



H&M GROUP CHEMICAL RESTRICTIONS 2020

RESTRICTED SUBSTANCES LIST (RSL)

Hardline

Global Product Compliance Department Valid for all brands in the H&M Group.



Table of Contents

General.....	3
Commitment	3
Examples	4
Definitions.....	5
Abbreviations.....	5
Requirements – All Materials.....	6
Surface coating, Surface treatment & Adhesives	10
Metal.....	11
Plastic & Rubber including Foam	12
Paper & Board.....	14
Bamboo, Wood, Wood Based Materials and Straw	15
Terracotta, Enamel, Concrete, Soapstone, Marble, Ceramic & Porcelain.....	15
Glass & Crystal	Error! Bookmark not defined.

General

H&M has established H&M Group Chemical Restrictions for all products due to concern for the health of customers as well as for the environment and working conditions. H&M Group Chemical Restrictions consist of several parts with regard to product types. This document concerns Hardline and requirements are divided into materials. Each limit in H&M Group Chemical Restrictions is valid for homogeneous parts of the concerned product. Test methods are specified but in case of undated test method, the latest version is valid. When the product has textile and leather parts, it must also comply with *H&M Group Chemical Restrictions Apparel/Accessories/Footwear/Home Interior Textile Products*¹. If the product is sold in a packaging, it must also comply with *H&M Group Chemical Restrictions non-commercial goods (NCG), construction and packaging*¹.

Hardline, which in its design suggests a function as food contact products, e.g. candleholder shaped as a coffee cup, has to comply with *H&M Group Chemical Restrictions Food contact products* or has to be labelled with "Not for food - Decorative use only".

The official and valid version of this document is in English. Any translation of the document is prepared for reference only. H&M accepts no liability for any mistakes done in the translation.

Commitment

By accepting H&M Standard Purchase Conditions, the Supplier commits to comply with H&M Group Chemical Restrictions. It is the Supplier's responsibility to assure compliance with H&M Group Chemical Restrictions and to inform all their upstream suppliers and subcontractors about the content of H&M Group Chemical Restrictions. By accepting H&M Standard Purchase Conditions, each Supplier acknowledges that H&M reserves the right to:

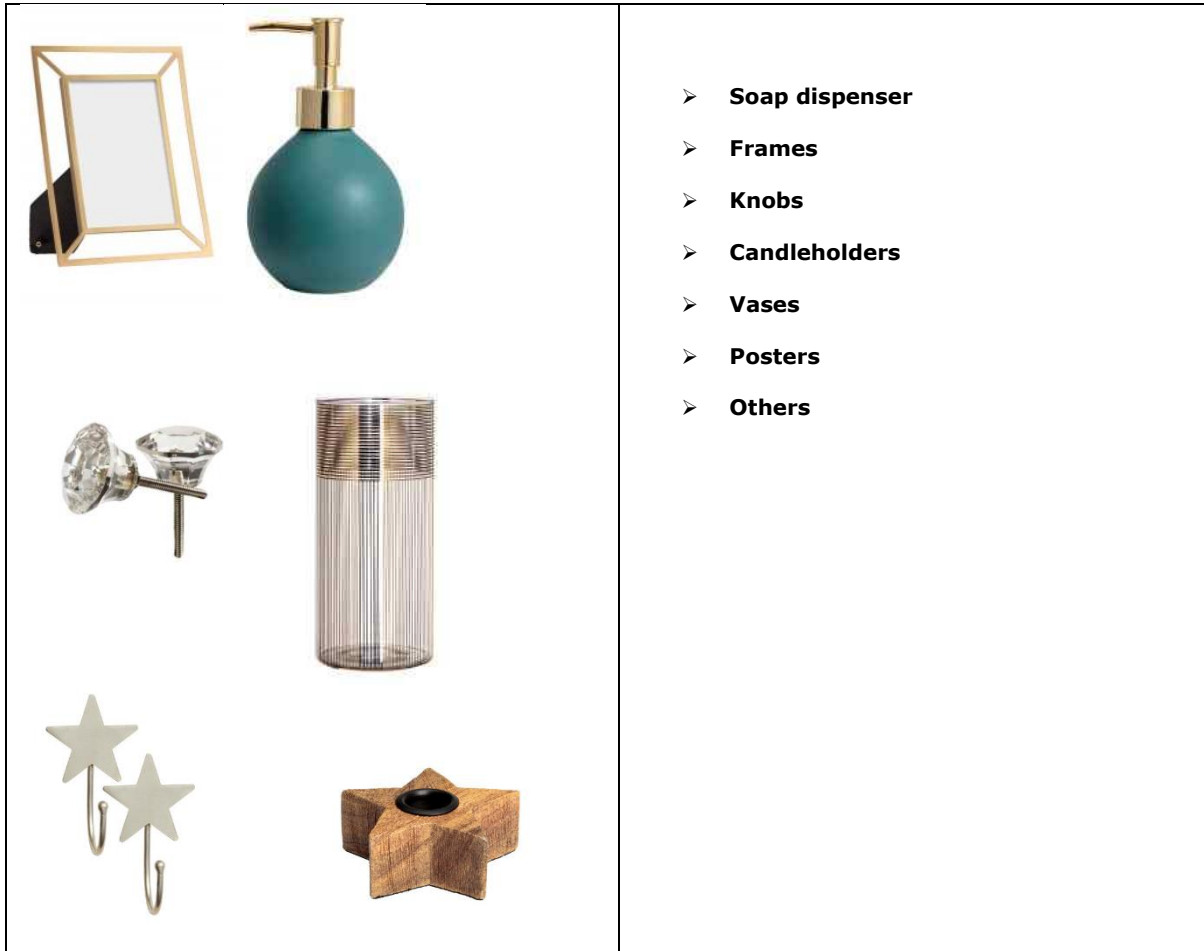
- *Inspect and test any product, any part of production and/or packaging, by any listed or appropriate method, at any time or at any stage of production.*
- *Cancel the Order, or, if the products are already delivered, return the products to the Supplier if the product, production and/or packaging do not correspond to the H&M Group Chemical Restrictions.*
- *Hold the Supplier responsible for any damage caused by the ordered product if the product, production and/or packaging do not correspond to the H&M Group Chemical Restrictions.*
- *Receive the Safety Data Sheets (SDS) for all substances and preparations (dyes, colorants, solvents, chemicals etc.) used in the production of a specific Order.*

In the case of contradictory test results, H&M test results will prevail.

¹ Publicly available

Examples

All details on your product must comply with H&M Chemical Restrictions. The examples do not claim to be complete.



Definitions

Concentration Limit	The substance must not be present in the product at concentrations above this limit.
Not Detected	The substance must not be present in the finished product at concentrations above the analytical reporting limit.
Usage ban	The substance must not be used in production and it must not be added to the product. ²
Homogeneous	Uniform composition throughout, i.e. a material that cannot be mechanically disjointed into different materials.
Hardline	All hard interior/decoration products like e.g. candle holder, pot, vase, soap dispenser, hook, etc. Also other products like tents, pen holder, tape holder.
Substances defined as hazardous due to intrinsic properties.	Persistent, bioaccumulative and toxic (PBT), very persistent and very bioaccumulative (vPvB), carcinogenic, mutagenic and toxic for reproduction (CMR), endocrine disruptors (ED) or equivalent concern.

Abbreviations

CAS no	Chemical Abstracts Service number, an identification number for chemicals in this database.
CFR	Code of Federal Regulations
ppm	Parts per million, which is the same as mg/kg.
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
SVHC	Substances of Very High Concern

² Impurities at low concentrations of these substances may be accepted only if technically unavoidable due to e.g. raw materials, formation in the manufacturing process, storage or packaging.

Requirements – All Materials

All materials				
Requirement	CAS no	Limit/ Requirement	Test method	Reporting limit
Flame retardants³				
Tris(2,3-dibromopropyl)phosphate (TRIS)	126-72-7	Not detected	Methanol extraction and analysis with LC-MS	5 ppm
Bis(2,3-dibromopropyl)phosphate	5412-25-9			
2,2-Bis(bromomethyl)-1,3-propanediol	3296-90-0			
Hexabromocyclododecane (HBCDD)	3194-55-6 25637-99-4, 134237-50-6, 134237-51-7, 134237-52-8			
Decabromodiphenyl ether (DecaBDE)	1163-19-5	Not detected	Toluene extraction followed by GC-MS analysis	5 ppm
Octabromodiphenyl ether (OctaBDE)	32536-52-0			
Pentabromodiphenyl ether (PentaBDE)	32534-81-9			
Tris-(aziridinyl)-phosphine oxide (TEPA)	545-55-1	Not detected	Potassium Hydroxide digestion followed by GC-MS Headspace analysis of Ethyleneimine	5 ppm
Tetrabromobisphenol A (TBBP A)	79-94-7	Not detected	Acetonitrile extraction and analysis by LC-DAD-MS and confirmation with GC-MS	5 ppm
Polybrominated Diphenyl Ethers (PBDE)	Various	Not detected	Methanol extraction and analysis by GC-MS and LC-MS	5 ppm
Polybrominated Biphenyls (PBB)	Various			
Tri-o-cresyl phosphate	78-30-8			
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8			
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			

³ H&M Global Product Compliance Department must approve the usage of flame retardant on any kind of product. Contact your local production office.

All materials				
Requirement	CAS no	Limit/ Requirement	Test method	Reporting limit
Lead (Pb)	7439-92-1	90 ppm ⁴	Metal Products: CPSC-CH-E1001-08.3	1 ppm
			Non-metal Products: CPSC-CH-E1002-08.3	1 ppm
Mold		Spores and mycelia of mold not detected	1. Smell test SNV 195 651 2. Light microscope analysis for suspicious spots 3. Staining with lactophenol blue followed by microscope analysis	1. Suspicious smell 2. Little spots 3. Spores and mycelia of mold detected/not detected
Odor		Grade 2 – not unpleasant	Smell test SNV 195 651	1. No odor 2. Slight odor, not unpleasant 3. Endurable odor, slightly unpleasant 4. Pestering odor, unpleasant 5. Insufferable odor, very unpleasant
Perfluorinated Compounds (PFCs)⁵				
Perfluorobutane Sulfonate (PFBS)	29420-49-3	Not detected	For FTOHs: Solvent extraction according to Draft CEN/TS 15968 and analysis by Gas Chromatograph Mass Spectrometer (GC-MS-MS) For Others: Draft CEN/TS 15968 Solvent extraction and analysis by Liquid Chromatograph Tandem Mass Spectrometer (LC-MS-MS)	For FTOHs: 10 µg/m ²
Perfluorohexane Sulfonate (PFHxS)	3871-99-6			For Others: 1 µg/m ²
Perfluoroheptane Sulfonate (PFHpS)	375-92-8			
Perfluorooctane Sulfonate (PFOS)	56773-42-3			
Perfluorodecane Sulfonate (PFDS)	126105-34-8			
Perfluorooctane Sulfonamide (PFOSA) 1H,1H,2H,2H H4PFOS; 6:2	754-91-6			
Perfluorobutane Acid (PFBA)	375-22-4			
Perfluoropentane Acid (PFPA)	2706-90-3			
Perfluorohexane Acid (PFHxA)	307-24-4			
Perfluoroheptane Acid (PFHpA)	375-85-9			

⁴ Other limits apply if otherwise stated in this document for respective material.

⁵ A list of approved alternatives for water repellent treatment can be found at H&M Group Supplier Portal. Any other alternative must be approved by H&M Global Product Compliance Department before using. Impurities of Perfluorinated Compounds (PFCs) in functional finishes are accepted if technically unavoidable in the manufacturing process.

All materials				
Requirement	CAS no	Limit/ Requirement	Test method	Reporting limit
Perfluorooctanoic Acid (PFOA)	335-67-1			
Perfluorononane Acid (PFNA)	375-95-1			
Perfluorodecane Acid (PFDA)	335-76-2			
Perfluoroundecanoic Acid (PFUnA)	4234-23-5			
Perfluorododecanoic Acid (PFDoA)	307-55-1			
Perfluorotridecanoic Acid (PFTrA)	72629-94-8			
Perfluorotetradecanoic Acid (PFTeA)	376-06-7			
Perfluoro-3,7-dimethyloctanoic Acid (PF-3,7-DMOA)	172155-07-6			
7H-Dodecanefluoroheptane Acid (HPFHpA)	-			
2H,2H-perfluorodecane Acid (H2PFDA)	-			
2H,2H,3H,3H-Perfluoroundecanoic Acid (H4PFUnA)	34598-33-9			
1H,1H,2H,2H-Perfluorooctylacrylate (6:2 FTA)	17527-29-6			
1H,1H,2H,2H-Perfluorodecylacrylate (8:2 FTA)	27905-45-9			
1H,1H,2H,2H-Perfluorododecylacrylate (10:2 FTA)	17741-60-5			
1H,1H,2H,2H-Perfluoro-1-hexanol (4:2 FTOH)	2043-47-2			
1H,1H,2H,2H-Perfluoro-1-oktanol (6:2 FTOH)	647-42-7			
1H,1H,2H,2H-Perfluoro-1-decanol (8:2 FTOH)	678-39-7			
1H,1H,2H,2H-Perfluoro-1-dodecanol (10:2 FTOH)	865-86-1			
2-(N-methylperfluoro-FASE 1 octanesulfonamido)-ethanol (MeFOSE)	24448-09-7			
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (EtFOSE)	1691-99-2			
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8			
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2			
All other Perfluorinated or Polyfluorinated compounds (fully or partially fluorinated compounds)	Various			
Polyvinylchloride (PVC)				
and similar chlorinated polymers, e.g.				
Polyvinylchloride (PVC)	9002-86-2	Not detected		Qualitative

All materials				
Requirement	CAS no	Limit/ Requirement	Test method	Reporting limit
Polyvinylidenchloride	9002-85-1		Beilstein's test and infrared spectroscopy (IR) with or without chemical separation	
Polychloroprene	9010-98-4			
Organotin Compounds				
Dibutyltin (DBT)	1002-53-5	1 ppm	CEN ISO/TS 16179	0.05 ppm For High matrix samples (silicone & rubber): 0.5 ppm
Diocetyl tin (DOT)	94410-05-6	1 ppm		
Tributyltin (TBT)	56573-85-4	Sum = Not detected		
Tricyclohexyltin (TCyHT)	6056-50-4			
Triocetyl tin (TOT)	250252-89-2			
Triphenyltin (TPhT)	668-34-8			
Other not listed trisubstituted organotins	Various	Sum < 1 ppm		
Polyaromatic Hydrocarbons (PAH)				
Benzo[a]anthracene	56-55-3	< 1 ppm	AfPS GS 2014:01	0.2 ppm
Benzo[a]pyrene	50-32-8	< 1 ppm		
Benzo[b]fluoranthene	205-99-2	< 1 ppm		
Benzo[e]pyrene	192-97-2	< 1 ppm		
Benzo(g,h,i)perylene	191-24-2	< 1 ppm		
Benzo[j]fluoranthene	205-82-3	< 1 ppm		
Benzo[k]fluoranthene	207-08-9	< 1 ppm		
Chrysene	218-01-9	< 1 ppm		
Dibenzo[a,h]anthracene	53-70-3	< 1 ppm		
Indeno(1,2,3-c,d)pyrene	193-39-5	< 1 ppm		
Acenaphthene	83-32-9	Sum < 10 ppm		
Acenaphthylene	208-96-8			
Anthracene	120-12-7			
Fluoranthene	206-44-0			
Fluorene	86-73-7			
Phenanthrene	85-01-8			
Pyrene	129-00-0			
Naphthalene	91-20-3	< 2 ppm		
Sum of 18 PAH		< 10 ppm		

All materials				
Requirement	CAS no	Limit/Requirement	Test method	Reporting limit
SVHC Check the ECHA website for the updated Candidate List of Substances of Very High Concern for Authorisation ⁶		1000 ppm in each homogenous part of the product, except if lower limit applies as per other parts of this document.	Combined Screening using ICP-MS, GC-MS and LC-TOF	
Substances defined as hazardous due to intrinsic properties Criteria for hazardous as defined in REACH Article 57 ⁷		1000 ppm, except if lower limit applies as per other parts of this document.		

Surface coating, Surface treatment & Adhesives

Surface coating, Surface treatment & Adhesives				
Requirement	CAS no	Limit/Requirement	Test method	Reporting limit
Chromium VI	7440-47-3	Not detected	EN ISO 17075	3 ppm
Chloroparaffins				
Short chained chloroparaffins (SCCPs) C10-C13	85535-84-8	Not detected	ISO 18219 N-hexane extraction, ultrasound (60°C, 60 min) and analysis by GC-MS using NCI (Negative Chemical Ionization)	30 ppm
Formaldehyde Shall not be added to the surface coating of the product or be formed during curing	50-00-0	Usage ban	ISO 14184-1	16 ppm
Isocyanates				
Diphenylmethane diisocyanate (MDI)	101-68-8		ISO 10283	3 ppm

⁶ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

⁷ REACH Regulation (EC) No 1907/2006 <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:02006R1907-20150601&from=EN>

Surface coating, Surface treatment & Adhesives				
Requirement	CAS no	Limit/Requirement	Test method	Reporting limit
Hexamethylene diisocyanate (HMDI)	822-06-0	Not detected, sum of listed isocyanates		
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, Total Amount				
Cadmium (Cd)	7440-43-9	100 ppm	EN 16711-1/EN 14602	1 ppm
Mercury (Hg)	7439-97-6	0.5 ppm		0.1 ppm
Lead (Pb)	7439-92-1	90 ppm	CPSC-CH-E1003-09.1	1 ppm
Phthalates				
Butyl benzyl phthalate (BBP)	85-68-7	500 ppm	CPSC-CH-C1001-09.3	50 ppm
Dibutyl phthalate (DBP)	84-74-2	500 ppm		
Diethyl phthalate (DEP)	84-66-2	500 ppm		
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	500 ppm		
Diisobutyl phthalate (DIBP)	84-69-5	500 ppm		
Diisodecyl phthalate (DIDP)	26761-40-0	500 ppm		
Diisononyl phthalate (DINP)	28553-12-0	500 ppm		
Di-n-hexyl phthalate (DnHP)	84-75-3	500 ppm		
Di-n-octyl phthalate (DnOP)	117-84-0	500 ppm		
All other phthalates (all other esters of o-phthalic acid)	Various	500 ppm		
Sum of phthalates		≤ 1000 ppm		
Triglycidyl isocyanurate (TGIC)	2451-62-9	Powder coating shall not contain hardener.	Self-declaration	

Metal

Metal				
Requirement	CAS no	Limit/Requirement	Test method	Reporting limit
Total metal				

Metal				
Requirement	CAS no	Limit/Requirement	Test method	Reporting limit
Cadmium (Cd)	7440-43-9	100 ppm	EN 16711-1	10 ppm
Lead (Pb):	7439-92-1			10 ppm
Products for adults		300 ppm		
Products for children ⁸		90 ppm		
Mercury (Hg)	7439-97-6	0.5 ppm		0.1 ppm
Nickel (Ni), Extractable Amount				
In metal products or parts of products in direct and prolonged skin contact	7440-02-0	Maximum release: 0.5 µg/cm ² /week	Nickel release by EN 1811+A1 Abrasion of coated items by EN 12472	0.05 µg/cm ² /week

Plastic & Rubber including Foam

Plastic & Rubber including Foam				
Restricted substance	CAS no	Limit/Requirement	Test method	Reporting limit
Bisphenol A in Polycarbonate (PC), Extractable Amount	80-05-7	3 ppm	Extractable Amount: Extraction with artificial sweat solution (ISO 105 E04) and BPA Determination by LC-MS	0.1 ppm
Chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs)	Various	Usage ban	Self declaration	-
Chlorophenols				
Pentachlorophenol (PCP) and its salts and esters	Various, e.g. 87-86-5	Sum < 0.5 ppm	BVL B 82.02-08(modified)/ EN ISO 17070 (modified)	0.05 ppm
Tetrachlorophenol (TeCP) and its salts and esters	Various, e.g. 58-90-2	Sum < 0.5 ppm	KOH extraction direct LC-MS analysis or derivatisation followed by GC-MS analysis	0.05 ppm
Chloroparaffins				
Short chained chloroparaffins (SCCPs) C10-C13	85535-84-8	Not detected	N-hexane extraction, ultrasound (60°C, 60 min) and analysis by GC-MS using NCI (Negative Chemical Ionization) ISO/DIS 18219	30 ppm

⁸ Products for children up to 12 years of age

Plastic & Rubber including Foam				
Restricted substance	CAS no	Limit/Requirement	Test method	Reporting limit
Dimethylformamide (DMFa)	68-12-2	1000 ppm	Ultrasound extraction using ethylacetate followed by GC-MS analysis	10 ppm
Isocyanates				
Diphenylmethane diisocyanate (MDI)	101-68-8	Not detected	ISO 10283	3 ppm
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, Total Amount				
Cadmium (Cd)	7440-43-9	100 ppm	EN 14602 and EN 16711-1	1 ppm
Mercury (Hg)	7439-97-6	0.5 ppm		0.1 ppm
Phthalates				
Butyl benzyl phthalate (BBP)	85-68-7	500 ppm	CPSC-CH-C1001-09.3	50 ppm
Dibutyl phthalate (DBP)	84-74-2	500 ppm		
Diethyl phthalate (DEP)	84-66-2	500 ppm		
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	500 ppm		
Diisobutyl phthalate (DIBP)	84-69-5	500 ppm		
Diisodecyl phthalate (DIDP)	26761-40-0	500 ppm		
Diisononyl phthalate (DINP)	28553-12-0	500 ppm		
Di-n-hexyl phthalate (DnHP)	84-75-3	500 ppm		
Di-n-octyl phthalate (DnOP)	117-84-0	500 ppm		
All other phthalates (all other esters of o-phthalic acid)	Various	500 ppm		
Sum of phthalates		≤ 1000 ppm		
Polychlorinated Biphenyls (PCB)	1336-36-3	The sum < 0.5 ppm	Solvent extraction and analysis by GC-MS	0.1 ppm
Polychlorinated Triphenyls (PCT)	61788-33-8			0.1 ppm

Paper & Board

Paper & Board				
Restricted substance	CAS no	Limit/Requirement	Test method	Reporting limit
Alkylphenol Ethoxylates / Alkylphenols (APEO/AP)				
Nonylphenol Ethoxylates (NPE)	Various	100 ppm	Modified ISO 18254: Methanol extraction followed by LC-MS analysis	20 ppm
Octylphenol Ethoxylates (OPE)	Various	100 ppm		
Nonylphenol (NP)	Various	Not detected	ISO 18254, determination by GC/MS	5 ppm
Octylphenol (OP)	Various	Not detected		
Azo dyes and pigments – releasing following amines				
4-aminodiphenyl	92-67-1	20 ppm per listed amine	ISO 14362-1 (EN ISO 14362-3 determination of 4-aminoazobenzene)	10 ppm
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			
Elemental chlorine bleach		Usage ban	Self declaration	
Formaldehyde	50-00-0	75 ppm	EN 645 and EN 1541	5 ppm
Pentachlorophenol and its salts and esters (PCP)	Various, e.g. 87-86-5	Sum < 0.5 ppm	EN ISO 17070	0.5 ppm

Bamboo, Wood, Wood Based Materials and Straw

Bamboo, Wood, Wood-based materials & Straw				
Restricted substance	CAS no	Limit/Requirement	Test method	Reporting limit
Formaldehyde				
In all wood based products	50-00-0	75 ppm	EN 717-3	20 ppm
Composite wood		Composite wood products ⁹ must comply with TSCA Title IV.	ASTM E1333	-
Lindane	58-89-9	Not detected	U.S. EPA Method 8081a, 8151a, 8141a and 8270c or Analysis of organochloro pesticides by GC-MS or LC-MS	0.05
Pentachlorophenol and its salt and esters (PCP)	Various, e.g. 87-86-5	Sum < 0.5 ppm	EN ISO 17070 (modified)	0.5 ppm
Wood preservatives	-	Cannot be used without approval by H&M group ¹⁰	Self declaration	-

Terracotta, Enamel, Concrete, Soapstone¹¹, Marble¹², Ceramic, Porcelain, Glass & Crystal

Terracotta, Enamel, Concrete, Soapstone, Marble, Ceramic, Porcelain, Glass & Crystal				
Restricted substance	CAS no	Limit/Requirement	Test method	Reporting limit
Cadmium (Cd)	7440-43-9	40 ppm	Total digestion and analyze with ICPAES/ICPMS.	1 ppm
Mercury (Hg)	7439-97-6	2,5 ppm	Total digestion, analysis by ICP-MS. Using HF in silica-based pigments are encountered.	1 ppm
Arsenic (As)	7440-38-2	100 ppm	EN 16711-1, analysis by ICP-MS	

⁹ Hardwood, plywood, particleboard, medium density fiberboard, thin medium density fiberboard (thickness ≤ 8mm), and also furniture and other finished products made with composite wood products

¹⁰ Please contact your local production office.

¹¹ It is important to ascertain the region of mining for soapstone as it can contain asbestos depending on where it originates from.

¹² It is important to ascertain the region of mining for marble as it can contain heavy metals depending on where it originates from.

Version history table

Version	Date	Valid from	Changes made	Page or Chapter
1	January 2019	January 2019	Document adapted to new template	-
2	February 2020	February 2020	Introductory text, Wood formaldehyde release – changed to TSCA Title IV, Lead limits on Plastics and Rubber, and Ceramic, terracotta	3, 12, 15