branched and linear alkyl esters	68515-40-2		
1,2-Benzenedicarboxylic acid, di-C <sub>7-11</sub> -branched and linear alkyl esters (DHNUP)	68515-42-4		
1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear	84777-06-0		
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4		
1,2-Benzenedicarboxylic acid, di-C <sub>6-10</sub> -alkyl esters	68515-51-5		
1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1		
Bis-(2-methoxyethyl) phthalate (DMEP)	117-82-8		
Butylbenzyl phthalate (BBP)	85-68-7		
Dimethyl phthalate (DMP)	131-11-3		
Diethyl phthalate (DEP)	84-66-2		
Dibutyl phthalate (DBP)	84-74-2		
Dinonyl phthalate (DNP)	84-76-4		
Diethylhexyl phthalate (DEHP)	117-81-7		
Diisobutyl phthalate (DIBP)	84-69-5		
Diisopentyl phthalate (DIPP)	605-50-5		
Diisohexyl phthalate (DIHxP)	71850-09-4		
Diisooctyl phthalate (DIOP)	27554-26-3		
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0		
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1		
		For every single substance: 10	With reference to ISO 14389 (2014)
		For sum of all phthalic acid esters: 250	





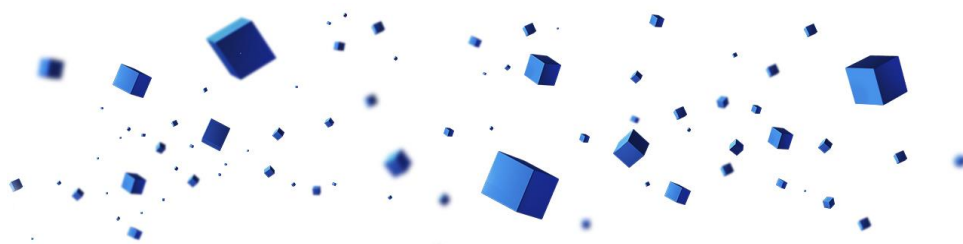
Plasticizers Part 2			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Di-n-propyl phthalate (DPRP)	131-16-8	For every single substance: 10  For sum of all phthalic acid esters: 250	With reference to ISO 14389 (2014)
Di-n-pentyl phthalate (DnPP)	131-18-0		
Di-n-hexyl phthalate (DnHP)	84-75-3		
Di-n-octyl phthalate (DnOP)	117-84-0		
Di-cyclohexyl phthalate (DCHP)	84-61-7		
n-Pentyl-isopentyl phthalate	776297-69-9		



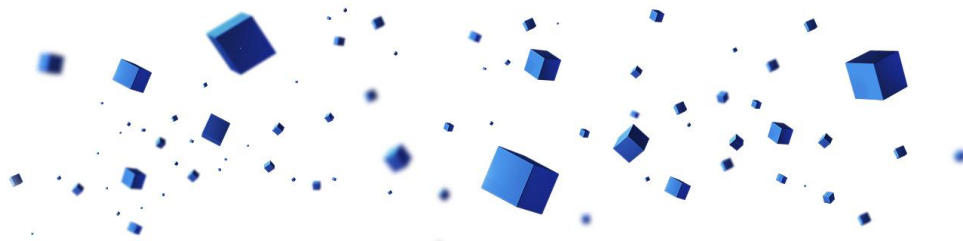
Polyaromatic Hydrocarbons (PAHs)			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Polyaromatic hydrocarbons (PAHs)	Several	For sum of all PAHs: 100	With reference to EPA 8310, 8270D, 8275A; AfPS GS 2014:01
Benzo(a)pyrene	50-32-8	1	
Benzo(e)pyrene	192-97-2	5	
Benzo(a)anthracene	56-55-3	5	
Chrysene	218-01-9	5	
Benzo(b)fluoranthene	205-99-2	5	
Benzo(j)fluoranthene	205-82-3	5	
Benzo(k)fluoranthene	207-08-9	5	
Dibenzo(a,h)anthracene	53-70-3	5	
Acenaphthene	83-32-9		
Acenaphthylene	208-96-8		
Anthracene	120-12-7		
Benzo(ghi)perylene	191-24-2		
Fluoranthene	206-44-0		
Fluorene	86-73-7		
Indeno(1,2,3-cd)pyrene	193-39-5		
Naphthalene	91-20-3		
Phenanthrene	85-01-8		
Pyrene	129-00-0		



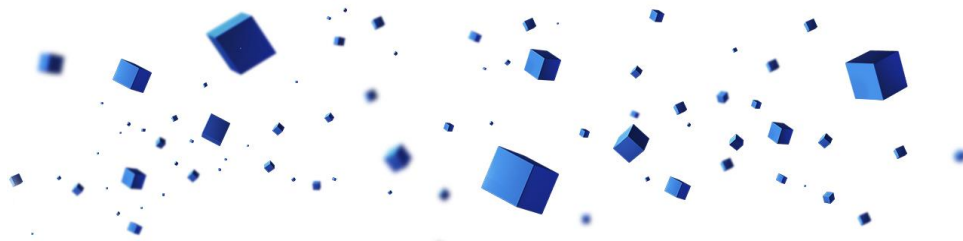
Polymers			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Polyvinyl chloride (PVC)	9002-86-2	500	Beilstein test // FTIR
Polyvinylidenchloride (PVDC)	9002-85-1	500	Beilstein test // FTIR



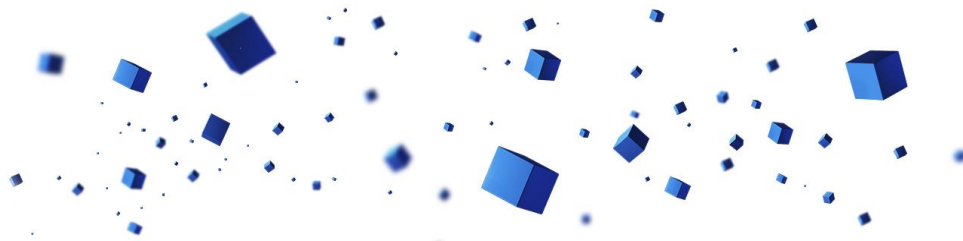
Solvents Part 1			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Benzene	71-43-2	50	GC-MS
Benzine/Gasoline	Several		
Benzine	8032-32-4	10	GC-MS
Gasoline	8006-61-9	10	GC-MS
Chlorinated ethanes, all isomers	Several	For every single substance: 10	GC-MS
1,1,1-Trichloroethane	71-55-6		
1,1,2-Trichloroethane	79-00-5		
1,1,1,2-Tetrachloroethane	630-20-6		
1,1,1,2,2-Tetrachloroethane	79-34-5		
Pentachloroethane	76-01-7		
Hexachloroethane	67-72-1		
1,2-Dichloroethane	107-06-2	5	GC-MS
Dichloromethane	75-09-2	5 Exception - paint stripping allowed in closed systems	GC-MS
Hexachlorobutadiene	87-68-3	100	GC-MS
N-ethyl-2-pyrrolidone (NEP)	2687-91-4	50	With reference to CEN ISO/TS 16189 (2013) GC-MS
N-Methylpyrrolidone (NMP)	872-50-4	50	With reference to CEN ISO/TS 16189 (2013) GC-MS
N,N-Dimethylacetamide (DMAc)	127-19-5	50 Exception - chemicals for fiber manufacturing: minimization requirement	With reference to CEN ISO/TS 16189 (2013) GC-MS
N,N-Dimethylformamide (DMF)	68-12-2	50 Exception - chemicals for fiber manufacturing, coating and laminating: minimization requirement	With reference to CEN ISO/TS 16189 (2013) GC-MS



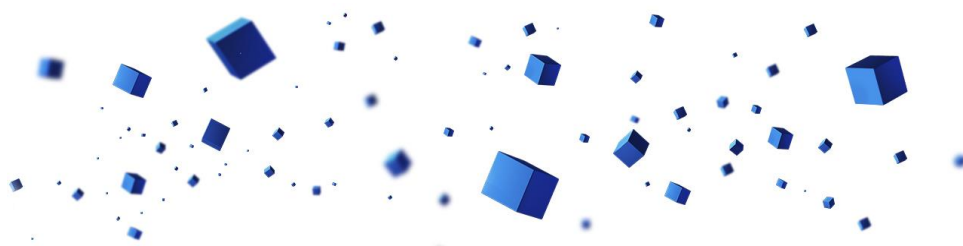
Solvents Part 2			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Tetrachloroethylene (Perchloroethylene)	127-18-4	5 Exception - dry cleaning allowed in closed systems	GC-MS
Trichloroethylene	79-01-6	40	GC-MS
Trichloromethane (Chloroform)	67-66-3	100	GC-MS
1,2,3-Trichloropropane	96-18-4	5	GC-MS
Xylene, all isomers	1330-20-7	Sum of all xylenes: 5 for textile chemicals only	GC-MS
m-Xylene	108-38-3		
o-Xylene	95-47-6		
p-Xylene	106-42-3		



Tin-organic Compounds as mono-, di-, tri-, tetraalkyltin organics			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Tin-organic compounds	Several		
Monomethyltin compounds (MMT)	Several	5	With reference to ISO/TS 16179 (2012) GC-MS
Monobutyltin compounds (MBT)	Several	5	
Monophenyltin compounds (MPhT)	Several	5	
Monooctyltin compounds (MOT)	Several	5	
Dimethyltin compounds (DMT)	Several	1	
Dipropyltin compounds (DPT)	Several	5	
Dibutyltin compounds (DBT)	Several	5	
Dibutyltin dichloride (DBTC)	683-18-1	5	
Diphenyltin compounds (DPhT)	Several	5	
Diocyltin compounds (DOT)	Several	5	
Trimethyltin compounds (TMT)	Several	1	
Tripropyltin compounds (TPT)	Several	1	
Tributyltin compounds (TBT)	Several	1	
Bis(tributyltin) oxide (TBTO)	56-35-9	1	
Triphenyltin compounds (TPhT)	Several	1	
Triocyltin compounds (TOT)	Several	1	
Tetraethyltin compounds (TeET)	Several	1	
Tetrabutyltin compounds (TeBT)	Several	1	
Tetraoctyltin compounds (TeOT)	Several	1	
Tricyclohexyltin compounds (TCyHT)	Several	1	



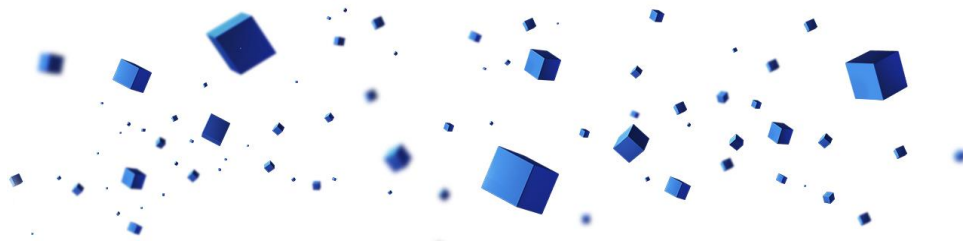
UV stabilizers			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
UV stabilizers	Several		
UV-320 2-benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	For every single substance: 300	GC-MS
UV-327 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol	3864-99-1		
UV-328 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)phenol	25973-55-1		
UV-350 2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol	36437-37-3		



6.2 Threshold limits for substances with usage restrictions but no consumer safety limits

Substances with usage restrictions but no consumer safety limits			
Part 1			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Bis(chloromethyl)ether	542-88-1	10	GC-MS
1,3-Butadiene	106-99-0	100	With reference to EN 13130-4 (2004) GC-MS
Di(hydrogenated tallow alkyl)dimethylammonium chloride (DHTDMAC)	61789-80-8	200	LC
Distearyl dimethyl ammonium chloride (DSDMAC)	107-64-2	200	LC
Ditallow dimethyl ammonium chloride (DTDMAC)	68783-78-8	200	LC
EDTA/DTPA and salts		1000	With reference to ISO 16588 (2002) GC-MS
Ethylene diamine tetraacetic acid (EDTA), disodium salt dihydrate	139-33-3 / 6381-92-6	No intentional use as water softener for freshwater preparation and in textile auxiliaries. Other chemicals: minimization requirement	
Ethylene diamine tetraacetic acid (EDTA), tetrasodium salt	64-02-8		
Diethylene triamine pentaacetic acid (DTPA), sodium salt	140-01-2		
Ethylene oxide	75-21-8	100	With reference to CEN/TS 13130-22 (2005) Headspace GC-FID
Propylene oxide	75-56-9	100	With reference to CEN/TS 13130-22 (2005) Headspace GC-FID
Hypochlorite/ Chlorine		100 Several exceptions (see Guidance Sheet)	Input Stream Management
Calcium hypochlorite	7778-54-3		
Sodium hypochlorite	7681-52-9		
Chlorine	7782-50-5		
Sodium chlorite	7758-19-2	100 Exception - chemicals for manufacturing extra white polyester for home textiles	Input Stream Management





Substances with usage restrictions but no consumer safety limits			
Part 2			
Chemical Substances	CAS Number	Threshold Limit Value [mg/kg]	Recommended Test Method
Phosphonates and salts		1000 No intentional use as water softener for freshwater preparation. Other chemicals: minimization requirement	Input Stream Management
Amino, tris(methylene phosphonic acid)	6419-19-8		
Diethylenetriaminepenta(methylene phosphonic acid)	15827-60-8		
Ethylenediaminetetra(methylene phosphonic acid)	1429-50-1		
1-Hydroxyethane-1,1-diphosphonic acid	2809-21-4		
Potassium permanganate	7722-64-7	1000	Input Stream Management

## Annex I Compilation of single substances

In the following tables single substances belonging to groups:

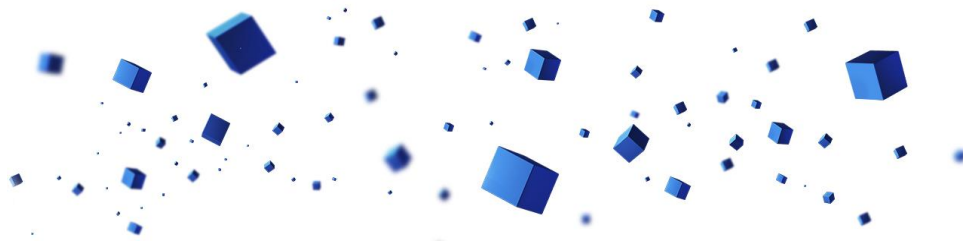
- Chlorinated benzenes and toluenes
- Colorants which can cleave in carcinogenic amines
- Dioxins and furans
- Greenhouse gases, fluorinated
- Ozone depleting substances
- Pesticides

are listed.

Threshold limit values and test methods for the substance groups are provided in section 6.



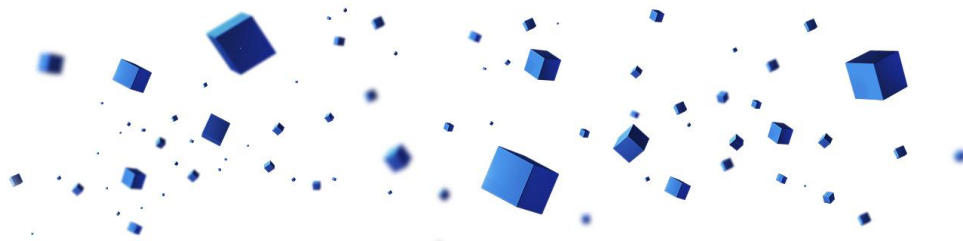
Chlorinated Benzenes and Toluenes			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Chlorinated benzenes		Dichlorotoluenes, all isomers	Several
Dichlorobenzenes, all isomers	Several	2,3-Dichlorotoluene	32768-54-0
1,2-Dichlorobenzene	95-50-1	2,4-Dichlorotoluene	95-73-8
1,3-Dichlorobenzene	541-73-1	2,5-Dichlorotoluene	19398-61-9
1,4-Dichlorobenzene	106-46-7	2,6-Dichlorotoluene	118-69-4
Trichlorobenzenes, all isomers	Several	3,4-Dichlorotoluene	95-75-0
1,2,3-Trichlorobenzene	87-61-6	3,5-Dichlorotoluene	25186-47-4
1,2,4-Trichlorobenzene	120-82-1	Trichlorotoluenes, all isomers	Several
1,3,5-Trichlorobenzene	108-70-3	2,3,4-Trichlorotoluene	7359-72-0
Tetrachlorobenzenes, all isomers	Several	2,3,6-Trichlorotoluene	2077-46-5
1,2,3,4-Tetrachlorobenzene	634-66-2	2,4,5-Trichlorotoluene	6639-30-1
1,2,3,5-Tetrachlorobenzene	634-90-2	2,4,6-Trichlorotoluene	23749-65-7
1,2,4,5-Tetrachlorobenzene	95-94-3	3,4,5-Trichlorotoluene	21472-86-6
Chlorinated toluenes		a,a,a-Trichlorotoluene	98-07-7
Monochlorotoluenes, all isomers	Several	Tetrachlorotoluenes, all isomers	Several
2-Chlorotoluene	95-49-8	2,3,4,5-Tetrachlorotoluene	76057-12-0
3-Chlorotoluene	108-41-8	2,3,5,6-Tetrachlorotoluene	29733-70-8
4-Chlorotoluene	106-43-4	2,3,4,6-Tetrachlorotoluene	875-40-1
		a,a,a,4-Tetrachlorotoluene	5216-25-1



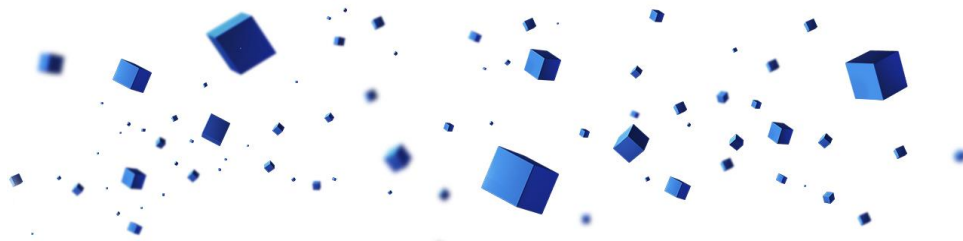
Colorants which can cleave in carcinogenic amines Part 1			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Acid Black 29	12217-14-0	Basic Red 76	68391-30-0
Acid Black 94	6358-80-1	Basic Red 111	113741-92-7
Acid Black 131	12219-01-1	Basic Red 114	-
Acid Black 132	12219-02-2	Basic Yellow 82	-
Acid Black 209	72827-68-0	Basic Yellow 103	-
Acid Black 232	-	Developer 14 = Oxidation Base 20	95-80-7
Acid Brown 415	97199-27-4	Direct Black 4	25156-49-4
Acid Orange 45	2429-80-3	Direct Black 29	25180-14-7
Acid Red 4	5858-39-9	Direct Black 154	54804-85-2
Acid Red 5	5858-63-9	Direct Blue 1	2610-05-1
Acid Red 24	5858-30-0	Direct Blue 2	2429-73-4
Acid Red 35	6441-93-6	Direct Blue 3	2429-72-3
Acid Red 73	5413-75-2	Direct Blue 8	2429-71-2
Acid Red 85	3567-65-5	Direct Blue 9	6428-98-4
Acid Red 104	8006-06-2	Direct Blue 10	4198-19-0
Acid Red 114	6459-94-5	Direct Blue 14	72-57-1
Acid Red 115	6226-80-8	Direct Blue 15	2429-74-5
Acid Red 116	6245-62-1	Direct Blue 21	6420-09-3
Acid Red 119:1	90880-75-4	Direct Blue 22	2586-57-4
Acid Red 128	6548-30-7	Direct Blue 25	25180-27-2
Acid Red 148	6300-53-4	Direct Blue 35	6473-33-2
Acid Red 150	6226-78-4	Direct Blue 53	314-13-6
Acid Red 158	8004-55-5	Direct Blue 151	110735-25-6
Acid Red 167	61901-41-5	Direct Blue 160	12222-02-5
Acid Red 264	6505-96-0	Direct Blue 173	12235-72-2
Acid Red 265	6358-43-6	Direct Blue 192	159202-76-3
Acid Red 420	-	Direct Blue 215	6771-80-8
Acid Violet 12	6625-46-3	Direct Blue 295	6420-22-0
Azoic Diazo Component 12	99-55-8	Direct Blue 306	-
Azoic Diazo Component 48	119-90-4	Direct Brown 1	3811-71-0
Azoic Diazo Component 112	92-87-5	Direct Brown 1:2	2586-58-5
Azoic Diazo Component 113	119-93-7	Direct Brown 2	25255-06-5
Basic Brown 4	8005-78-5	Direct Brown 6	25180-39-6
Basic Red 42	12221-66-8	Direct Brown 25	33363-87-0



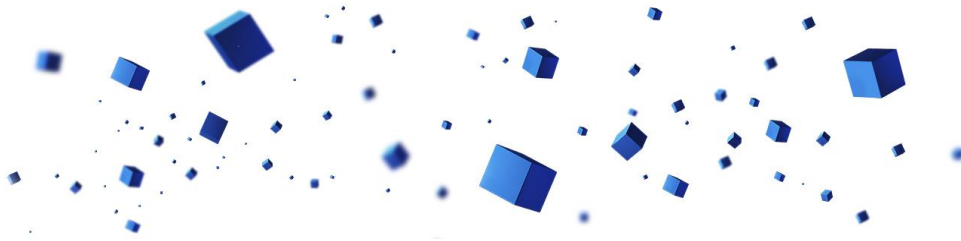
Colorants which can cleave in carcinogenic amines (List is not exhaustive) Part 2			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Direct Brown 27	6360-29-8	Direct Red 39	6358-29-8
Direct Brown 31	25180-41-0	Direct Red 44	2302-97-8
Direct Brown 33	1324-87-4	Direct Red 46	6548-29-4
Direct Brown 51	4623-91-0	Direct Red 62	6420-43-5
Direct Brown 59	6247-51-4	Direct Red 67	6598-56-7
Direct Brown 74	8014-91-3	Direct Red 72	8005-64-9
Direct Brown 79	6483-77-8	Direct Violet 1	25188-44-7
Direct Brown 95	16071-86-6	Direct Violet 4	6472-95-3
Direct Brown 101	3626-29-7	Direct Violet 12	2429-75-6
Direct Brown 154	6360-54-9	Direct Violet 13	13478-92-7
Direct Brown 222	64743-15-3	Direct Violet 21	25188-48-1
Direct Brown 223	76930-14-8	Direct Violet 22	25329-82-2
Direct Green 1	3626-28-6	Direct Yellow 24	6486-29-9
Direct Green 6	4335-09-5	Direct Yellow 48	6459-97-8
Direct Green 8	25180-47-6	Disperse Orange 60	12270-44-9
Direct Green 8:1	76012-70-9	Disperse Red 151	61968-47-6
Direct Green 85	72390-60-4	Disperse Red 221	64426-35-3
Direct Orange 1	54579-28-1	Disperse Yellow 7	6300-37-4
Direct Orange 6	6637-88-3	Disperse Yellow 56	54077-16-6
Direct Orange 7	2868-76-0	Disperse Yellow 218	83929-90-2
Direct Orange 8	64083-59-6	Solvent Orange 7	3118-97-6
Direct Orange 10	6405-94-3	Mordant Red 57	2429-84-7
Direct Orange 108	6358-79-8	Mordant Yellow 16	8003-87-0
Direct Red 1	25188-24-3	Solvent Red 1	1229-55-6
Direct Red 2	992-59-6	Solvent Red 19	6368-72-5
Direct Red 7	25188-28-7	Solvent Red 23	85-86-9
Direct Red 10	25188-29-8	Solvent Red 24	85-83-6
Direct Red 13	25188-30-1	Solvent Red 26	4477-79-6
Direct Red 17	25188-32-3	Solvent Red 68	61813-90-9
Direct Red 21	6406-01-5	Solvent Red 69	5413-75-2
Direct Red 22	6448-80-2	Solvent Red 164	71819-51-7
Direct Red 24	6420-44-6	Solvent Red 215	-
Direct Red 26	3687-80-7	Solvent Yellow 72	61813-98-7
Direct Red 37	3530-19-6		



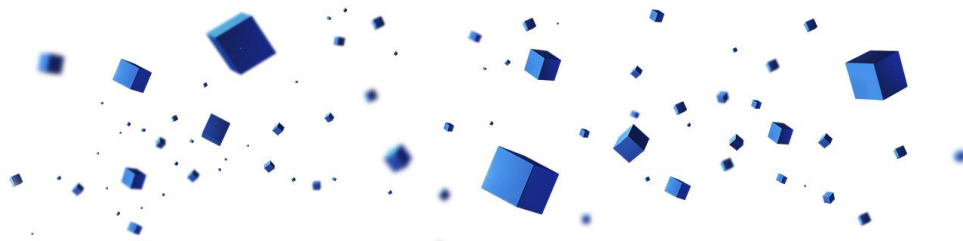
Dioxins and Furans			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Group 1:	Several	Group 3:	Several
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321-76-4	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4
2,3,4,7,8-Pentachlorodibenzofuran	57117-31-4	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran	39001-02-0
Group 2:	Several	Group 4:	Several
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	39227-28-6	2,3,7,8-Tetrabromodibenzo-p-dioxin	50585-41-6
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7	1,2,3,7,8-Pentabromodibenzo-p-dioxin	109333-34-8
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408-74-3	2,3,7,8-Tetrabromodibenzofuran	67733-57-7
1,2,3,7,8-Pentachlorodibenzofuran	57117-41-6	2,3,4,7,8-Pentabromodibenzofuran	131166-92-2
1,2,3,4,7,8-Hexachlorodibenzofuran	70648-26-9	Group 5:	Several
1,2,3,6,7,8-Hexachlorodibenzofuran	57117-44-9	1,2,3,4,7,8-Hexabromodibenzo-p-dioxin	110999-44-5
1,2,3,7,8,9-Hexachlorodibenzofuran	72918-21-9	1,2,3,6,7,8-Hexabromodibenzo-p-dioxin	110999-45-6
2,3,4,6,7,8-Hexachlorodibenzofuran	60851-34-5	1,2,3,7,8,9-Hexabromodibenzo-p-dioxin	110999-46-7
		1,2,3,7,8-Pentabromodibenzofuran	107555-93-1



Greenhouse Gases, fluorinated			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Sulphur hexafluoride - SF6	2551-62-4	Hydrofluorocarbons (HFCs) cont.	
Perfluorocarbons (PFCs)	Several	HFC-125 - C2HF5	354-33-6
Perfluoromethane (CF4)	75-73-0	HFC-134 - C2H2F4	359-35-3
Perfluoroethane (C2F6)	76-16-4	HFC-134a - CH2FCF3	811-97-2
Perfluoropropane (C3F8)	76-19-7	HFC-152a - C2H4F2	75-37-6
Perfluorobutane (C4F10)	355-25-9	HFC-143 - C2H3F3	430-66-0
Perfluoropentane (C5F12)	678-26-2	HFC-143a - C2H3F3	420-46-2
Perfluorohexane (C6F14)	355-42-0	HFC-227ea - C3HF7	431-89-0
Perfluorocyclobutane (c-C4F8)	115-25-3	HFC-236cb - CH2FCF2CF3	677-56-5
Hydrofluorocarbons (HFCs)	Several	HFC-236ea - CHF2CHFCF3	431-63-0
HFC-23 - CHF3	75-46-7	HFC-236fa - C3H2F6	690-39-1
HFC-32 - CH2F2	75-10-5	HFC-245ca - C3H3F5	679-86-7
HFC-41 - CH3F	593-53-3	HFC-245fa - CHF2CH2CF3	460-73-1
HFC-43-10mee - C5H2F10	138495-42-8	HFC-365mfc - CF3CH2CF2CH3	406-58-6



Ozone Depleting Substances (CFCs)			
Part 1			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Ozone-depleting substances class I	Several	Dichlorohexafluoropropane CFC-216	661-97-2
Trichlorofluoromethane CFC-11	75-69-4	Monochloroheptafluoropropane CFC-217	422-86-6
Dichlorofluoromethane CFC-12	75-71-8	Carbon tetrachloride CCl4	56-23-5
1,1,2-Trichloro-1,2,2-trifluoroethane CFC-113	76-13-1	CHFBr2 – HBFC-21 B2	1868-53-7
1,1,1-Trichloro-2,2,2-trifluoroethane CFC-113a	354-58-5	CHF2Br – HBFC-22 B1	1511-62-2
1,2-Dichloro-1,1,2,2-tetrafluoroethane CFC-114	76-14-2	CH2FBr – HBFC-31 B1	373-52-4
1,1-Dichloro-1,2,2,2-tetrafluoroethane CFC-114a	374-07-2	C2HFBr4 – HBFC-121 B4	353-93-5
Monochloropentafluoroethane CFC-115	76-15-3	C2HF2Br3 – HBFC-122 B3	353-97-9
Bromochlorodifluoromethane Halon-1211	353-59-3	C2HF3Br2 – HBFC-123 B2 (Halon 2302)	354-04-1
Bromotrifluoromethane Halon-1301	75-63-8	C2HF4Br – HBFC-124 B1	354-07-4
Dibromotetrafluoroethane Halon-2402	124-73-2	C2H2FBr3 – HBFC-131 B3	172912-75-3
Chlorotrifluoromethane CFC-13	75-72-9	C2H2F2Br2 - HBFC-132 B2	75-82-1
Pentachlorofluoroethane CFC-111	354-56-3	C2H2F3Br - HBFC-133a B1	421-06-7
1,1,2,2-Tetrachloro-1,2-difluoroethane CFC-112	76-12-0	C2H3FBr2 - HBFC-141 B2	358-97-4
1,1,1,2-Tetrachlorodifluoroethane CFC-112a	76-11-9	C2H3F2Br - HBFC-142 B1	359-07-9
Heptachlorofluoropropane CFC-211	422-78-6	C2H4FBr - HBFC-151 B1	762-49-2
Hexachlorodifluoropropane CFC-212	3182-26-1	C3HFBr6 - HBFC-221 B6	-
Pentachlorotrifluoropropane CFC-213	2354-06-5	C3HF2Br5 - HBFC-222 B5	-
Tetrachlorotetrafluoropropane CFC-214	29255-31-0	C3HF3Br4 - HBFC-223 B4	-
1,1,3-Trichloropentafluoropropane CFC-215	76-17-5	C3HF4Br3 - HBFC-224 B3	666-48-8
1,2,3-Trichloropentafluoropropane CFC-215	1652-81-9	C3HF5Br2 - HBFC-225 B2	431-78-7
1,1,1-Trichloropentafluoropropane CFC-215	4259-43-2	C3HF6Br - HBFC-226 B1	2252-79-1
1,2,2-Trichloropentafluoropropane CFC-215	1599-41-3	C3H2FBr5 - HBFC-231 B5	-

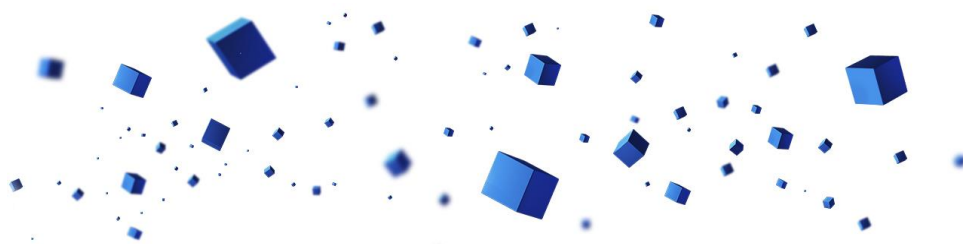


Ozone Depleting Substances (CFCs) Part 2			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
C3H2F2Br4 - HBFC-232 B4	148875-98-3	Ozone-depleting substances class II	Several
C3H2F3Br3 - HBFC-233 B3	431-48-1	Dichlorofluoromethane HCFC-21	75-43-4
C3H2F4Br2 - HBFC-234 B2	460-86-6	Monochlorodifluoromethane HCFC-22	75-45-6
C3H2F5Br - HBFC-235 B1	460-88-8	Monochlorofluoromethane HCFC-31	593-70-4
C3H3FBr4 - HBFC-241 B4	-	Tetrachlorofluoroethane HCFC-121	354-14-3
C3H3F2Br3 - HBFC-242 B3	666-25-1	Trichlorodifluoroethane HCFC-122	354-21-2
C3H3F3Br2 - HBFC-243 B2	460-60-6	Dichlorotrifluoroethane HCFC-123	306-83-2
C3H3F4Br - HBFC-244 B1	460-67-3	Monochlorotetrafluoroethane HCFC-124	2837-89-0
C3H4FBr3 - HBFC-251 B1	75372-14-4	Trichlorofluoroethane HCFC-131	359-28-4
C3H4F2Br2HBFC-252 B2	51584-25-9	Dichlorodifluoroethane HCFC-132	1649-08-7
C3H4F3Br - HBFC-253 B1	460-32-2	Monochlorotrifluoroethane HCFC-133a	75-88-7
C3H5FBr2 - HBFC-261 B2	453-00-9	HCFC-141	-
C3H5F2BrHBFC-262 B1	461-49-4	Dichlorofluoroethane HCFC-141b	1717-00-6
C3H6FBr - HBFC-271 B1	1871-72-3	HCFC-142	-
Chlorobromomethane CH2BrCl	-	Monochlorodifluoroethane HCFC-142b	75-68-3

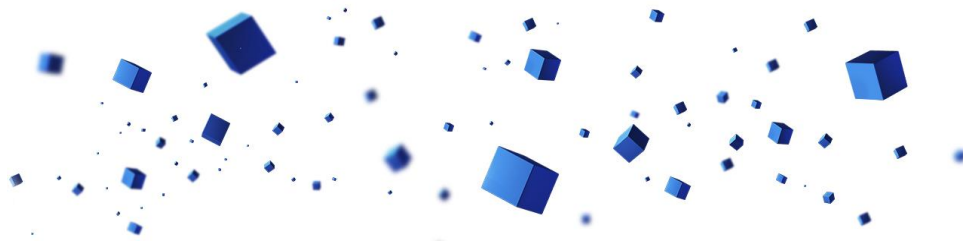




Ozone Depleting Substances (CFCs)			
Part 3			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Ozone-depleting substances class II (cont.)	Several		
HCFC-151	-	Dichlorotetrafluoropropane HCFC-234	425-94-5
Hexachlorofluoropropane HCFC-221	422-26-4	Monochloropentafluoropropane HCFC-235	460-92-4
Pentachlorodifluoropropane HCFC-222	422-49-1	Tetrachlorofluoropropane HCFC-241	666-27-3
Tetrachlorotrifluoropropane HCFC-223	422-52-6	Trichlorodifluoropropane HCFC-242	460-63-9
Trichlorotetrafluoropropane HCFC-224	422-54-8	Dichlorotrifluoropropane HCFC-243	460-69-5
HCFC-225	-	Monochlorotetrafluoropropane HCFC-244	134190-50-4
Dichloropentafluoropropane HCFC-225ca	422-56-0	Trichloromonofluoropropane HCFC-251	421-41-0
Dichloropentafluoropropane HCFC-225cb	507-55-1	Dichlorodifluoropropane HCFC-252	819-00-1
Monochlorohexafluoropropane HCFC-226	431-87-8	Monochlorotrifluoropropane HCFC-253	460-35-5
Pentachlorofluoropropane HCFC-231	421-94-3	Dichlorofluoropropane HCFC-261	420-97-3
Tetrachlorodifluoropropane HCFC-232	460-89-9	Monochlorodifluoropropane HCFC-262	421-02-3
Trichlorotrifluoropropane HCFC-233	7125-84-0	Monochlorofluoropropane HCFC-271	430-55-7



Pesticides			
Part 1			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Acetamiprid/ Acetamiprid (iso)	135410-20-7 160430-64-8	Cypermethrin	52315-07-8
Alachlor	15972-60-8	Deltamethrin	52918-63-5
Aldicarb	116-06-3	Demeton	919-86-8
Aldrine	309-00-2	Diazinon	333-41-5
Atrazine	1912-24-9	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8
Azinphos methyl	86-50-0	Dichlofenthion	97-17-6
Azinphos ethyl	2642-71-9	Dichlofluanide	1085-98-9
Binapacryl	485-31-4	o,p'-Dichlorodipenyldichloroethane (o,p'-DDD)	53-19-0
Bromophos-ethyl	4824-78-6	p,p'-Dichlorodipenyldichloroethane (p,p'-DDD)	72-54-8
Captafol	2425-06-1	o,p'-Dichlorodipenyldichloroethylene (o,p'-DDE)	3424-82-6
Carbaryl	63-25-2	p,p'-Dichlorodipenyldichloroethylene (p,p'-DDE)	72-55-9
Carbendazim	10605-21-7	o,p'-Dichlorodipenyltrichloroethane (o,p'-DDT) and its isomers; preparations containing DDT and its isomers	789-02-6
Chlordane	57-74-9	p,p'-Dichlorodipenyltrichloroethane (p,p'-DDT) and its isomers; preparations containing DDT and its isomers	50-29-3
Chlordecone	143-50-0	2,4-Dichlorophenoxyacetic acid, its salts and compounds	94-75-7
Chlordimeform	6164-98-3	4,6-Dichloro-7-(2,4,5-trichlorophenoxy)-2-trifluoromethylbenzimidazole (DTTB)	-
Chlorfenvinphos	470-90-6	Dichlorprop	120-36-5
Chlorobenzilate	510-15-6	Dichlorvos	62-73-7
Chlorpyrifos	2921-88-2	Dicofol	115-32-2
Chlorthalonil	1897-45-6	Dicrotophos	141-66-2
Clothianidin	210880-92-5	Dicyclanil	112636-83-6
Coumaphos	56-72-4	Dieldrine	60-57-1
Cyfluthrin	68359-37-5	Diflubenzuron	35367-38-5
Cyhalothrin, lambda	91465-08-6	Dimethoate	60-51-5



Pesticides Part 2			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Dinotefuran	165252-70-0	Linuron	330-55-2
Dinoseb, its salts and acetate	88-85-7 and others	Malathion	121-75-5
Dinoterb	1420-07-1	MCPA	94-74-6
Disulfoton	298-04-4	MCPB	94-81-5
Diuron	330-54-1	Mecoprop	93-65-2
DNOC	534-52-1	Methamidophos	10265-92-6
Endosulfan	115-29-7	Methoxychlor	72-43-5
Endosulfan, alpha	959-98-8	Methyl bromide	74-83-9
Endosulfan, beta	33213-65-9	Methyl parathion	298-00-0
Endrine	72-20-8	Mevinophos	7786-34-7
Esfenvalerate	66230-04-4	Mirex	2385-85-5
Ethion	563-12-2	Monocrotophos	6923-22-4
Ethyl parathion	56-38-2	Monolinuron	1746-81-2
Ethylene dibromide (EDB)	106-93-4	(e)-Nitenpyram	150824-47-8 120738-89-8
Fenclorphos	299-84-3	Omethoate	1113-02-6
Fenitrothion	122-14-5	Oxydemeton-methyl	301-12-2
Fenvalerate	51630-58-1	Paraquat dication	4685-14-7
Flumethrin	69770-45-2	Paraquat dichloride	1910-42-5
Heptachlor	76-44-8	Pentachloroanisole	1825-21-4
Heptachlor epoxide	1024-57-3	Perthane	72-56-0
Hexachlorocyclohexane (HCH), all isomers	608-73-1	Phosphamidon	13171-21-6
Imidacloprid	105827-78-9 138261-41-3	Phoxim	14816-18-3
Isodrin	465-73-6	Pirimiphos-methyl	29232-93-7
Isoprotruron	34123-59-6	Profenophos	41198-08-7
Kelevane	4234-79-1	Propanil	709-98-8
Lindane (gamma-HCH)	58-89-9	Propetamphos	31218-83-4



Pesticides Part 3			
Chemical Substances	CAS Number	Chemical Substances	CAS Number
Pyrazon	1698-60-8	Tolyfluanide	731-27-1
Quinalphos	13593-03-8	Toxaphene	8001-35-2
Quintozene	82-68-8	Tribufos (DEF)	78-48-8
Simazine	122-34-9	Trichlorfon	52-68-6
Strobane	8001-50-1	2,4,5-Trichlorophenoxyacetic acid, salts and compounds	93-76-5
Telodrin	297-78-9	2-(2,4,5-Trichlorophenoxy)propionic acid, salts and compounds	93-72-1
Thiacloprid	111988-49-9	Triflumuron	64628-44-0
Timiperone (DTTB)	57648-21-2	Trifluralin	1582-09-8
Thiamethoxam	153719-23-4	Vinclozolin	50471-44-8