

H&M Chemical Restrictions



Quality Department
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General

H&M has established Chemical Restrictions, these H&M Chemical Restrictions consists of:

- **Restricted Substances in Apparel/Accessories/Footwear/Interior Products and Restricted Substances in Production**

The Apparel/Accessories/Footwear/Interior Products Restriction is divided into materials. Each limit in H&M Chemical Restrictions is valid for homogeneous parts of the product. Individual restricted substances with CAS no are specified in Appendix A. Test methods are found in Appendix B. All details of the product must comply with H&M Chemical Restrictions, see example below for a padded jacket. Example of how to apply the restrictions:

	<p>Apparel/Accessories/Footwear/Interior Products</p> <ul style="list-style-type: none">➤ Fabric & lining: Follow Textile➤ Painted zipper & press buttons: Follow Metal for the metal. Follow the Plastic, Rubber, Paints & Surface coating restrictions for the paint.➤ Drawstring, stoppers & possible placement print: Follow Plastic, Rubber, Paints & Surface coating➤ Padding: Follow Fusing, Padding, Feather and Down
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Abbreviations and definitions in this document

CAS no	Chemical Abstracts Service number, an identification number for chemicals in this database.
CI no	Colour Index number
cl	Centilong
cSt	centiStokes, which is the same as 1mm ² /s. This is the unit used for kinematic viscosity.
Homogeneous	Uniform composition throughout, i.e. a material that cannot be mechanically disjointed into different materials.
Kinematic viscosity	Describes how fast a fluid is spread on a flat surface in relation to its mass, i.e. weight.
ppm	Parts per million, which is the same as mg/kg.
REACH	Registration, Evaluation, Authorisation and restriction of Chemicals
Reporting limit	The lowest concentration at which an analyte is reported.
SVHC	Substances of Very High Concern
Usage ban	Means that the substance must not be added to the product nor used in production.

Restricted Substances in Apparel/Accessories/Footwear/Interior Products

If a group of substances is marked with an asterisk* in the table below each included substance is specified in Appendix A.1.

Textile (Natural & Synthetic), incl. pigment print

Restricted substance	Limit
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP)	
Nonylphenol Ethoxylates (NPE)	100 ppm
Octylphenol Ethoxylates (OPE)	100 ppm
Nonylphenol (NP)	Not detected
Octylphenol (OP)	Not detected
Cationic Surfactants*	Not detected, sum of listed surfactants
Chlorinated Aromatic Hydrocarbons*	2 ppm, per listed substance group
Chloroparaffins	
Short chained (SCCPs) C10-C13	Not detected
Medium chained (MCCPs) C14-C17	1000 ppm
Chromium VI (Cr⁶⁺)	Not detected
Dyes	
Azo Dyes & Pigments*	20 ppm, per listed amine
Disperse Dyes*	1 mg/l extract, per listed disperse dye
Other Dyes*	Not detected, per listed other dye
Flame Retardants*¹	Not detected
Formaldehyde	
Products for children aged 0-3 years, incl. bed linen (e.g. 50-98 cl)	$(A-A_0) < 0.05^2$
Products for children above 3 years (e.g. 104-170 cl) and products for adults with direct skin contact, incl. bed linen	75 ppm
Products for adults without direct skin contact (e.g. outer wear, curtains)	300 ppm

¹ Supplier must always get an approval from H&M before using any flame retardant, even if it is not listed in Appendix A.1. No flame retardants are allowed on babies' and children's products.

² Where A is the absorbance of the sample and A₀ is the absorbance of the zero-sample, both measured according to test method.

Restricted substance	Limit
Metals, Extractable Amount	
Antimony (Sb)	30 ppm ³
Arsenic (As)	0.2 ppm
Chromium (Cr)	1 ppm ⁴
Cobalt (Co)	1 ppm
Copper (Cu)	25 ppm ⁵
Lead (Pb)	0.2 ppm
Mercury (Hg)	0.02 ppm
Nickel (Ni)	1 ppm
Metals, Total Amount	
Antimony (Sb)	260 ppm ³
Arsenic (As)	1 ppm
Cadmium (Cd)	1 ppm
Chromium (Cr)	100 ppm ⁴
Lead (Pb)	90 ppm
Mercury (Hg)	0.5 ppm
Octamethylcyclotetrasiloxane	1000 ppm
Organotin Compounds*	
Dibutyltin (DBT)	1 ppm
Diocetyl tin (DOT)	1 ppm
Sum of other listed organotins	Not detected
Sum of other not listed tri-substituted organotins	1 ppm
Perfluoro Compounds	
Perfluorooctane Sulfonate (PFOS) and PFOS related substances	1 µg/m ²
Perfluorooctanoic Acid (PFOA)	1 µg/m ²
Pesticides*	
Dieldrine	0.01 ppm
Sum of listed pesticides	<1 ppm
pH	4.0 ≤ pH ≤ 7.5

³ For 100% polyester the *total* Sb limit applies (for 50% polyester the limit is 130 ppm etc.). For all other textile materials the *extractable* Sb limit applies.

⁴ For polyamide, polyamide blends (min 5% PA) and worsted wool the extractable Cr limit applies. For all other materials, chromium based dyes are not accepted, and the total Cr limit applies.

⁵ Extractable Cu limit applies only to woven baby wear up to size 98.

Restricted substance	Limit
Phenols	
Pentachlorophenol (PCP) and its salts and esters	Not detected
Tetrachlorophenol (TeCP) and its salts and esters	Not detected
o-Phenylphenol (OPP)	50 ppm
Phthalates*	500 ppm, per phthalate. The sum of phthalates ≤ 1000 ppm
Polychlorinated Biphenyls (PCB)	The sum < 0.5 ppm
Polychlorinated Triphenyls (PCT)	
Polyvinylchloride (PVC) and similar chlorinated polymers, e.g. Polyvinylidenechloride	Not detected
Triclosan	Not detected
<i>Valid for Children's Jewellery and Children's Hair Accessories / test acc. to EN. 71:3</i>	
Barium (Ba)	1000 ppm
Selenium (Se)	500 ppm

Leather

Restricted substance	Limit
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP)	
Nonylphenol Ethoxylates (NPE)	100 ppm
Octylphenol Ethoxylates (OPE)	100 ppm
Nonylphenol (NP)	Not detected
Octylphenol (OP)	Not detected
Chlorinated Aromatic Hydrocarbons*	2 ppm, per listed substance group
Chloroparaffins	
Short chained (SCCPs) C10-C13	Not detected
Medium chained (MCCPs) C14-C17	1000 ppm
Chromium VI (Cr⁶⁺)	Not detected
Dyes	
Azo Dyes & Pigments*	20 ppm, per listed amine
Other Dyes*	Not detected, per listed other dye

Restricted substance	Limit
Flame Retardants*⁶	Not detected
Formaldehyde	
Products for children aged 0-3 years (e.g. 50-98 cl)	20 ppm
Products for children above 3 years (e.g. 104-170 cl) and products for adults with direct skin contact, incl. bed linen	75 ppm
Products for adults without direct skin contact (e.g. outer wear, curtains)	300 ppm
Metals, Extractable Amount	
Cobalt (Co)	1 ppm
Nickel (Ni)	1 ppm
Metals, Total Amount	
Arsenic (As)	1 ppm
Cadmium (Cd)	1 ppm
Lead (Pb)	90 ppm
Mercury (Hg)	0.5 ppm
Organotin Compounds*	
Dibutyltin (DBT)	1 ppm
Dioctyltin (DOT)	1 ppm
Sum of other listed organotins	Not detected
Sum of other not listed tri-substituted organotins	1 ppm
Pesticides*	
Dieldrine	0.01 ppm
Sum of listed pesticides	<1 ppm
Perfluoro Compounds	
Perfluorooctane Sulfonate (PFOS) and PFOS related substances	1 µg/m ²
Perfluorooctanoic Acid (PFOA)	1 µg/m ²
Phenols	
Pentachlorophenol (PCP) and its salts and esters	Not detected
Tetrachlorophenol (TeCP) and its salts and esters	Not detected
o-Phenylphenol (OPP)	50 ppm
Polychlorinated Biphenyls (PCB)	

⁶ Supplier must always get an approval from H&M before using any flame retardant at all, even if it is not listed in Appendix A.1. No flame retardants are allowed on babies' and children's products.

Restricted substance	Limit
Polychlorinated Triphenyls (PCT)	The sum < 0.5 ppm
<i>Valid for Children's Jewellery and Children's Hair Accessories / test acc. to EN. 71:3</i>	
Antimony (Sb)	60 ppm
Barium (Ba)	1000 ppm
Selenium (Se)	500 ppm
Chromium (Cr)	60 ppm

Plastic, Rubber, Paint & Surface coating⁷

Restricted substance	Limit
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP)	
Nonylphenol Ethoxylates (NPE)	100 ppm
Octylphenol Ethoxylates (OPE)	100 ppm
Nonylphenol (NP)	Not detected
Octylphenol (OP)	Not detected
Bisphenol-A (BPA)	Not detected
Chloroparaffins	
Short chained (SCCPs) C10-C13	Not detected
Medium chained (MCCPs) C14-C17	1000 ppm
Dimethylformamide (DMF)	1000 ppm
Flame Retardants*⁸	Not detected
Formaldehyde	
Products for children aged 0-3 years, incl. bed linen (e.g. 50-98 cl)	$(A-A_0) < 0.05^9$
Products for children above 3 years (e.g. 104-170 cl) and products for adults with direct skin contact, incl. bed linen	75 ppm
Products for adults without direct skin contact (e.g. outer wear, curtains)	300 ppm
Isocyanates*	Not detected, sum of listed isocyanates

⁷ Surface coating includes paint and print, excluding reactive print and electroplating.

⁸ Supplier must always get an approval from H&M before using any flame retardant at all, even if it is not listed in Appendix A.1. No flame retardants are allowed on babies' and children's products.

⁹ Where A is the absorbance of the sample and A₀ is the absorbance of the zero-sample, both measured according to test method.

Restricted substance	Limit
Metals, Total amount	
Cadmium (Cd)	75 ppm
Lead (Pb)	90 ppm
Mercury (Hg)	10 ppm
Organotin Compounds*	
Dibutyltin (DBT)	1 ppm
Diocetyl tin (DOT)	1 ppm
Sum of other listed organotins	Not detected
Sum of other not listed tri-substituted organotins	1 ppm
Phenols	
Pentachlorophenol (PCP) and its salts and esters	Not detected
Tetrachlorophenol (TeCP) and its salts and esters	Not detected
o-Phenylphenol (OPP)	50 ppm
Phthalates*	500 ppm, per phthalate The sum of phthalates ≤ 1000 ppm
Polyaromatic Hydrocarbons (PAH) *	
Benzo(a)pyrene	1 ppm
Sum of other listed PAHs	The sum < 10 ppm
Polychlorinated Biphenyls (PCB)	The sum < 0.5 ppm
Polychlorinated Triphenyls (PCT)	
Polyvinylchloride (PVC) And similar chlorinated polymers, e.g. Polyvinylidenechloride	Not detected
Triclosan	Not detected
<i>Valid for Children's Jewellery and Children's Hair Accessories / test acc. to EN. 71:3</i>	
Antimony (Sb)	60 ppm
Arsenic (As)	25 ppm
Barium (Ba)	1000 ppm
Selenium (Se)	500 ppm
Chromium (Cr)	60 ppm

Metal

Restricted substance	Limit
Metals, Total Amount	
Cadmium (Cd)	75 ppm
Lead (Pb):	
Decorative ¹⁰ items	90 ppm
Children's functional items ¹¹ (up to 14 years)	100 ppm
Adult's functional ¹² items	300 ppm
Mercury (Hg)	0.5 ppm
Nickel (Ni), Extractable Amount	
In metal products or parts of products in direct and prolonged skin contact	Maximum release: 0.5 µg/cm ² /week
In metal jewellery parts intended to be used for body piercing	Maximum release: 0.2 µg/cm ² /week
<i>Valid for Children's Jewellery and Children's Hair Accessories / test acc. to EN. 71:3</i>	
Antimony (Sb)	60 ppm
Arsenic (As)	25 ppm
Barium (Ba)	1000 ppm
Selenium (Se)	500 ppm
Chromium (Cr)	60 ppm

Paper & Wood

Restricted substance	Limit
Formaldehyde	150 ppm
Metals, Total Amount	
Cadmium (Cd)	Sum ≤ 100 ppm
Lead (Pb)	
Mercury (Hg)	
Chromium VI (Cr ⁶⁺)	

¹⁰ Decorative items are items that are not needed for a specific function, for example jewellery.

¹¹ Functional items are those needed for a specific function, for example belt buckles, buttons, zipper and rivets used to strengthen seams.

¹² Functional items are items needed for a specific function, for example belt buckles, buttons, zippers and rivets used to strengthen seams.

Restricted substance	Limit
Perfluoro Compounds	
Perfluorooctane Sulfonate (PFOS) and PFOS related substances	1 µg/m ²
Perfluorooctanoic Acid (PFOA)	1 µg/m ²
Phenols	
Pentachlorophenol (PCP) and its salts and esters	Not detected
Polyvinylchloride (PVC) And similar chlorinated polymers, e.g. Polyvinylidenchloride	Not detected
<i>Valid for Children's Jewellery and Children's Hair Accessories / test acc. to EN. 71:3</i>	
Antimony (Sb)	60 ppm
Arsenic (As)	25 ppm
Barium (Ba)	1000 ppm
Selenium (Se)	500 ppm
Chromium (Cr)	60 ppm

Fusing, Padding, Feather & Down

Restricted substance	Limit
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP)	
Nonylphenol Ethoxylates (NPE)	100 ppm
Octylphenol Ethoxylates (OPE)	100 ppm
Nonylphenol (NP)	Not detected
Octylphenol (OP)	Not detected
Cationic Surfactants*	Not detected, sum of listed surfactants
Feather and Down	
Products filled with down and/or feathers	
Oxygen index number ¹³	20
Mesophil aerobic bacteria count	<1 000 000 CFU/g
Faecal streptococci count	<100 CFU/g
Sulphite reducing clostridium count	<100 CFU/g
Presence of salmonella	Absent in 20 g

¹³ If the oxygen index number is ≤ 20, no further analysis of the microbiological state is necessary.

Restricted substance	Limit
Flame Retardants* ¹⁴	Not detected
Formaldehyde	
Products for children aged 0-3 years, incl. bed linen (e.g. 50-98 cl)	$(A-A_0) < 0.05$ ¹⁵
Products for children above 3 years (e.g. 104-170cl) and products for adults with direct skin contact, incl. bed linen	75 ppm
Products for adults without direct skin contact (e.g. outer wear, curtains)	300 ppm
Isocyanates*	Not detected, sum of listed isocyanates
Organotin Compounds*	
Dibutyltin (DBT)	1 ppm
Diocetyl tin (DOT)	1 ppm
Sum of other listed organotins	Not detected
Sum of other not listed tri-substituted organotins	1 ppm
Phthalates*	500 ppm per phthalate The sum of phthalates \leq 1000 ppm
<i>Valid for Children's Jewellery and Children's Hair Accessories / test acc. to EN. 71:3</i>	
Antimony (Sb)	60 ppm
Arsenic (As)	25 ppm
Barium (Ba)	1000 ppm
Selenium (Se)	500 ppm
Chromium (Cr)	60 ppm

Glass & Crystal

For children (0-14 years): Glass or Crystal may not be used in baby's and children's wear according to the " H&M Safety Requirements for baby's and children's wear size 44-170 cl "
For adults: Glass or Crystal that exposes humans to unsafe amounts of Lead (Pb), considering worst case scenario, i.e. if swallowed, may not be used.

¹⁴ Supplier must always get an approval from H&M before using any flame retardant at all, even if it is not listed in Appendix A. No flame retardants are allowed on babies' and children's products.

¹⁵ Where A is the absorbance of the sample and A₀ is the absorbance of the zero-sample, both measured according to test method.

Additional Requirements – all Material

Requirement/Restricted substance	Limit/Requirement
Anti bacterial treatment in the finished product	Supplier must get an approval from H&M before using anti bacterial treatment, even if it is not listed in Appendix A.
Dimethylfumarate (DMFu)	Not detected
Discolouration	No change in colour caused by chemicals
Mineral Oils	Mineral oils with a kinematic viscosity below 7 cSt (40°C) are not allowed
Mould	Spores and mycelia of mould not detected
Odour	Grade 2 - not unpleasant
REACH SVHC Check the ECHA website for the updated list ¹⁶	Substances listed on the Candidate List of Substances of Very High Concern (SVHC) shall not be present in the finished product. Non- intended presence which is technically unavoidable is permitted below 1000 ppm, except if lower limit applies as per other parts of this document.

Recycled Material

For recycled materials¹⁷, the restrictions are the same as for other materials, with below mentioned exceptions. These exceptions are only valid for orders where H&M explicitly specify on the product that recycled material is used.

Restricted substance	Details of exception
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP) *	Provided that no additional APEO has been used after the collection of the waste, the APEO-restriction does not apply.
Cationic Surfactants*	Provided that no additional banned cationic surfactants have been used after the collection of the waste, the restriction about cationic surfactants does not apply.
Metals, Total Amount	
Chromium (Cr)	Provided that no additional Chromium dyes have been used after the collection of the waste, the restriction about total chromium does not apply. The restriction for extractable Chromium applies, regardless of waste type.

¹⁶ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

¹⁷ Recycled materials is both pre- and post-consumer waste defined as follows:

Pre-consumer waste: The reintroduction of manufacturing scrap, such as waste from textile production, back into the yarn manufacturing process.

Post-consumer waste: A waste produced by the end consumer of a material stream such as used PET bottles or worn out garments.

Restricted Substances in Production

If a group of substances is marked with an asterisk* in the table below each included substance is specified in Appendix A.

Requirement/Restricted substance	Limit/Requirement
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP) *	Usage ban
Chlorinated Bleaching Agents	Usage ban Finishing treatments with chlorinated bleaching agents can be used in denim production only.
Glues	
Solvent based systems shall be exchanged to water based systems. ¹⁸	
Organic Solvents In glues, spot removers, paints, lacquers etc.	Usage ban
Benzene (Benzol)	
1,4-Butanediol	
Dimethylacetamide (DMAC)	
Ethylene glycol monoethyl ether	
n-Hexane	
4,4'methylenebis(2-chloraniline) (MOCA)	
Methylene chloride	
Phenol	
Tetrachloroethylene (PERC)	
Tetrachloromethane	
Trichloroethylene (TRIS)	
Dimethylformamide (DMF)	
Toluene (Toluol)	Usage ban in glues
Sandblasting	
Sandblasting is not allowed ¹⁹	

¹⁸ Supplier must always get an approval from H&M before using any non-water based systems.

¹⁹ If sandblasting is performed for other customers the abrasive material must contain less than 1% crystalline silica, i.e. quartz, trydimite and christobalite.

Appendix A - Restricted Substances and CAS no.

This is an overview of the restricted substances with known CAS numbers. Substance groups marked with an asterisk * in the restriction are specified here.

Restricted substances in Apparel/Accessories/Footwear/Interior

Alkylphenol Ethoxylates / Alkylphenols (APEO/AP)	
Name	CAS no.
Nonylphenol Ethoxylates (NPE)	Various
Octylphenol Ethoxylates (OPE)	Various
Nonylphenol (NP)	25154-52-3
Octylphenol (OP)	27193-28-8

Azo Dyes & Pigments	
Name	CAS no.
4-Aminodiphenyl	92-67-1
Benzidine	92-87-5
4-Chloro-o-toluidine	95-69-2
2-Naphthylamine	91-59-8
o-Aminoazotoluene	97-56-3
2-Amino-4-nitrotoluene	99-55-8
2,4-Diaminoanisole	615-05-4
4,4'-Diaminodiphenylmethane	101-77-9
3,3'-Dichlorobenzidine	91-94-1
3,3'-Dimethoxybenzidine (o-Dianisidine)	119-90-4
3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0
p-Chloroaniline	106-47-8
p-Cresidine	120-71-8
4,4'-Methylene-bis-(2-chloroaniline)	101-14-4
4,4'-Oxydianiline	101-80-4
4,4'-Thiodianiline	139-65-1
2,4-Toluenediamine	95-80-7
o-Toluidine	95-53-4
2,4,5-Trimethylaniline	137-17-7
o-Anisidine	90-04-0
p-Aminoazobenzene	60-09-3
2,4-Xylidine	95-68-1
2,6-Xylidine	87-62-7

Bisphenol-A (BPA)	
Name	CAS no.
BPA	80-05-7

Cationic Surfactants	
Name	CAS no.
Distearyldimethyl ammoniumchloride (DSDMAC)	107-64-2
Ditallowdimethyl ammoniumchloride (DTDMAC)	68783-78-8
Dihydrogenated tallowdimethyl ammoniumchloride (DHTDMAC)	61789-80-8

Chlorinated Aromatic Hydrocarbons	
Name	CAS no.
Chlorobenzenes	Various
Chloronaphthalenes	Various
Chlorotoluenes	Various
Chloroxylenes	Various

Chloroparaffins	
Name	CAS no.
Short chained (SCCPs) C10-C13	85535-84-8
Medium chained (MCCPs) C14-C17	85535-85-9

Chromium VI (Cr⁶⁺)	
Name	CAS no.
Cr ⁶⁺	18540-29-9

Dimethylformamide (DMF)	
Name	CAS no.
Dimethylformamide (DMF)	68-12-2

Dimethylfumarate (DMFu)	
Name	CAS no.
Dimethylfumarate (DMFu)	624-49-7

Disperse Dyes		
Name	CI NO	CAS no.
Disperse Blue 1	64 500	2475-45-8
Disperse Blue 3	61 505	2475-46-9
Disperse Blue 7	62 500	3179-90-6
Disperse Blue 26	63 305	3860-63-7
Disperse Blue 35		12222-75-2
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 Red 1	11 110	2872-52-8
Disperse Red 11	62 015	2872-48-2
Disperse Red 17	11 210	3179-89-3
Disperse Orange 1	11 080	2581-69-3
Disperse Orange 3	11 005	730-40-5
Disperse Orange 11	60 700	82-28-0
Disperse Orange 37	11 132	12223-33-5
Disperse Orange 76 (previously designated Orange 37)		51811-42-8
Disperse Orange 149		85136-74-9
Disperse Yellow 1	10 345	119-15-3
Disperse Yellow 3	11 855	2832-40-8
Disperse Yellow 9	10 375	6373-73-5
Disperse Yellow 23	26 070	6250-22-3
Disperse Yellow 39		12236-29-2
Disperse Yellow 49		54824-37-2

Flame Retardants	
Name	CAS no.
Tris(2,3-dibromopropyl)phosphate (TRIS)	126-72-7
Bis(2,3-dibromopropyl)phosphate	5412-25-9
Tris-(aziridinyl)-phosphineoxide (TEPA)	5455-55-1
Polybrominated Diphenyl Ethers (PBDE)	Various
Tetrabromobisphenol A (TBBP A)	79-94-7
Polybrominated Biphenyls (PBB)	Various
Tri-o-cresyl phosphate	78-30-8

Flame Retardants	
Name	CAS no.
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8
Hexabromocyclododecane	3194-55-6
2,2-Bis(bromomethyl)-1,3-propanediol	3296-90-0
Tris(1,3-dichloroisopropyl)phosphate (TDCP)	13674-87-8
Triphenyl phosphate (TPhP)	115-86-6

Formaldehyde	
Name	CAS no.
Formaldehyde	50-00-0

Isocyanates	
Name	CAS no.
Diphenylmethane diisocyanate (MDI)	101-68-8
Hexamethylene diisocyanate (HMDI)	822-06-0
Isophorone diisocyanate (IPDI)	4098-71-9
Tetramethylxylene diisocyanate (TMXDI)	2778-42-9
2,4-Toluene diisocyanate (2,4 TDI)	584-84-9
2,6-Toluene diisocyanate (2,6 TDI)	91-08-7

Metals	
Name	CAS no.
Antimony (Sb)	7440-36-0
Arsenic (As)	7440-38-2
Cadmium (Cd)	7440-43-9
Chromium (Cr)	7440-47-3
Cobalt (Co)	7440-48-4
Copper (Cu)	7440-50-8
Lead (Pb)	7439-92-1
Mercury (Hg)	7439-97-6
Nickel (Ni)	7440-02-0

Octamethylcyclotetrasiloxane	
Name	CAS no.
Octamethylcyclotetrasiloxane	556-67-2

Organotin Compounds	
Name	CAS no.
Dibutyltin (DBT)	1002-53-5
Diocetyl tin (DOT)	-
Tributyltin (TBT)	56573-85-4
Tricyclohexyltin (TCyHT)	6056-50-4
Triocetyl tin (TOT)	250252-89-2
Triphenyltin (TPhT)	668-34-8
Tripropyltin (TPT)	-
Other tri-substituted organotins	Various

Other Dyes		
Name	CI NO	CAS no.
Acid Red 26	16 150	3761-53-3
Basic Red 9	42 500	569-61-9
Basic Violet 14	45 510	632-99-5
Direct Black 38	30 235	1937-37-7
Direct Blue 6	22 610	2602-46-2
Direct Brown 95	30 145	16071-86-6
Direct Red 28	22 120	573-58-0

Other Dyes		
Name	CI NO	CAS no.
Solvent Yellow 1	11 000	60-09-3
Solvent Yellow 2	11 020	60-11-7
Solvent Yellow 3	11 160	97-56-3
p-Phenylenediamine	76 060	106-50-3

Perfluoro Compounds	
Name	CAS no.
Perfluorooctane Sulfonate (PFOS) and PFOS related substances	Various
Perfluorooctanoic Acid (PFOA)	335-67-1

Pesticides	
Name	CAS no.
Aldrine	309-00-2
Captafol	2425-06-1
Chlordane	57-74-9
Chlordecone (Kepon)	143-50-0
Chlordimerform	6164-98-3
Chlorobenzilate	510-15-6
DDD	72-54-8
DDE	72-55-9
DDT	50-29-3
Dibromochloropropane (DBCP)	96-12-08
Dieldrine	60-57-1
Dinoseb	88-85-7
DTTB-(Timiperone)	57648-21-2
Endrine	72-20-8
Endosulphane	115-29-7, 33213-65-9
Ethylene dibromide	106-93-4
Heptachlor	76-44-8
Heptachloroepoxide	1024-57-3
Hexachlorobenzene	118-74-1
α -Hexachlorocyclohexane	319-84-6
β -Hexachlorocyclohexane	319-85-7
δ -Hexachlorocyclohexane	319-86-8
Lindane (γ -Hexachlorocyclohexane)	58-89-9
Isodrin	465-73-6
Kelevane	4234-79-1
Metamidophos	10265-92-6
Methoxychlor	72-43-5
Mirex	2385-85-5
Monocrotophos	6923-22-4
Monomethyldibromodiphenylmethane	99688-47-8
Monomethyldichlorodiphenylmethane	-
Monomethyltetrachlorodiphenylmethane	76253-60-6
Parathion	56-38-2
Parathion-methyl	298-00-0
Perthane (Ethylane)	72-56-0
Phosphamidone	13171-21-6
Quintozene	82-68-8
Strobane	8001-50-1
Telodrin (Isobenzan)	297-78-9
Toxaphene (Camphechlorine)	8001-35-2
Halogenated biphenyls with the formula $C_{12}H_nX_{10-n}$ x =halogen, $n=1,2,\dots,9$	Various
Halogenated terphenyls with the formula $C_{18}H_nX_{14-n}$ x =halogen, $n=1,2,\dots,13$	Various
Halogenated naphthalenes with the formula $C_{10}H_nX_{8-n}$ x =halogen, $n=1,2,\dots,7$	Various
2-(2,4,5-Trichlorophenoxy) propionic acid and its salts	Various

Pesticides	
Name	CAS no.
and 2-(2,4,5-Trichlorophenoxy) propionyl compounds (2,4-D)	
2,4,5-Trichlorophenoxyacetic acid and its salts and 2,4,5-Trichlorophenoxyacetyl compounds (2,4,5-T)	Various

Phenols	
Name	CAS no.
Pentachlorophenol (PCP) and its salts and esters	87-86-5
Tetrachlorophenol (TeCP) and its salts and esters	58-90-2, 25167-83-3
o-Phenylphenol (OPP)	90-43-7

Phthalates	
Name	CAS no.
Di-isononyl phthalate (DINP)	28553-12-0
Di(ethylhexyl) phthalate (DEHP)	117-81-7
Di-n-octyl phthalate (DNOP)	117-84-0
Di-iso-decyl phthalate (DIDP)	26761-40-0
Butyl benzyl phthalate (BBP)	85-68-7
Dibutyl phthalate (DBP)	84-74-2
All other phthalates (all other esters of o-phthalic acid)	Various

Polyaromatic Hydrocarbons (PAH)	
Name	CAS no.
Benzo(a)pyrene	50-32-8
Benzo(e)pyrene	192-97-2
Benzo(a)anthracene	56-55-3
Chrysene	218-01-9
Benzo(b)fluoranthene	205-99-2
Benzo(j)fluoranthene	205-82-3
Benzo(k)fluoranthene	207-08-9
Dibenzo(a,h)anthracene	53-70-3
Naphthalene	91-20-3
Acenaphthylene	208-96-8
Acenaphthene	83-32-9
Fluorene	86-73-7
Phenanthrene	85-01-8
Anthracene	120-12-7
Fluoranthene	206-44-0
Pyrene	129-00-0
Benzo(g,h,i)perylene	191-24-2
Indeno(1,2,3-c,d)pyrene	193-39-5

Polychlorinated Compounds	
Name	CAS no.
Polychlorinated Biphenyls (PCB)	1336-36-3
Polychlorinated Triphenyls (PCT)	61788-33-8

Polyvinylchloride (PVC)	
Name	CAS no.
Polyvinylchloride (PVC)	9002-86-2
Polyvinylidenchloride	9002-85-1

Triclosan	
Name	CAS no.
Triclosan	3380-34-5

Restricted Substances in Production

Restricted Substance	
Name	CAS no.
<i>Organic Solvents:</i>	
Benzene (Benzol)	71-43-2
1,4-Butanediol	110-63-4
Dimethylacetamide (DMAC)	127-19-5
Dimethylformamide (DMF)	68-12-2
Ethylene glycol monoethyl ether	110-80-5
n-Hexane	110-54-3
4,4'methylenebis(2-chloraniline) (MOCA)	101-14-4
Methylene chloride	75-09-2
Phenol	108-95-2
Tetrachloroethylene (PERC)	127-18-4
Tetrachloromethane	56-23-5
Trichloroethylene (TRIS)	79-01-6
Toluene (Toluol)	108-88-3
<i>Alkylphenol Ethoxylates / Alkylphenols (APEO/AP):</i>	
Nonylphenol Ethoxylates (NPE)	Various
Octylphenol Ethoxylates (OPE)	Various
Nonylphenol (NP)	25154-52-3
Octylphenol (OP)	27193-28-8

Appendix B - Test Methods

B.1. Apparel/Accessories/Footwear/Interior

Restricted Substance	Test Method	Reporting Limit
APEO	Textiles, leather: Methanol/ ACN extraction followed by LC-MS	50 mg/kg
	Plastic, prints: THF/ACN extraction followed by LC-MS	50 mg/kg
AP	Textiles, leather: Methanol/ACN extraction followed by GC/MS	5 mg/kg
	Plastic, prints: THF/ACN extraction followed by GC-MS	5 mg/kg
Bisphenol-A	Solvent extraction and analysis by GC-MS	0.2 mg/kg
Cationic Surfactants	Methanol extraction and analysis by LC-MS	10 mg/kg
Chlorinated Aromatic Hydrocarbons	Draft DIN 54232: 2007-07 Solvent extraction followed by GC-MS analysis	0.2 mg/kg
Chloroparaffins (SCCP and MCCP)	N-hexane extraction, ultra sound (40C, 30min) and analysis by GC-MS using NCI (Negative Chemical Ionization)	100 mg/kg
Chromium VI (Cr ⁶⁺)	Leather: DIN EN 17075: 2008-02 Aging test: Draft CEN/TC 309 WG 2N 90: 2007-10	3 mg/kg
	Paper: Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and ICP-MS analysis, confirmation analysis by CEN/TS 14495	3 mg/kg
Dimethylformamide	Ultrasound extraction using ethylacetate followed by GC-MS analysis	10 mg/kg
Dimethylfumarate	DIN and CEN Draft BVCPS Germany Solvent extraction, GC/MS analysis	0.03 mg/kg
Dyes		
Azo Dyes & Pigments	Textiles in general: EN 14362-1:2003	10 mg/kg
	Polyester textiles: EN 14362-2:2003	10 mg/kg
	Leather: ISO/DIS 17234-1 ISO/DIS 17234-2	10 mg/kg
	Detection of p-Aminoazobenzene: LFBG B 82.02-9	10 mg/kg
Disperse Dyes	DIN 54231: 2005-11 BVL B 82.02-10: 2007-03	1 mg/l

Restricted Substance	Test Method	Reporting Limit
Other Dyes	DIN 54231 BVL B 82.02-10: 2007-03 Except for p-phenylenediamine: Methanol extraction and analysis by GC-MS	1-5 mg/l
Flame Retardants	TRIS, Bis(2,3-dibromopropyl) phosphate: Methanol extraction and analysis with GC-MS	10 mg/kg
	TEPA: Potassium Hydroxide digestion followed by GC-MS Headspace analysis of Ethyleneimine	10 mg/kg
	PBDEs, TBBP A: Acetonitril extraction and analysis by LC-DAD-MS and confirmation with GC-MS	10 mg/kg 10 mg/kg
	PBBs, Tri-o-cresyl phosphate, TCEP, Hexabromocyclododecane, 2,2-Bis(bromomethyl)-1,3-propanediol, TDCP, TPhP: Methanol extraction and analysis by GC-MS	10 mg/kg (GC)
Formaldehyde	Textile, non-woven, prints: Products for children 0-3 years, incl. bed linen: JIS L 1041-1983, Method A	$(A-A_0) < 0,02^{20}$ (5 mg/kg)
	Textile, non-woven, prints: Products for children above 3 years and products for adults with direct skin contact incl. bed linen: ISO 14184-1	16 mg/kg
	Leather: ISO 17226-2	20 mg/kg
	Paper: EN 645 and EN 1541	20 mg/kg
Isocyanates	ISO 10283	3 mg/kg
Metals, Extractable Amount	Draft DIN 5433-3 Extractable with artificial sweat solution by ISO 105-E04 Metal content by ICP-MS analysis	Reporting limit: 0.1 mg/kg Except Hg/Cd: 0.02 mg/kg
	Nickel: Nickel release by EN 1811. Abrasion of coated items by EN 12472:2005 + A1:2009	0.05 µg/cm ² /week
Metals, Total Metal	Total metal content by microwave digestion with HNO ₃ /H ₂ O ₂ and ICP-MS analysis	Cd, Pb,Cr,Sb, As: 1 mg/kg Hg: 0.1 mg/kg
	Lead in paint and surface coating: CPSIA Section 101 16 CFR 1303: CPSIA Standard Operating Procedure for Determining Lead in Paint	
Mineral Oils	Not applicable , check physical data info on the MSDS	
Mould Test	1. Smell test SNV 195651 2. Light microscope analysis for suspicious spots 3. Staining with lactophenol blue followed by microscope analysis	1. Suspicious smell/ no suspicious smell 2. Little spots 3. Spores and mycelia of mould detected/not detected

²⁰ Where A is the absorbance of the sample and A₀ is the absorbance of the zero-sample, both measured according to test method.

Restricted Substance	Test Method	Reporting Limit
Odour	Smell test done according to: SNV 195 651	1. no odour 2. slight odour, not unpleasant 3. endurable odour, slightly unpleasant 4. pestering odour, unpleasant 5. insufferable odour, very unpleasant
Octamethyl cyclotetrasiloxane	Contact H&M	50 mg/kg
Organotin Compounds	Ethanol extraction, derivatisation and analysis by GC-MS	0.05 mg/kg
Organic Solvents	Extraction with ethylacetate followed by GC-MS screening and/or headspace-GC/MS analysis	1 mg/kg
Perfluoro Compounds	Draft CEN/TS 15968 Methanol extraction and analysis by LC/MS or LC/MS/MS	1 µg/m ²
Pesticides	U.S. EPA Method 8081a, 8151a, 8141a & 8270 c or Analysis of organochloro pesticides by GC-MS or LC-MS	0.2 mg/kg
pH	ISO 3071-1980 Specify in the test report which solution (water or KCl) that has been used.	
Phenols	Textile, plastics, paper: BVL B 82.02-08 (modified) PCP, TeCP: Potassium Hydroxide extraction direct LC-MS analysis	PCP: 0.05 mg/kg TeCP: 0.05 mg/kg
	OPP: BVL B 82.02-08 (modified) Acetone extraction, derivatisation followed by GC-MS analysis	5 mg/kg
	Leather: BVL B 82.02-08 (modified) PCP, TeCP, OPP: Acetone extraction, derivatisation followed by GC-MS analysis	PCP: 0.05 mg/kg TeCP: 0.05 mg/kg
Phthalates	Textile articles (surface coating): ISO 15777	Depends on the matrix
	All other materials: Extraction with THF/ACN and analysis by HPLC-DAD-MS, confirmation test for DBP using GC-MS	50 mg/kg
PCB, PCT	Solvent extraction and analysis by GC-MS	0.1 mg/kg 0.5 mg/kg
Polyaromatic Hydrocarbons (PAH)	ZEK 01_02-08 Extraction with toluene followed by GC-MS analysis	0.2 mg/kg
PVC	Beilsteins test and infrared spectroscopy (IR) with or without chemical separation	qualitative
Triclosan	Solvent extraction, derivatisation followed by GC-MS analysis	10 mg/kg

Feather and down		
Oxygen index number	EN 1162	20 If the oxygen index number is ≤ 20 no further analysis of the microbiological state is necessary.
Mesophil aerobic bacteria count	EN 1884	<1 000 000 CFU/g
Faecal streptococci count		<100 CFU/g
Sulphite reducing clostridium count		<100 CFU/g
Presence of salmonella		Absent in 20 g