

# bluesign® system substances list (BSSL) Consumer safety limits

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## 1 Introduction

The document at hand specifies the limits for chemical substances in articles. It also defines usage bans for chemical substances in manufacturing of articles.

It is important to know that due to quantity and quality of listed substances and substance groups the consumer safety limits cannot be controlled by testing of articles alone and/or by confirmation declarations from suppliers (conventional RSL and/or testing approach).

This is the reason why the bluesign® system integrates the up-stream parts of the manufacturing chain including chemical suppliers. Only an input-stream management with an appropriate network of bluesign® system partners leads to explicit knowledge on chemical products and assures that restrictions and bans are achieved.

## 2 Definitions

### 2.1 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.).

### 2.2 BSSL

bluesign® system substances list.

### 2.3 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.

### 2.4 Chemical substance

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

### 2.5 Detection limit (DL)

The detection limit is the lowest quantity of a substance that can be distinguished from the absence of that substance following a prescribed analytical method.

### 2.6 Limit value

Document at hand defines limits for chemical substances in articles for the usage ranges A, B and C.

### 2.7 Manufacturer

A company that produces textile articles (all processing levels) leather and accessories.

### 2.8 Monitoring

For some chemical substances toxicological and/or ecological properties are not well defined up to now. Therefore, the risk assessment is not complete. On the other hand, for some substances insufficient information on possible/typical contamination of articles and chemical products is available at the moment. Those substances are under observation. Exact restrictions will be defined as soon as more information exists.



## 2.9 Risk assessment

An effort to determine the likelihood that adverse effects may occur in the light of the intrinsic hazards of a chemical and the anticipated exposures to the chemical.

## 2.10 Several

Several means, that more than one substance belong to a substance group. Not all of the substances that are restricted are listed in this group. The listed substances represent only examples.

## 2.11 Traces

Although there is a ban for a chemical substance, residual amounts of this substance may be contained in a product from a non-intended source. In this case, a limit is defined to minimize these currently unavoidable traces.

## 2.12 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 the environment and to avoid occurrence in the manufactured article by precautionary principle.

## 2.13 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-safe (0 to 3 years)
- Usage Range B: Occasional skin contact
- Usage Range C: No skin contact

Annex II lists common consumer goods and allocates usage ranges.

### 3 Testing methods

The testing methods specified in the last column of the table in chapter 5 shall be treated as the recommended ones. The testing methods column consists of two entries: sample preparation, e.g. extraction, digestion, derivatisation, and the test method, i.e. the actual measurement.

Depending on the availability international or national standards were also specified for several substances.

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	Over night	Derivatisation 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 Acetone	Acetone	60	60	Ultrasonic bath
Extraction with water	Deionized water			
Extraction with MeOH/Acetonitrile	Methanol/Acetonitrile (1:1)	70	30	Ultrasonic bath
Extraction with Toluene	Toluene	70	60	Ultrasonic bath
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)	Acid sweat solution	37	60	Textile to liquor ratio 1:50

For headspace measurements a purge & trap gas chromatography is recommended.



## 4 Scope and validity

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

- articles made of textile and leather
- accessories for textile and leather articles

### 4.1 Application

The limits and restrictions have to 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.

### 4.2 Validity

This document comes into effect from November 01, 2015. It replaces the *bluesign® system substances list (BSSL) Consumer safety limits, version 5.0* from July 01, 2015.

For all bluesign® system partners the implementation of the revised sections shall take place until July 01, 2016 at the latest.

This document is revised annually in line with the latest legislation and research and supported by opinions of the bluesign® system partner specialists.

## 5 Consumer safety limits and usage restrictions

Section 5.1 informs on all consumer safety limits and restrictions.

Section 5.2 sets the focus on additional substances which are either not relevant concerning consumer safety aspects, or which are normally not to be found as residues in the articles due to the fact that they are used in very early manufacturing steps

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

Annex II informs on the usage ranges applicable under the bluesign® system and how they classify consumer goods according to their consumer safety relevance.

### 5.1 Consumer safety limits

Besides the restrictions and bans for chemical substances mentioned in section 5.1.6 the restrictions defined in the sections 5.1.1 to 5.1.5 are in force.

#### 5.1.1 pH

Test method: ISO 3071 (2005)

Range: 4 to 7.5

#### 5.1.2 Odor

No unpleasant odor shall be emitted from the products.

Test method: SNV 195 651

#### 5.1.3 Sensitizing disperse dyes

Disperse dyes (mainly used in PES dyeing) which are sensitizing and classified with the risk phrase R 43/H 317 are not allowed for the usage range A.

#### 5.1.4 Textiles dyed with disperse or metal complex dyes

Disperse dyes and metal complex dyes may have a relevant consumer safety risk; therefore special restrictions concerning color fastness to perspiration are defined:

For textiles dyed with disperse or metal complex dyes, fastness property to perspiration must be at least 4.

Test method: ISO 105-E04 (2013)

#### 5.1.5 Color fastness to saliva and perspiration

Testing of color fastness to saliva and perspiration can be relevant for articles with potential risk for mouthing and/or exposure to babies. Colors must be fast to saliva and perspiration.

Test method: § 64 LFGB BVL B 82.10-1

#### 5.1.6 Restrictions and bans for chemical substances

For easier comprehension and overview the substances are subsumed in groups. The groups are defined according to the

- chemical composition (e.g. amines, isocyanates)
- functionality (e.g. flame retardants, solvents)
- EHS-properties/risks (e.g. greenhouse gases, ozone depleting substances)

#### Note:

Some of the substances may be relevant for more than one group; in such cases the substance is grouped under the most likely group.



Aldehydes					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Acrolein	107-02-8	Usage ban // Traces: 1.0			Extraction with MeOH // HPLC
Acetaldehyde	75-07-0	10	10	100	Extraction with MeOH // HPLC
Formaldehyde	50-00-0	DL: 15	75	300	Textile: ISO 14184-1 (2011)  Leather: ISO 17226-1 (2008) or ISO 17226-2 (2008)
		Monitoring			
Glyoxal	107-22-2	5	10	10	Extraction with MeOH // HPLC
Leather: Monitoring					

Alkylphenols and Alkylphenoethoxylates					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Alkylphenols (APs)</b>	<b>Several</b>	Usage ban // Traces: 10 for every single substance			2-Step extraction with DCM and MeOH/Acetonitrile // GC-MS, 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				
<b>Alkylphenoethoxylates (APEOs) (EO)<sub>3-20</sub></b>	<b>Several</b>	Usage ban // Traces: 100 for every single substance  (If traces above 10 are detected; source of contamination has to be identified and phased out)			Textile: Draft ISO/DIS 18254 (2014)  Leather: ISO 18218-1 (2015)
Isononylphenol, ethoxylated	37205-87-1				
Nonylphenol, branched, ethoxylated	68412-54-4				
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	-				

Amines					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
2-Aminoethanol	141-43-5	10	10	100	Extraction with MeOH // GC-MS
			Monitoring		
Aminoethylethanolamine (AEEA)	111-41-1	Usage Ban Monitoring			Extraction with MeOH // GC-MS
Aniline	62-53-3	Monitoring			Extraction with MeOH // GC-MS or HPLC
Fatty acid condensation products with AEEA which may cleave to AEEA	Several	Usage ban // DL: 10			Extraction with MeOH and derivatisation with acetylacetone/water // HPLC-MS
Dicyclohexylamine	101-83-7	500	500	500	Extraction with MeOH // GC-MS
			Monitoring		
Diethanolamine	111-42-2	10	10	10	
Diethylenetriamine	111-40-0	1.0	10	50	
			Monitoring		
Diphenylamine	122-39-4	100	100	100	
			Monitoring		
Dipropylenetriamine	56-18-8	50	50	50	
			Monitoring		
Ethylenediamine	107-15-3	10	50	50	
Hexamethylenetetramine	100-97-0	10	50	50	
N-Methylaniline (Methylphenylamine)	100-61-8	20	20	20	
2-Naphthylphenylamine	135-88-6	Usage ban // DL: 1.0			
p-Phenylenediamine	106-50-3	Usage ban // DL: 20			
p-Phenylenediamine-dihydrochloride	624-18-0	Usage ban // DL: 20			
Triethanolamine	102-71-6	50	100	100	
Triethylamine	121-44-8	2.0	10	10	
Trimethylamine	75-50-3	10	10	10	

<b>Arylamines</b> (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	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
p-Aminoazobenzene	60-09-3	Usage ban // DL: 20 mg/kg for every single aromatic amine			Textile : EN 14362-1 (2012) EN 14362-3 (2012) (for azo colorants which may release 4- Aminoazobenzene)  Leather : EN ISO 17234-1 (2015) EN ISO 17234-2 (2011) (for azo colorants which may release 4- Aminoazobenzene)
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				
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				
4-Dimethylaminoazobenzene	60-11-7				
3,3'-Dimethylbenzidine	119-93-7				
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0				
4,4'-Methylenebis-(2-chloroaniline)	101-14-4				
2-Naphthylamine	91-59-8				
4,4'-Oxydianiline	101-80-4				
4,4'-Thiodianiline	139-65-1				
2-Toluidine	95-53-4				
2,4,5-Trimethylaniline	137-17-7				
2,4-Xylidine	95-68-1				
2,6-Xylidine	87-62-7				
p-Toluidine	106-49-0				
m-Toluidine	108-44-1				



<b>Asbestos</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
<b>Asbestos</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // Not detected			REM/EDX BGI 505-46 or U.S. EPA/600/R-93/116

<b>Biocides</b>					
<b>Part 1</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
2-Chloroacetamide	79-07-2	Usage ban // DL: 1.0  Traces from a preservative in auxiliaries. Currently acceptable: 10			Extraction with MeOH // GC-MS
Dichlorophen	97-23-4	Usage ban // DL: 1.0			Derivatisation with acetic anhydride // GC-MS
<b>Chlorinated and non-chlorinated Isothiazolinone-derivatives</b>	<b>Several</b>	Usage ban  Traces from preservatives in auxiliaries acceptable			Extraction with MeOH // HPLC
5-Chloro-2-methyl-4-isothiazolin-3-one (CIT)	26172-55-4	1			
2-Methyl-4-isothiazolin-3-one (MIT)	2682-20-4	50			
Mixture (3:1) of CIT and MIT	55965-84-9	See limits for single substances			
2-n-Octyl-4-isothiazolin-3-one (OIT)	26530-20-1	25			
1,2-Benzisothiazol-3(2H)-one (BIT)	2634-33-5	25			
Dichlorooctylisothiazolinone	64359-81-5	15			
N-Methylol-chloroacetamide	2832-19-1	Usage ban // DL: 1.0  Traces from a preservative in auxiliaries. Currently acceptable: 10			Extraction with MeOH // GC-MS

<b>Biocides</b>					
<b>Part 2</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
Permethrin	52645-53-1	Usage ban for A and B // DL: 0.2  Usage range C // See bluesign® criteria for biocidal products and antimicrobial active substances			ASE or Soxhlet Extraction with Acetone/Hexane // GC-MS or LC-MC
Triclosan (5-Chloro-2-(2,4-dichlorophenoxy)phenol)	3380-34-5	Usage ban for A and B // DL: 1.0  Usage range C // See bluesign® criteria for biocidal products and antimicrobial active substances			Extraction with DCM // GC-MS

Chlorinated Aromatic Hydrocarbons					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Chlorinated aromatic hydrocarbons</b>	<b>Several</b>				DIN 54232 (2010)
Monochlorobenzene	108-90-7				
Dichlorobenzenes, all isomers	Several				
1,2-Dichlorobenzene	95-50-1				
1,3-Dichlorobenzene	541-73-1				
1,4-Dichlorobenzene	106-46-7				
Trichlorobenzenes, all isomers	Several				
1,2,3-Trichlorobenzene	87-61-6				
1,2,4-Trichlorobenzene	120-82-1				
1,3,5-Trichlorobenzene	108-70-3				
Tetrachlorobenzenes, all isomers	Several				
1,2,3,4-Tetrachlorobenzene	634-66-2				
1,2,3,5-Tetrachlorobenzene	634-90-2				
1,2,4,5-Tetrachlorobenzene	95-94-3				
Pentachlorobenzene	608-93-5				
Hexachlorobenzene	118-74-1				
Monochlorotoluenes, all isomers	Several				
2-Chlorotoluene	95-49-8				
3-Chlorotoluene	108-41-8				
4-Chlorotoluene	106-43-4				
Dichlorotoluenes, all isomers	Several				
2,4-Dichlorotoluene	95-73-8				
2,6-Dichlorotoluene	118-69-4				
3,4-Dichlorotoluene	95-75-0				
Trichlorotoluenes, all isomers	Several				
2,3,6-Trichlorotoluene	2077-46-5				
a,a,a-Trichlorotoluene	98-07-7				
Tetrachlorotoluenes, all isomers	Several				
a,a,a,2-Tetrachlorotoluene	2136-89-2				
a,a,a,4-Tetrachlorotoluene	5216-25-1				
Pentachlorotoluene	877-11-2				



Chlorinated Phenols Part 1										
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method					
		A	B	C						
<b>Monochlorophenols (MonoCPs), all isomers</b>	<b>25167-80-0</b>	Usage ban			Extraction with KOH* // GC-MS*  *In case of results close to limit value (+/- 10 %) re-test with reference method: §64 LFGB BVL B 82.02-8 (2001) (for textiles) or ISO 17070 (2015) (for leather)					
		Traces:								
		1	1	1						
		2-Chlorophenol	95-57-8	Sum of all Mono- and DiCPs						
3-Chlorophenol	108-43-0									
4-Chlorophenol	106-48-9									
<b>Dichlorophenols (DiCP), all isomers</b>	<b>25167-81-1</b>	Sum of all Mono- and DiCPs								
							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									
<b>Trichlorophenols (TriCP), all isomers</b>	<b>25167-82-2</b>	Usage ban								
		Traces:								
		0.05	0.5	0.5						
		2,3,4-Trichlorophenol	15950-66-0	Sum of all TriCPs						
		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									

Chlorinated Phenols Part 2					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Tetrachlorophenol (TeCP), salts and compounds</b>	<b>25167-83-3</b>	Usage ban			Extraction with KOH* // GC-MS*  *In case of results close to limit value (+/- 10 %) re-test with reference method: §64 LFGB BVL B 82.02-8 (2001) (for textiles) or ISO 17070 (2015) (for leather)
		Traces:			
		0.05	0.5	0.5	
		Sum of all TeCPs			
2,3,4,5-Tetrachlorophenol	4901-51-3	Sum of all TeCPs			
2,3,4,6-Tetrachlorophenol	58-90-2				
2,3,5,6-Tetrachlorophenol	935-95-5				
<b>Pentachlorophenol (PCP), salts, esters and compounds</b>	<b>87-86-5</b>	Usage ban			
		Traces:			
		0.05	0.5	0.5	
		Sum of all PCPs			

Colorants					
Colorants with carcinogenic potential					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Acid Red 26	3761-53-3	Usage ban // DL: 20 for every single substance			DIN 54231 (2005)
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				
Direct Yellow 1	6472-91-9				
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				

Colorants with allergenous potential					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Disperse Blue 3	2475-46-9	Usage ban // DL: 20 for every single substance			DIN 54231 (2005)
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				
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	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Acid Orange 24	1320-07-6	Usage ban // DL: 20 for every single substance			DIN 54231 (2005)
Acid Violet 49	1694-09-3				
Basic Blue 26	2580-56-5				
<b>Basic Green 4</b>	<b>Several</b>				
Malachit green	10309-95-2				
Malachit green chloride	569-64-2				
Malachit green oxalate	2437-29-8				
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				
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: 118685-33-9  Component 2: Not allocated				
Solvent Blue 4	6786-83-0				

Colorants which can cleave in carcinogenic amines:					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Colorants which can cleave in carcinogenic amines</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // DL: 20 for every single substance			DIN 54231 (2005)

Dioxins and Furans					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Group 1</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // Sum of all traces group 1: 1 [µg/kg]			EPA 8290A
<b>Group 2</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // Sum of all traces group 1 and 2: 5 [µg/kg]			
<b>Group 3</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // Sum of all traces group 1, 2 and 3: 100 [µg/kg]			
<b>Group 4</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // Sum of all traces group 4: 1 [µg/kg]			
<b>Group 5</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // Sum of all traces group 4 and 5: 5 [µg/kg]			

<b>Flame Retardants</b>					
<b>Part 1</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
2,2-Bis(bromomethyl)-1,3-propanediol	3296-90-0	Usage ban // DL: 5			Extraction following IEC 62321-6 (2015) // LC-MS, GC-MS, GC-NCI
Bis(2,3-dibromopropyl)phosphate	5412-25-9	Usage ban // DL: 5			Extraction following IEC 62321-6 (2015) // LC-MS, GC-MS, GC-NCI
<b>Chlorinated paraffins, all chain lengths</b>	<b>Several</b>	Usage ban // DL: 5 for every single substance			Draft DIN EN ISO 18219 (2012)
Paraffin wax, chlorinated, C24	63449-39-8				
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	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	Usage ban for A and B // DL: 5  Technical textiles currently reviewed.  See bluesign® criteria for flame retardants			Extraction following IEC 62321-6 (2015) // LC-MS, GC-MS, GC-NCI
<b>Polybrominated diphenyl ethers (PBDE)</b>	<b>Several</b>	Usage ban // DL: 5 for every single substance			Extraction following IEC 62321-6 (2015) // LC-MS, GC-MS, GC-NCI
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9				
Pentabromodiphenyl ether (PentaBDE)	32534-81-9				
Hexabromodiphenyl ether (HexaBDE)	36483-60-0				
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3				
Octabromodiphenyl ether (OctaBDE)	32536-52-0				
Decabromodiphenyl ether (DecaBDE)	1163-19-5				
Tetrabromobisphenol A	79-94-7	Usage ban // DL: 5			Extraction following IEC 62321-6 (2015) // LC-MS, GC-MS, GC-NCI
Tetrabromobisphenol A bis(2,3-dibromopropylether)	21850-44-2	Usage ban // DL: 5			
Triethylenephosphoramidate (TEPA)	545-55-1	Usage ban // DL: 5			

<b>Flame Retardants</b>					
<b>Part 2</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>Usage range</b>	<b>A</b>	<b>B</b>	
Trimethyl phosphate	512-56-1	Usage ban // DL: 5			Extraction following IEC 62321-6 (2015) // LC-MS, GC-MS, GC-NCI
Tri-o-cresyl phosphate	78-30-8	Usage ban // DL: 5			
Tris(chloroethyl)phosphate	115-96-8	Usage ban // DL: 5			
Tris-(2-chloro-1-methylethyl)phosphate (TCPP)	13674-84-5	Usage ban // DL: 5			
Tris-[2-chloro-1-(chloromethyl)ethyl]phosphate (TDCP)	13674-87-8	Usage ban // DL: 5			
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	Usage ban // DL: 5			
Trixylyl phosphate	25155-23-1	Usage ban // DL: 5			



Fluorinated Substances					
Part 1					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>PFAS Chemicals*</b>					
Perfluoroalkylsulfonates (PASf) $F(CF_2)_nSO_3^-$ [n ≥ 5]	Several	Usage ban // Traces: 20 [µg/kg]			CEN/TS 15968 (2010)
Perfluorohexane sulfonic acid / Perfluorohexane sulfonate (PFHxS)	355-46-4 / 432-50-7	Usage ban // Traces: 20 [µg/kg]			
Perfluorooctane sulfonic acid / Perfluorooctane sulfonate (PFOS)	1763-23-1	Usage ban // Traces: 1 [µg/m <sup>2</sup> ]			
Perfluoroalkylsulfonamides $F(CF_2)_nSO_2NH_2$ [n ≥ 5]	Several	Usage ban // Traces: 20 [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	Usage ban // Traces: 20 [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	Usage ban // Traces: 20 [µg/kg]			
<b>PFBS Chemicals</b>					
Perfluorobutane sulfonic acid / Perfluorobutanesulfonates (PFBS) $F(CF_2)_4SO_3^-$	29420-49-3 / 29420-43-3	1.0 mg/kg ----- Monitoring			CEN/TS 15968 (2010)
Perfluorobutanesulfonamide $F(CF_2)_4SO_2NH_2$		50 mg/kg ----- 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	15 mg/kg ----- 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	15 mg/kg ----- Monitoring			
<b>Fluorotelomer alcohols (FTOHs) F(CF<sub>2</sub>)<sub>n</sub>CH<sub>2</sub>CH<sub>2</sub>OH</b>					
6:2 FTOH, Perfluorohexylethanol	647-42-7	Sum of all 50 mg/kg			Extraction with MTBE // GC-MS
8:2 FTOH, Perfluorooctylethanol**	678-39-7	Monitoring			
<b>Fluorotelomer Olefins (FTOs)</b>					
<b>Several</b>					
Perfluorohexylethene	25291-17-2	Sum of all 50 mg/kg			ASE with Ethyl acetate // GC-MS or LC-MS
Perfluorooctylethene**	21652-58-4	Monitoring			

Fluorinated Substances					
Part 2					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Fluorotelomer (Meth)Acrylates</b>	<b>Several</b>	Sum of all 50 mg/kg			
Perfluorohexylethylacrylate or methacrylate	Several	Monitoring			Extraction with MTBE // GC-MS
Perfluorooctylethylacrylate or methacrylate**	Several	Monitoring			
<b>Perfluorocarboxylic acid and salts (PFCA)</b>	<b>Several</b>	Sum of all 0.1 mg/kg			
Perfluorobutanoic acid (PFBA)	375-22-4	Usage ban // Traces: 0.05 mg/kg Monitoring			CEN/TS 15968 (2010)
Perfluorohexanoic acid (PFHxA)	307-24-4	Usage ban // Traces: 0.05 mg/kg Monitoring			
Perfluorooctanoic acid (PFOA)**	335-67-1	Usage ban // Traces: 1 [µg/m <sup>2</sup> ]  (corresponds to 0.01 mg/kg for textile weight of 100 g/m <sup>2</sup> )			
Perfluorononanoic acid (PFNA)**	375-95-1	Usage ban // Traces: 0.05 mg/kg Monitoring			
Perfluoroisobutylene	382-21-8	0.1 mg/kg			Headspace GC-MS
Tetrafluoroethylene	116-14-3	1.0 mg/kg			Headspace GC-MS

\* 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	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Bis(2-methoxyethyl)-ether	111-96-6	Usage ban // DL: 5			Textile: Extraction with MeOH // GC-MS  Plastic: 2-Step extraction with THF and MeOH // GC-MS
2-Butoxyethanol	111-76-2	1.0	10	100	
2-Butoxyethylacetate	112-07-2	10	100	100	
2-Ethoxyethanol	110-80-5	Usage ban // DL: 5			
2-Ethoxyethyl acetate	111-15-9	Usage ban // DL: 5			
Ethylene glycol dimethyl ether	110-71-4	Usage ban // DL: 5			
2-Methoxyethanol	109-86-4	Usage ban // DL: 5			
2-Methoxyethylacetate	110-49-6	Usage ban // DL: 5			
2-(2-Methoxyethoxy)-ethanol	111-77-3	1.0	10	100	
1-Methoxy-2-propanol	107-98-2	1.0	5	10	
2-Methoxy-1-propanol	1589-47-5	Usage ban // DL: 5			
2-Methoxypropylacetate	70657-70-4	Usage ban // DL: 5			
Triethylene glycol dimethyl ether	112-49-2	Usage ban // DL: 5			

Greenhouse Gases, fluorinated					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Greenhouse gases, fluorinated</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban for direct use in manufacturing of articles // DL: 0.1 for every single substance			Headspace GC-MS

Halogenated Biphenyls, halogenated Terphenyls and halogenated Naphthalenes					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Polybrominated biphenyls (PBBs)</b>	<b>59536-65-1</b>	Usage ban // DL: 5			Extraction following IEC 62321-6 (2015) // GC-MS
Hexabromo biphenyl	36355-01-8	Usage ban // DL: 5			
<b>Polychlorinated biphenyls (PCBs)</b>	<b>1336-36-3</b>	Usage ban // DL: 1.0			
<b>Polychlorinated terphenyls (PCTs)</b>	<b>61788-33-8</b>	Usage ban // DL: 1.0			
<b>Polybrominated terphenyls (PBTs)</b>	<b>Several</b>	Usage ban // DL: 1.0			
<b>Polychlorinated naphthalenes (PCNs)</b>	<b>Several</b>				
Monochloronaphthalene	25586-43-0	Usage ban // DL: 1.0 for every single substance			
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				
<b>Polybrominated naphthalenes (PBNs)</b>	<b>Several</b>	Usage ban // DL: 1.0			



Halogenated Diarylalkanes					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Halogenated diarylalkanes</b>	<b>Several</b>	Usage ban // DL: 1.0 for every single substance			Extraction following IEC 62321-6 (2015) // GC-MS
Monomethyl-dibromo-diphenyl methane	99688-47-8				
Monomethyl-dichloro-diphenyl methane	81161-70-8				
Monomethyl-tetrachloro-diphenyl methane	76253-60-6				

Isocyanates					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Isocyanates</b>	<b>Several</b>				EN 13130-8 (2004)
Diphenylmethane-4,4-di-isocyanate (MDI)	101-68-8				
Diphenylmethan-2,2-di-isocyanate (2,2-MDI)	2536-05-2				
Diphenylmethan-2,4-di-isocyanate (2,4-MDI)	5873-54-1				
MDI mixed isomers	26447-40-5				
Technical grade MDI	9016-87-9				
Hexamethylene diisocyanate (HMDI)	822-06-0	Free content applies to sum of all isocyanates:			
Isophorone diisocyanate (IPDI)	4098-71-9	1.0	1.0	1.0	
Tetramethylxylene diisocyanate (TMXDI)	2778-42-9	PU coating and plastics: Monitoring			
Toluene-2,4-diisocyanate (2,4-TDI)	584-84-9				
Toluene-2,6-diisocyanate (2,6-TDI)	91-08-7				
2,4-/2,6-TDI mixture	26471-62-5				
2,6-Diisopropylphenyl-isocyanate	28178-42-9				
4,4-Methylendicyclohexyl-di-isocyanate (4,4-MDI)	5124-30-1				
Napthylene-1,5-di-isocyanate (1,5-NDI)	3173-72-6				
Phenylisocyanate	103-71-9				

Metals					
Part 1					
Chemical Substances	CAS Number	Limit Value [mg/kg]			Recommended Sample Preparation // Test Method
		Usage range			
		A	B	C	
Antimony	7440-36-0	Usage as flame retardant: bluesign® criteria for flame retardants have to be followed			
		In other cases:			
		Polyester raw fibre: 260			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		For textiles and leather:			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		5	10	10	
		For metal parts and non-metal parts other than textiles and leather:			EN 71-3 (2013) (acid solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		60			
Arsenic	7440-38-2	Usage ban as biocide			
		In other cases:			
		For non-metal parts (textiles, leather and others):			
		0.2			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		10			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		For metal parts:			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		10			
Barium	7440-39-3	For textiles:			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		100			
		For metal parts and non-metal parts other than textiles:			EN 71-3 (2013) (acid solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		1000			

Metals					
Part 2					
Chemical Substances	CAS Number	Limit Value [mg/kg]			Recommended Sample Preparation // Test Method
		A	B	C	
Cadmium	7440-43-9	Usage ban			
		For non-metal parts (textiles, leather and others):			
		Traces: 0.1			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		Traces: 40			EN 1122 (2001) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		For metal parts:			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
Traces: 40					
Chromium	7440-47-3	For textiles:			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		0.5			
		For metal complex dyed textiles:			
		1.0	2.0	2.0	
		For leather:			-
		No regulation			
For metal parts and non-metal parts other than textiles and leather:			EN 71-3 (2013) (acid solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)		
If products are covered with a metal layer, including a chromium layer, coating must be constantly in good condition					
60					



<b>Metals</b>					
<b>Part 3</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
Chromium (VI)	-	Usage ban			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ICP
		For metal parts and non-metal parts others than leather: ----- DL: 0.5			
		For leather: ----- DL: 3.0			ISO 17075 (2008)
Cobalt	7440-48-4	For textiles and leather: ----- 1.0			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		For metal complex dyed textiles: ----- 1.0      4.0      4.0			
		For metal parts and non-metal parts others than textiles and leather: ----- 1.0      4.0      4.0			
Copper	7440-50-8	For textiles, leather and metal complex dyed textiles: ----- 25      50      50			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		For metal parts and non-metal parts others than textiles and leather: ----- No regulation			-

<b>Metals</b>					
<b>Part 4</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>Usage range</b>			
		<b>A</b>	<b>B</b>	<b>C</b>	
Lead	7439-92-1	Usage ban			
		For textiles, plastics and leather:			
		Traces:			
		0.2	1.0	1.0	DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		Traces: 40			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
For metal parts:					
Traces: 90			Total digestion // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)		
Mercury	7439-97-6	Usage ban			
		For non-metal parts (textiles, leather and others):			
		Traces: 0.02			DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 12846 (2012)
For metal parts:					
Traces: 60			EN 71-3 (2013) (acid solution) // ISO 12846 (2012)		
Nickel	7440-02-0	For textiles and leather:			
		1.0			
		For metal complex dyed textiles:			
		1.0	4.0	4.0	DIN EN ISO 105-E04 (2013) (acid sweat solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		Usage ban for A and B			
For metal parts and non-metal parts others than textiles and leather:					
In case of impurities - maximum release of: 0.5 µg/cm <sup>2</sup> /week			Release EN 12472 (2005)+A1(2009) // EN 1811 (2011)		

<b>Metals</b>					
<b>Part 5</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>Usage range</b>			
		<b>A</b>	<b>B</b>	<b>C</b>	
Selenium	7782-49-2	For metal parts and non-metal parts (incl. textiles and leather):			EN 71-3 (2013) (acid solution) // ISO 17294-2 (2003) or DIN EN ISO 11885 (2009)
		----- 500			
Silver	7440-22-4	For textiles and leather:			-
		----- bluesign® criteria for antimicrobial active compounds have to be followed			
		For metal parts and non-metal parts other than textiles and leather:			-
----- No regulation					

Monomers					
Part 1					
Chemical Substances	CAS Number	Limit Value [mg/kg]			Recommended Sample Preparation // Test Method
		Usage range			
		A	B	C	
Acrylamide	79-06-1	1.0	1.0	1.0	Textile: Extraction with MeOH // HPLC  Plastic: 2-Step extraction with THF and MeOH // HPLC
		Monitoring			
<b>Acrylates</b>					
Acrylic acid	79-10-7	5	5	5	Headspace GC-MS (for acrylates)  Extraction with MeOH // HPLC (for acids)
Butyl acrylate	141-32-2	10	50	100	
tert-Butylacrylate	1663-39-4	10	10	100	
Butyl methacrylate	97-88-1	10	10	100	
Ethyl acrylate	140-88-5	1.0	1.0	1.0	
2-Ethylhexyl acrylate	103-11-7	50	50	100	
Ethyl methacrylate	97-63-2	10	10	100	
Methacrylic acid	79-41-4	10	50	100	
Methyl acrylate	96-33-3	5	20	20	
Methyl methacrylate	80-62-6	10	10	100	
Acrylonitrile	107-13-1	1.0	1.0	1.0	§64 LFGB BVL L 00.00-4
1,3-Butadiene	106-99-0	1.0	1.0	1.0	§64 LFGB BVL L 00.00-4
		Monitoring			
2-Chlorobuta-1,3-diene (Chloroprene)	126-99-8	1.0	1.0	1.0	§64 LFGB BVL L 00.00-4
		Monitoring			
4-Cyanocyclohexene	100-45-8	50	50	50	Headspace GC-MS
		Monitoring			
Epichlorohydrin	106-89-8	1.0	1.0	1.0	CEN/TS 13130-20 (2005)
Ethylene oxide	75-21-8	1.0	1.0	1.0	Headspace GC-MS

Monomers					
Part 2					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Methacrylamide	79-39-0	1.0	10	50	Textile: 2-Step extraction with Acetone/Hexane and MeOH // GC-MS or LC-MS  Plastic: 3-Step extraction with THF, Acetone/Hexane (ASE or Soxhlet) and MeOH // GC-MS or LC-MS
N-Methylolacrylamide	924-42-5	1.0	10	10	Textile: 2-Step extraction with Acetone/Hexane and MeOH // GC-MS or LC-MS  Plastic: 3-Step extraction with THF, Acetone/Hexane (ASE or Soxhlet) and MeOH // GC-MS or LC-MS
N-Vinyl-2-pyrrolidone	88-12-0	1.0	1.0	1.0	Extraction with MeOH // GC-MS or Headspace GC-MS
Propylene oxide	75-56-9	1.0	1.0	1.0	Headspace GC-MS
Styrene	100-42-5	10	10	100	Headspace GC-MS
Vinyl acetate	108-05-4	10	50	50	Headspace GC-MS
Vinyl chloride	75-01-4	0.1	0.1	0.1	ISO 6401 (2008)
Vinylidene chloride (1,1-Dichloroethylene)	75-35-4	10	10	10	Headspace GC-MS

<b>Nitrosamines</b> (as substance and as reaction product from secondary amines for example in elastomers or rubbers)					
Chemical Substances	CAS Number	Limit Value [ $\mu\text{g}/\text{kg}$ ] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
N-Nitroso-di-n-butylamine	924-16-3	Usage ban // DL: 1 $\mu\text{g}/\text{kg}$ for every single listed nitrosamine			EN 12868 (1999)
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-n-propylamine	621-64-7				
N-Nitroso-ethylphenylamine	612-64-6				
N-Nitroso-methylethylamine	10595-95-6				
N-Nitroso-methylphenylamine	614-00-6				
N-Nitroso-morpholine	59-89-2				
N-Nitroso-piperidine	100-75-4				
N-Nitroso-pyrrolidine	930-55-2				

<b>Other Chemical Substances</b>					
<b>Part 1</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>Usage range</b>			
		<b>A</b>	<b>B</b>	<b>C</b>	
Acetic acid (100%)	64-19-7	100	1000	1000	Extraction with MeOH // HPLC
Acetone oxime	127-06-0	Monitoring			Extraction with MeOH // GC-MS
Acetophenone	98-86-2	20	20	20	Extraction with MeOH // GC-MS
Alkyl-naphthalenes; all derivatives	Several	Usage Ban // DL: 1.0			Extraction following IEC 62321-6 (2015) // GC-MS
Ammonia	7664-41-7	10	50	50	Extraction with deionized water // IC
Azobenzene	103-33-3	1.0	1.0	1.0	Extraction with MeOH // GC-MS or HPLC
		Monitoring			
Benzyl alcohol	100-51-6	10	100	100	Headspace GC-MS
Benzyl chloride	100-44-7	1.0	1.0	1.0	Extraction with DCM or Headspace GC-MS
Biphenyl	92-52-4	Usage ban as carrier // DL: 1.0			Extraction following IEC 62321-6 (2015) // GC-MS
		Limit in other cases:			
		1.0	1.0	10	
Bisphenol A	80-05-7	Usage ban for textile finishing // DL: 1.0			Extraction with MeOH // ISO 18857-2 (2009)
		Accessories: 50			

Other Chemical Substances					
Part 2					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Boric acid and derivatives</b>	<b>Several</b>	100 for every single substance			Indirect testing via Boron // ICP-OES or ICP-MS
Boric acid	10043-35-3 // 11113-50-1				
Diboron trioxide	1303-86-2				
Disodium tetraborate, anhydrous	1303-96-4 (decahydrate) 1330-43-4 (anhydrous) 12179-04-3 (pentahydrate)				
Orthoboric acid sodium salt	13840-56-7				
Sodium perborate	15120-21-5				
Sodium perborate, anhydrous	7632-04-4				
Tetraboron disodium heptaoxide, hydrate	12267-73-1				
2-Butanone oxime	96-29-7	1.0	10	100	Extraction with MeOH // GC-MS
4-tert-Butyltoluene	98-51-1	Usage ban // DL: 1.0			Extraction with MeOH // GC-MS
2-Butyne-1,4-diol	110-65-6	1.0	1.0	1.0	Extraction with MeOH // GC-MS
		Monitoring			
Caprolactam	105-60-2	100	1000	1000	Extraction with MeOH // HPLC
		Not in force for PA 6 (fibres, hot melt etc.)			
2-Chloroethanol	107-07-3	1.0	10	50	Extraction with MeOH or Headspace GC-MS
Colophony (Rosin)	8050-09-7	Usage ban // DL: 1.0 (abietic acid or hydroabietic acid)			Extraction with MTBE, derivatisation // GC-MS



Other Chemical Substances						
Part 3						
Chemical Substances	CAS Number	Limit Value [mg/kg]			Recommended Sample Preparation // Test Method	
		A	B	C		
<b>Cresol, all isomers</b>	<b>1319-77-3</b>	Usage ban // DL: 10 for every single listed substance			Extraction with KOH* // GC-MS*	
m-Cresol	108-39-4					
o-Cresol	95-48-7					
p-Cresol	106-44-5					
Cyclohexanol	108-93-0	10	10	10	Headspace GC-MS	
Cyclohexanone	108-94-1	10	10	10	Headspace GC-MS	
1,3-Dichloro-2-propanol	96-23-1	Usage ban // DL: 1.0			Headspace GC-MS	
Dimethylfumarate	624-49-7	Usage ban // DL: 0.1			ISO/TS 16186 (2012) // GC-MS	
3,5-Dimethylpyrazole	67-51-6	Monitoring			Extraction with MeOH // GC-MS	
Dimethyl sulfate	77-78-1	1.0	1.0	1.0	Headspace GC-MS	
2,4-Dinitrotoluene	121-14-2	1.0	1.0	1.0	Extraction with Toluene // GC-MS	
			Monitoring			
1,4-Dioxane	123-91-1	1.0	5	10	Headspace GC-MS	
			Monitoring			
Ethylbenzene	100-41-4	50	50	50	Headspace GC-MS	
			Monitoring			
Ethyleneimine	151-56-4	1.0	1.0	1.0	Headspace GC-MS	
2-Ethylhexanol	104-76-7	50	200	500	Headspace GC-MS	

Other Chemical Substances						
Part 4						
Chemical Substances	CAS Number	Limit Value [mg/kg]			Recommended Sample Preparation // Test Method	
		A	B	C		
Formaldehyde oligomeric reaction product with aniline (polymeric MDA, MDA technical grade)	25214-70-4	Usage ban // DL: 20 mg/kg			Indirect testing via Diaminodiphenylmethane // HPLC	
Formamide	75-12-7	50	50	100	Extraction with MeOH* // GC-MS *cut the sample into small pieces (2x2mm)	
Formic acid	64-18-6	10	10	100	Extraction with MeOH // HPLC	
Hydrofluoric acid	7664-39-3	1.0	1.0	1.0	Extraction with water and measurement of fluorine or fluoride // GC-MS or IC	
4-Hydroxy-4-methylpentane-2-one	123-42-2	20	100	100	Headspace GC-MS	
Mercaptobenzothiazole	149-30-4	Usage ban for A in natural and synthetic rubber; B and C: 200			Extraction with Acetone // GC-MS	
Methanol	67-56-1	10	10	10	Headspace GC-MS	
2-Methylaziridine (Propylenimine)	75-55-8	1.0	1.0	1.0	Headspace GC-MS	
Methyl chloride	74-87-3	1.0	1.0	1.0	Headspace GC-MS	
N-Cyclohexyl-2-pyrrolidone	6837-24-7	20	200	200	Extraction with MeOH // GC-MS	
<b>1-Nitropropane/2-Nitropropane</b>	<b>Several</b>				Headspace GC-MS	
1-Nitropropane	108-03-2	1.0	1.0	1.0		
2-Nitropropane	79-46-9	1.0	1.0	1.0		
Octamethylcyclotetrasiloxane (D4-Siloxane)	556-67-2	5	10	10	ASE with Acetone/Hexane // GC-MS	
			Monitoring			
Phenol	108-95-2	10	50	100	Extraction with MeOH // GC-MS or HPLC	
4-Phenylcyclohexene	4994-16-5	10	10	50	Extraction with MeOH or Headspace GC-MS	

Other Chemical Substances					
Part 5					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
o-Phenylphenol	90-43-7	50	50	50	Textile: Extraction with KOH* // GC-MS*  *In case of results close to limit value (+/- 10 %) re-test with reference method: §64 LFGB BVL B 82.02-8 (2001)  Leather: ISO 13365 (2011)
2-Phenyl-2-propanol	617-94-7	1.0	10	10	Extraction with MeOH // GC-MS
				Monitoring	
Quinoline	91-22-5	Monitoring			Extraction with Toluene // GC-MS
<b>Terpene hydrocarbons</b>		Usage ban // DL: 1.0 for every single listed substance			Headspace GC-MS
D-Limonene	5989-27-5				
DL-Limonene	138-86-3				
L-Limonene	5989-54-8				
Thiourea	62-56-6	Usage ban // DL: 5			Extraction with MeOH // HPLC or LC-MS
Tri-iso-butylphosphate	126-71-6	10	50	50	Extraction following IEC 62321-6 (2015) // GC-MS
Tri-n-butylphosphate	126-73-8	10	50	50	Extraction following IEC 62321-6 (2015) // GC-MS
4-Vinylcyclohexene	100-40-3	1.0	1.0	1.0	Headspace GC-MS

Ozone Depleting Substances					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Ozone depleting substances (CFCs) class I</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban for direct use in manufacturing of articles // DL: 0.1 for every single substance			Headspace GC-MS
<b>Ozone depleting substances (CFCs) class II</b> (Single substances listed in Annex I)	<b>Several</b>				

Pesticides					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Pesticides</b> (Single substances listed in Annex I)	<b>Several</b>	Usage ban // 0.5 mg/kg limit value applies to total sum of all pesticides			ASE or Soxhlet Extraction with Acetone/Hexane // GC-MS or LC-MC

<b>Plasticizers</b>					
<b>Part 1</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
Di-(2-ethylhexyl) adipate (DEHA)	103-23-1	Monitoring			ISO 14389 (2014)
<b>Phthalic acid esters</b>	<b>Several</b>	Usage ban // Traces: 50 for every single substance			ISO 14389 (2014)
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, 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	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				

<b>Plasticizers</b>					
<b>Part 2</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
Di-n-propyl phthalate (DPRP)	131-16-8	Usage ban // Traces: 50 for every single substance			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				
<b>Phthalic acid and derivatives (others than esters)</b>					
Phthalic acid anhydride	85-44-9	Monitoring			ISO 14389 (2014)

Polyaromatic Hydrocarbons (PAHs)					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Polyaromatic hydrocarbons (PAHs)</b>	<b>Several</b>	Usage ban // Traces: for sum of all PAHs: 10			EPA 8310 EPA 8270D EPA 8275A ZEK 01.4-08
Benzo(a)pyrene	50-32-8	Traces: 0.2			
Benzo(e)pyrene	192-97-2	0.5	1	1	
Benzo(a)anthracene	56-55-3	0.5	1	1	
Chrysene	218-01-9	0.5	1	1	
Benzo(b)fluoranthene	205-99-2	0.5	1	1	
Benzo(j)fluoranthene	205-82-3	0.5	1	1	
Benzo(k)fluoranthene	207-08-9	0.5	1	1	
Dibenzo(a,h)anthracene	53-70-3	0.5	1	1	
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	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
Polyvinyl chloride (PVC)	9002-86-2	Usage ban for A and B // Not detected Usage range C // bluesign technologies reserves the right to make a single decision for special applications			Beilstein test* // FTIR  *FTIR measurement only if result of Beilstein test was positive
Polyvinylidenchloride (PVDC)	9002-85-1	Usage ban for A and B // Not detected Usage range C // bluesign technologies reserves the right to make a single decision for special applications			Beilstein test* // FTIR  *FTIR measurement only if result of Beilstein test was positive



<b>Solvents</b>					
<b>Part 1</b>					
Chemical Substances	CAS Number	Limit Value [mg/kg]			Recommended Sample Preparation // Test Method
		A	B	C	
Acetone	67-64-1	10	10	100	Headspace GC-MS
Benzene	71-43-2	Usage ban // DL: 1.0			Headspace GC-MS
<b>Benzine/Gasoline</b>	<b>Several</b>				
Benzine	8032-32-4	Usage ban in manufacturing (e.g. white spirit printing) // DL: 1.0			Headspace GC-MS
Gasoline	8006-61-9	Usage ban in manufacturing (e.g. white spirit printing) // DL: 1.0			Headspace GC-MS
Carbon disulfide	75-15-0	5	10	10	Headspace GC-MS
<b>Chlorinated ethanes, all isomers</b>	<b>Several</b>	Usage ban // DL: 1.0 for every single substance			Headspace GC-MS
1,1,1-Trichloroethane	71-55-6				
1,1,2-Trichloroethane	79-00-5				
1,1,1,2-Tetrachloroethane	630-20-6				
1,1,2,2-Tetrachloroethane	79-34-5				
Pentachloroethane	76-01-7				
Hexachloroethane	67-72-1				
Cyclohexane	110-82-7	10	10	10	Headspace GC-MS
1,2-Dichloroethane	107-06-2	Usage ban // DL: 1.0			Headspace GC-MS
Dichloromethane	75-09-2	Usage ban for direct use in manufacturing of articles // DL: 5			Headspace GC-MS
Dimethyl sulfoxide (DMSO)	67-68-5	Usage ban // DL: 5			Headspace or Extraction with MeOH // GC-MS
N-ethyl-2-pyrrolidone (NEP)	2687-91-4	10	10	100	2-Step Extraction with THF and MeOH // GC-MS
				Monitoring	

<b>Solvents</b>					
<b>Part 2</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>Usage range</b>			
		<b>A</b>	<b>B</b>	<b>C</b>	
n-Hexane	110-54-3	Usage ban in textile finishing // DL: 1.0			Headspace GC-MS
		Non-textile articles Traces:			
		1.0	10	10	
N-Methylpyrrolidone (NMP)	872-50-4	10	10	100	2-Step Extraction with THF and MeOH // GC-MS
		Aramid fibres: bluesign technologies reserves the right to make a single decision for special applications			
N,N-Dimethylacetamide (DMAC)	127-19-5	Usage ban in auxiliaries with exception of solvent coating // DL: 5			Headspace GC-MS or  Textile: Extraction with MeOH // GC-MS or LC-MS  Plastic: 2-Step Extraction with THF and MeOH // GC-MS or LC-MS
		Limits for residual fibre solvent:			
		10	50	50	
		Monitoring for elastane and PAN fibres			
		Aramid fibres: bluesign technologies reserves the right to make a single decision for special applications			
		Limits for solvent coating with regard to bluesign® criteria for production sites and companies:			
10	50	50			

Solvents Part 3					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
N,N-Dimethylformamide (DMF)	68-12-2	Usage ban in auxiliaries with exception of solvent coating // DL: 5			ISO/TS 16189 (2013)
		Limits for residual fibre solvent:			
		50	50	50	
		Monitoring for PAN fibres			
		Limits for solvent coating with regard to bluesign® criteria for production sites and companies:			
		50	50	50	
Pentane	109-66-0	10	50	50	Headspace GC-MS
Tetrachloroethylene (Perchloroethylene)	127-18-4	Usage ban in auxiliaries/dyes // DL: 1.0			Headspace GC-MS
		In case of dry cleaning:			
		10	10	10	
Tetrahydrofuran	109-99-9	10	10	10	Headspace GC-MS
Toluene	108-88-3	10	50	50	Headspace GC-MS
Trichloroethylene	79-01-6	Usage ban // DL: 5			Headspace GC-MS
Trichloromethane (Chloroform)	67-66-3	Usage ban // DL: 5			Headspace GC-MS
1,2,3-Trichloropropane	96-18-4	Usage ban // DL: 5			Headspace GC-MS
<b>Trimethylbenzenes, all isomers</b>	<b>25551-13-7</b>	50	100	100	Headspace GC-MS
1,2,3-Trimethylbenzene	526-73-8				
1,2,4-Trimethylbenzene	95-63-6	for every single listed substance			
1,3,5-Trimethylbenzene	108-67-8				

<b>Solvents</b>					
<b>Part 4</b>					
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Limit Value [mg/kg]</b>			<b>Recommended Sample Preparation // Test Method</b>
		<b>A</b>	<b>B</b>	<b>C</b>	
<b>Xylene, all isomers</b>	<b>1330-20-7</b>	Usage ban in textile finishing // DL: 1.0 for every single substance			Headspace GC-MS
m-Xylene	108-38-3	Non-textile articles Traces:			
o-Xylene	95-47-6	1.0	10	10	
p-Xylene	106-42-3				

<b>Tin-organic Compounds</b> as mono-, di-, tri-, tetraalkyltin organics					
Chemical Substances	CAS Number	Limit Value [mg/kg] Usage range			Recommended Sample Preparation // Test Method
		A	B	C	
<b>Tin-organic compounds</b>	<b>Several</b>	Usage ban			
Monobutyltin compounds (MBT)	Several	Traces: 1.0			ISO/TS 16179 (2012)
Monooctyltin compounds (MOT)	Several	Traces: 2.0			
Dimethyltin compounds (DMT)	Several	DL: 0.05			
Dibutyltin compounds (DBT)	Several	Traces: 0.2			
Diocetyl tin compounds (DOT)	Several	Traces: 1.0 ----- Monitoring			
Trimethyltin compounds (TMT)	Several	DL: 0.05			
Tripropyltin compounds (TPT)	Several	DL: 0.05			
Tributyltin compounds (TBT)	Several	DL: 0.05			
Triphenyltin compounds (TPHT)	Several	DL: 0.05			
Triocetyl tin compounds (TOT)	Several	DL: 0.05			
Tetrabutyltin compounds (TeBT)	Several	DL: 0.5			
Tetraoctyltin compounds (TeOT)	Several	DL: 0.5			
Tricyclohexyltin compounds (TCyHT)	Several	DL: 0.5			

## 5.2 Substances with usage restrictions but no consumer safety limits

The following substances are not relevant concerning consumer safety aspects, or due to the fact, that they are used in very early manufacturing steps, normally not to be found as residues in the article. Therefore consumer safety limit values are not defined; however restrictions and bans are controlled by the bluesign® homologation and the on-site inspection.

Substances with usage restrictions but no consumer safety limits		
Part 1		
Chemical Substances	CAS Number	Usage restrictions
Bis(chloromethyl)ether	542-88-1	Bis(chloromethyl)ether is a reaction product of formaldehyde and conc. hydrochloric acid. Formation shall be avoided in every case.
Di(hydrogenated tallow alkyl)dimethylammonium chloride (DHTDMAC)	61789-80-8	Usage ban
Distearyl dimethyl ammonium chloride (DSDMAC)	107-64-2	Usage ban
Ditallow dimethyl ammonium chloride (DTDMAC)	68783-78-8	Usage ban
<b>EDTA/DTPA</b>		
Ethylene diamine tetraacetic acid (EDTA), sodium salt	64-02-8	Usage ban as water softener for freshwater preparation. Usage ban in textile auxiliaries.
Diethylene triamine pentaacetic acid (DTPA), sodium salt	140-01-2	
<b>Hydrazine/Hydrazine sulfate</b>		
Hydrazine	302-01-2	Usage ban
Hydrazine sulfate	10034-93-2	
<b>Hypochlorite/ Chlorine</b>		
Sodium hypochlorite	7681-52-9	Several restrictions: compare with Fact Sheet Hypochlorite
Chlorine	7782-50-5	
Sodium chlorite	7758-19-2	Usage ban with exception for extra white polyester for home textiles
<b>Phosphonates and salts</b>		
<b>Several</b>		Usage ban as water softener for freshwater preparation.  Minimization requirement
Amino, tris(methylene phosphonic acid)	6419-19-8	
Diethylenetriaminepenta(methylenephosphonic acid)	15827-60-8	
Ethylenediaminetetra(methylenephosphonic acid)	1429-50-1	
1-Hydroxyethane-1,1-diphosphonic acid	2809-21-4	



<b>Substances with usage restrictions but no consumer safety limits</b>		
<b>Part 2</b>		
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Usage restrictions</b>
Potassium permanganate	7722-64-7	Usage ban



## Annex I Compilation of single substances

In the following tables single substances belonging to groups:

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

are listed.

Limit values and test methods for the substance groups are provided in section 5.1.6.

<b>Asbestos</b>	
<b>Chemical Substances</b>	<b>CAS Number</b>
Actinolite	77536-66-4
Amosite	12172-73-5
Anthophyllite	77536-67-5
Chrysotile	12001-29-5
Crocidolite	12001-28-4
Tremolite	77536-68-6



<b>Colorants which can cleave in carcinogenic amines (List is not exhaustive)</b>			
<b>Part 1</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
Acid Black 29	12217-14-0	Basic Red 42	12221-66-8
Acid Black 94	6358-80-1	Basic Red 76	68391-30-0
Acid Black 131	12219-01-1	Basic Red 111	113741-92-7
Acid Black 132	12219-02-2	Basic Red 114	-
Acid Black 209	72827-68-0	Basic Yellow 82	-
Acid Black 232	-	Basic Yellow 103	-
Acid Brown 415	97199-27-4	Developer 14 = Oxidation Base 20	-
Acid Orange 45	2429-80-3	Direct Black 4	25156-49-4
Acid Red 4	5858-39-9	Direct Black 29	25180-14-7
Acid Red 5	5858-63-9	Direct Black 154	54804-85-2
Acid Red 24	5858-30-0	Direct Blue 1	2610-05-1
Acid Red 35	6441-93-6	Direct Blue 2	2429-73-4
Acid Red 73	5413-75-2	Direct Blue 3	2429-72-3
Acid Red 85	3567-65-5	Direct Blue 8	2429-71-2
Acid Red 104	8006-06-2	Direct Blue 9	6428-98-4
Acid Red 114	6459-94-5	Direct Blue 10	4198-19-0
Acid Red 115	6226-80-8	Direct Blue 14	72-57-1
Acid Red 116	6245-62-1	Direct Blue 15	2429-74-5
Acid Red 119:1	90880-75-4	Direct Blue 21	6420-09-3
Acid Red 128	6548-30-7	Direct Blue 22	2586-57-4
Acid Red 148	6300-53-4	Direct Blue 25	25180-27-2
Acid Red 150	6226-78-4	Direct Blue 35	6473-33-2
Acid Red 158	8004-55-5	Direct Blue 53	314-13-6
Acid Red 167	61901-41-5	Direct Blue 151	110735-25-6
Acid Red 264	6505-96-0	Direct Blue 160	12222-02-5
Acid Red 265	6358-43-6	Direct Blue 173	12235-72-2
Acid Red 420	-	Direct Blue 192	159202-76-3
Acid Violet 12	6625-46-3	Direct Blue 215	6771-80-8
Azoic Diazo Component 11	3165-93-3	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	-	Direct Brown 2	25255-06-5
Basic Brown 4	8005-78-5	Direct Brown 6	25180-39-6

<b>Colorants which can cleave in carcinogenic amines (List is not exhaustive)</b>			
<b>Part 2</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
Direct Brown 25	33363-87-0	Direct Red 37	3530-19-6
Direct Brown 27	6360-29-8	Direct Red 39	6358-29-8
Direct Brown 31	25180-41-0	Direct Red 44	6548-29-4
Direct Brown 33	1324-87-4	Direct Red 46	2302-97-8
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	-
Direct Red 13	25188-30-1	Solvent Red 26	-
Direct Red 17	25188-32-3	Solvent Red 68	-
Direct Red 21	6406-01-5	Solvent Red 69	-
Direct Red 22	6448-80-2	Solvent Red 164	-
Direct Red 24	6420-44-6	Solvent Red 215	-
Direct Red 26	3687-80-7	Solvent Yellow 72	-

<b>Dioxins and Furans</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
<b>Group 1:</b>	<b>Several</b>	<b>Group 3:</b>	<b>Several</b>
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
<b>Group 2:</b>	<b>Several</b>	<b>Group 4:</b>	<b>Several</b>
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	<b>Group 5:</b>	<b>Several</b>
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



<b>Greenhouse Gases, fluorinated</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
Sulphur hexafluoride - SF <sub>6</sub>	2551-62-4	<b>Hydrofluorocarbons (HFCs) cont.</b>	
<b>Perfluorocarbons (PFCs)</b>	<b>Several</b>	HFC-125 - C <sub>2</sub> H <sub>5</sub> F	354-33-6
Perfluoromethane (CF <sub>4</sub> )	75-73-0	HFC-134 - C <sub>2</sub> H <sub>2</sub> F <sub>4</sub>	359-35-3
Perfluoroethane (C <sub>2</sub> F <sub>6</sub> )	76-16-4	HFC-134a - CH <sub>2</sub> FCF <sub>3</sub>	811-97-2
Perfluoropropane (C <sub>3</sub> F <sub>8</sub> )	76-19-7	HFC-152a - C <sub>2</sub> H <sub>4</sub> F <sub>2</sub>	75-37-6
Perfluorobutane (C <sub>4</sub> F <sub>10</sub> )	355-25-9	HFC-143 - C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>	430-66-0
Perfluoropentane (C <sub>5</sub> F <sub>12</sub> )	678-26-2	HFC-143a - C <sub>2</sub> H <sub>3</sub> F <sub>3</sub>	420-46-2
Perfluorohexane (C <sub>6</sub> F <sub>14</sub> )	355-42-0	HFC-227ea - C <sub>3</sub> H <sub>7</sub> F <sub>7</sub>	431-89-0
Perfluorocyclobutane (c-C <sub>4</sub> F <sub>8</sub> )	115-25-3	HFC-236cb - CH <sub>2</sub> FCF <sub>2</sub> CF <sub>3</sub>	677-56-5
<b>Hydrofluorocarbons (HFCs)</b>	<b>Several</b>	HFC-236ea - CHF <sub>2</sub> CHFCF <sub>3</sub>	431-63-0
HFC-23 - CHF <sub>3</sub>	75-46-7	HFC-236fa - C <sub>3</sub> H <sub>2</sub> F <sub>6</sub>	690-39-1
HFC-32 - CH <sub>2</sub> F <sub>2</sub>	75-10-5	HFC-245ca - C <sub>3</sub> H <sub>3</sub> F <sub>5</sub>	679-86-7
HFC-41 - CH <sub>3</sub> F	593-53-3	HFC-245fa - CHF <sub>2</sub> CH <sub>2</sub> CF <sub>3</sub>	460-73-1
HFC-43-10mee - C <sub>5</sub> H <sub>2</sub> F <sub>10</sub>	138495-42-8	HFC-365mfc - CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> CH <sub>3</sub>	406-58-6

<b>Ozone Depleting Substances (CFCs)</b>			
<b>Part 1</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
<b>Ozone-depleting substances class I</b>	<b>Several</b>	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 CCl <sub>4</sub>	56-23-5
1,1,2-Trichloro-1,2,2-trifluoroethane CFC-113	76-13-1	1,1,1-Trichloroethane (Methylchloroform)	71-55-6
1,1,1-Trichloro-2,2,2-trifluoroethane CFC-113a	354-58-5	Methylbromide (CH <sub>3</sub> Br)	74-83-9
1,2-Dichloro-1,1,2,2-tetrafluoroethane CFC-114	76-14-2	CHFBr <sub>2</sub> – HBFC-21 B12	1868-53-7
1,1-Dichloro-1,2,2,2-tetrafluoroethane CFC-114a	374-07-2	CHF <sub>2</sub> Br – HBFC-22 B1	1511-62-2
Monochloropentafluoroethane CFC-115	76-15-3	CH <sub>2</sub> FBr – HBFC-31 B1	373-52-4
Bromochlorodifluoromethane Halon-1211	353-59-3	C <sub>2</sub> HFBr <sub>4</sub> – HBFC-121 B4	353-93-5
Bromotrifluoromethane Halon-1301	75-63-8	C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub> – HBFC-122 B3	353-97-9
Dibromotetrafluoroethane Halon-2402	124-73-2	C <sub>2</sub> HF <sub>3</sub> Br <sub>2</sub> – HBFC-123 B2 (Halon 2302)	354-04-1
Chlorotrifluoromethane CFC-13	75-72-9	C <sub>2</sub> HF <sub>4</sub> Br – HBFC-124 B1	354-07-4
Pentachlorofluoroethane CFC-111	354-56-3	C <sub>2</sub> H <sub>2</sub> FBr <sub>3</sub> – HBFC-131 B3	172912-75-3
1,1,2,2-Tetrachloro-1,2-difluoroethane CFC-112	76-12-0	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>2</sub> - HBFC-132 B2	75-82-1
1,1,1,2-Tetrachlorodifluoroethane CFC-112a	76-11-9	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br - HBFC-133a B1	421-06-7
Heptachlorofluoropropane CFC-211	422-78-6	C <sub>2</sub> H <sub>3</sub> FBr <sub>2</sub> - HBFC-141 B2	358-97-4
Hexachlorodifluoropropane CFC-212	3182-26-1	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Br - HBFC-142 B1	359-07-9
Pentachlorotrifluoropropane CFC-213	2354-06-5	C <sub>2</sub> H <sub>4</sub> FBr - HBFC-151 B1	762-49-2
Tetrachlorotetrafluoropropane CFC-214	29255-31-0	C <sub>3</sub> HFBr <sub>6</sub> - HBFC-221 B6	-
1,1,3-Trichloropentafluoropropane CFC-215	76-17-5	C <sub>3</sub> HF <sub>2</sub> Br <sub>5</sub> - HBFC-222 B5	-
1,2,3-Trichloropentafluoropropane CFC-215	1652-81-9	C <sub>3</sub> HF <sub>3</sub> Br <sub>4</sub> - HBFC-223 B4	-
1,1,1-Trichloropentafluoropropane CFC-215	4259-43-2	C <sub>3</sub> HF <sub>4</sub> Br <sub>3</sub> - HBFC-224 B3	666-48-8
1,2,2-Trichloropentafluoropropane CFC-215	1599-41-3	C <sub>3</sub> HF <sub>5</sub> Br <sub>2</sub> - HBFC-225 B2	431-78-7

<b>Ozone Depleting Substances (CFCs)</b>			
<b>Part 2</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
C3HF6Br - HBFC-226 B1	2252-79-1	<b>Ozone-depleting substances class II</b>	<b>Several</b>
C3H2FBr5 - HBFC-231 B5	-	Dichlorofluoromethane HCFC-21	75-43-4
C3H2F2Br4 - HBFC-232 B4	148875-98-3	Monochlorodifluoromethane HCFC-22	75-45-6
C3H2F3Br3 - HBFC-233 B3	431-48-1	Monochlorofluoromethane HCFC-31	593-70-4
C3H2F4Br2 - HBFC-234 B2	460-86-6	Tetrachlorofluoroethane HCFC-121	354-14-3
C3H2F5Br - HBFC-235 B1	460-88-8	Trichlorodifluoroethane HCFC-122	354-21-2
C3H3FBr4 - HBFC-241 B4	-	Dichlorotrifluoroethane HCFC-123	306-83-2
C3H3F2Br3 - HBFC-242 B3	666-25-1	Monochlorotetrafluoroethane HCFC-124	2837-89-0
C3H3F3Br2 - HBFC-243 B2	460-60-6	Trichlorofluoroethane HCFC-131	359-28-4
C3H3F4Br - HBFC-244 B1	460-67-3	Dichlorodifluoroethane HCFC-132	1649-08-7
C3H4FBr3 - HBFC-251 B1	75372-14-4	Monochlorotrifluoroethane HCFC-133a	75-88-7
C3H4F2Br2HBFC-252 B2	51584-25-9	HCFC-141	-
C3H4F3Br - HBFC-253 B1	460-32-2	Dichlorofluoroethane HCFC-141b	1717-00-6
C3H5FBr2 - HBFC-261 B2	453-00-9	HCFC-142	-
C3H5F2BrHBFC-262 B1	461-49-4	Monochlorodifluoroethane HCFC-142b	75-68-3
C3H6FBr - HBFC-271 B1	1871-72-3	HCFC-151	-
Chlorobromomethane CH2BrCl	-	Hexachlorofluoropropane HCFC-221	422-26-4

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

<b>Pesticides</b>			
<b>Part 1</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
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'-Dichlorodiphenyldichloroethane (o,p'-DDD)	53-19-0
Bromophos-ethyl	4824-78-6	p,p'-Dichlorodiphenyldichloroethane (p,p'-DDD)	72-54-8
Captafol	2425-06-1	o,p'-Dichlorodiphenyldichloroethylene (o,p'-DDE)	3424-82-6
Carbaryl	63-25-2	p,p'-Dichlorodiphenyldichloroethylene (p,p'-DDE)	72-55-9
Carbendazim	10605-21-7	o,p'-Dichlorodiphenyltrichloroethane (o,p'-DDT) and its isomers; preparations containing DDT and its isomers	789-02-6
Chlordane	57-74-9	p,p'-Dichlorodiphenyltrichloroethane (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
Coumaphos	56-72-4	Dicyclanil	112636-83-6
Cyfluthrin	68359-37-5	Dieldrine	60-57-1
Cyhalothrin, lambda	91465-08-6	Diflubenzuron	35367-38-5
Cypermethrin	52315-07-8	Dimethoate	60-51-5



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

<b>Pesticides</b>			
<b>Part 3</b>			
<b>Chemical Substances</b>	<b>CAS Number</b>	<b>Chemical Substances</b>	<b>CAS Number</b>
Phoxim	14816-18-3	Timiperone (DTTB)	57648-21-2
Profenophos	41198-08-7	Tolyfluanide	731-27-1
Propanil	709-98-8	Toxaphene	8001-35-2
Propetamphos	31218-83-4	Tribufos (DEF)	78-48-8
Pyrazon	1698-60-8	Trichlorfon	52-68-6
Quinalphos	13593-03-8	2,4,5-Trichlorophenoxyacetic acid, salts and compounds	93-76-5
Quintozene	82-68-8	2-(2,4,5-Trichlorophenoxy)propionic acid, salts and compounds	93-72-1
Simazine	122-34-9	Triflururon	64628-44-0
Strobane	8001-50-1	Trifluralin	1582-09-8
Telodrin	297-78-9	Vinclozolin	50471-44-8



## Annex II Usage Ranges

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

Exposure scenarios concerning oral, dermal and inhalative exposure are the guiding principle for definition of limit values as consumer safety limits and basis for setting usage ranges. Dermal exposure (exposure to human skin) serves as the main allocation principle. Other exposure routes override this allocation if the need for a more stringent classification results from the respective usage situation.

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-safe (0 to 3 years)
- Usage Range B: Occasional skin contact
- Usage Range C: No skin contact

This means a garment is at least usage range B if not wearing properties and expected consumer behavior require a classification in usage range A.

The following table lists common consumer goods and allocates usage ranges. This classification is typically valid for the complete product. Exceptions are defined in the list.



Consumer goods	Usage range A	Usage range B	Usage range C	
Automotive			x	Seat fabric - usage range B
Baby wear and textile articles (0 – 3 years)	x			
Backpack			x	Shoulder straps, harness and backrest that have contact with the skin must be usage range A
Bed linen	x			
Bike shorts	x			
Blouse		x		
Bra	x			
Carpet		x		
Cleaning cloth		x		
Curtain			x	
Dress		x		
Furnishing fabric		x		e.g. seat cover
Geo textiles			x	e.g. Building-/construction textiles, erosion protective textiles
Gloves/Mittens	x			
Harness		x		
Headress	x			
Jacket		x		
Leggings	x			
Long sleeve t-shirt	x			
Mosquito net			x	
Pants		x		
Pullover		x		
Ropes & slings		x	x	Depends on use
Scarf	x			
Shirt		x		
Skirt		x		
Sleeping bag		x		Lining must be must be usage range A
Sleeping mattress	x			
Socks	x			
Sport shirt	x			
Sweatshirt		x		
Swim wear	x			
Tent			x	Tent floor must be usage range B
Tie		x		



<b>Consumer goods</b>	<b>Usage range A</b>	<b>Usage range B</b>	<b>Usage range C</b>	
Tights	x			
Towel		x		
T-Shirt	x			
Underpants (long/short)	x			
Undershirt	x			