H&M GROUP CHEMICAL RESTRICTIONS 2024

MRSL and RSL

Textile Products, Accessories, Footwear, Bags and Belts

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

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General

H&M Group Chemical Restrictions consist of several parts regarding different product types; this document concerns Chemical Restrictions for Textile products, Accessories, Footwear, Bags and Belts.

An introduction to and general information about the H&M Group Chemical Restrictions are available in a separate document: *H&M Group Restricted Substance List (RSL) Introduction and Commitment - All Product Types, document ID 00432*. Please read that document and refer to the examples provided there, before proceeding with the product specific restrictions.

Each limit specified in this document is valid for homogeneous parts of the concerned product if not otherwise stated. Test methods are specified when relevant in this document. In case of undated test method, the latest version is valid.

Please note: If other requirements than those listed in H&M Group Chemical Restrictions exist for the same substances and product groups in ZDHC MRSL or AFIRM RSL, the requirements specified in H&M Group Chemical Restrictions take precedence.

Please find more about H&M Group Chemical Management here.

Definitions

Ban	The substance must not be used in production and it must not be added to the product[1].
Concentration limit	The substance must not be present in the product at concentrations above this limit.
Homogeneous	Uniform composition throughout, i.e. a material that cannot be mechanically disjointed into different materials.
Not detected	The substance must not be present in the finished product at concentrations above the analytical reporting limit.
Reporting limit	Describes the level of detection times a safety factor selected by the laboratory that ensures repeatability and reproducibility.
Safety Data Sheet (SDS)	All chemicals used for H&M Group products shall have Safety Data Sheets (SDS) that meet current GHS requirements, please see AFIRM Toolkit Appendix H for guidance.

Abbreviations

CAS no	Chemical Abstracts Service number, identification number for chemicals.
cl	Centilong
Percentage	Part weight by weight, % w/w.
ppm	Parts per million, which is the same as mg/kg.
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
SVHC	Substances of Very High Concern

[1] 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.

1. Chemical Restrictions – Production

For Textile and Leather supply chains, manufacturing shall comply with the *Zero Discharge of Hazardous Chemicals Manufacturing Restricted Substance List 3.1* (ZDHC MRSL 3.1). ZDHC MRSL 3.1 is retrieved here: //mrsl.roadmaptozero.com/.

Compliance to ZDHC MRSL is a Minimum Requirement (MR). Therefore, if the production unit is found to intentionally use chemicals listed on ZDHC MRSL in production process, it will result in MR Violation.

2. Chemical Restrictions – Products

Products within the scope of H&M Group Chemical Restrictions Textile products, Accessories, Footwear, Bags and Belts shall comply with *AFIRM's Restricted Substances List (RSL)*, found at www.afirm-group.com/afirm-rsl/

3. H&M Group – Additional Requirements

Table 1. H&M Group additional requirements.

Substances and/or materials	CAS	Limit/Requirement	Test/Compliance method	Reporting limit
Azo dyes and pigments	Various	20 ppm each	Product testing according to methods specified in AFIRM RSL	5 ppm each
Biocidal compounds and biocidal claims	Various	For products: Biocide-treated articles according to definition in European Biocidal Products Regulation (BPR, Regulation (EU) 528/2012), including biocidal claims "antimicrobial", "antibacterial", "anti-odour", etc. General ban for class of chemicals/treatments used for this function and their claims.	1. Input control. 2. Certain biocidal substances are restricted in ZDHC MRSL and AFIRM RSL; test methods for those are specified there.	-
Bisphenols				
Bisphenol A (BPA)	80-05-7	All materials: 1 ppm total content. Polycarbonate (PC) plastics: 1ppm extractable content	Total content, all materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60 degrees C, analysis with LC/MS (same as AFIRM RSL). BPA, extractable content (only PC): Extraction with artificial sweat solution ISO 105 E04 and LC/MS analysis. Leather: ISO 11936 (same as AFIRM RSL)	1 ppm
Bisphenol B (BPB)	77-40-7	All materials: 200 ppm (sum) 200 ppm (individual) Leather 1000 ppm (sum) 500 ppm (individual)		
Bisphenol S (BPS)	80-09-1			
Bisphenol F (BPF)	620-92-8			
Bisphenol AF (BPAF)	1478-61-1			
Chlorinated bleaching agents	-	In production process: General usage ban. Finishing treatments with chlorinated bleaching agents can only be used in denim production.	Input control.	
Dimethylformamide (DMFa)	68-12-2	For products and in production process: General usage ban. DMFa is also included in ZDHC MRSL 3.1	According to AFIRM RSL and input control. For polyurethane (PU) materials, follow *Verification routine for Better PU*.	5 ppm

Substances and/or materials	CAS	Limit/Requirement	Test/Compliance method	Reporting limit
Flame retardants				
All flame retardants	Various	General ban for chemicals used for this function.	Input control.	5 ppm
Flame retardants in AFIRM RSL	Various	Not detected	Product testing according to methods specified in AFIRM RSL.	
Tri-o-cresyl phosphate	78-30-8	In addition to the flame retardants listed in AFIRM RSL, these substances are also included in H&M Group testing protocol. Not detected		
Triphenyl phosphate (TPhP)	115-86-6			
Tris(1-chloro-2-propyl)phosphate (TCPP)	13674-84-5			
Leather tanned products				
Chromium-free tanned leather	7440-47-3, 18540-29-9	• 100 ppm[2] total chromium • For products for children aged 0-3 years: chromium-free from S3 2020 • 100% of linings/skin contact are chromium-free from S3 2020	According to AFIRM RSL. Total content according to EN ISO 17072-2[2]	
Metal-free tanned leather		500 ppm[3] total metal content	For metal-free and vegetable-tanned leather: Total content according to EN ISO 17072-2[3]	

[2] EN 15987 defines chromium-free tanned leather. At H&M Group a leather containing <100 ppm is considered as chromium-free tanned leather. The standard EN ISO 17072-2 is applicable to determine chromium in chromium-free tanned leathers.

[3] EN 15987 defines metal-free leather (Cr, Al, Ti, Zr, Fe). At H&M Group metal-free leather containing <500 ppm is considered as metal-free leather. The standard EN ISO 17072-2 is applicable to determine the content of tanning metals. EN 15987 defines vegetable-tanned leather. At H&M Group using vegetable tanning agents containing <500 ppm metals (Cr, Al, Ti, Zr, Fe) is considered as vegetable-tanned leather. The standard EN ISO 17072-2 is applicable to determine the content of tanning metals.

Substances and/or materials	CAS	Limit/Requirement	Test/Compliance method	Reporting limit
Nanomaterials Nanomaterial" means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: (a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm; (b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; (c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm[4]	Various	For products: General usage ban.	Input control.	

[4]: European commission recommendation on the definition of nanomaterial (2022/C 229/01), Official Journal of the European Union, 14.06.2022.

Substances and/or materials	CAS	Limit/Requirement	Test/Compliance method	Reporting limit
Per- and Polyfluoroalkyl Substances (PFAS)				
All Per- and Polyfluoroalkyl Substances	Various	Not detected. Usage ban. Certain PFAS are included in the ZDHC MRSL.	1. Total fluorine test method: EN 14582:2016 or ASTM D7359:2018 2. If test 1 shows detections proceed with testing below. Input control.	50 ppm
Per- and Polyfluoroalkyl Substances in AFIRM RSL Appendix A.		Not detected	Product testing according to methods specified in AFIRM RSL.	
Perfluorobutane Sulfonate (PFBS)	29420-49-3	In addition to the PFAS listed in AFIRM RSL Appendix A, these substances are also included in H&M Group testing protocol. For products: not detected.	For FTOH: Extraction: ISO 23702-1; Analysis: GC/MS/MS, GC/MS or LC/MS. All others: ISO 23702-1	1 ppm
Perfluorohexane Sulfonate (PFHxS)	3871-99-6			
Perfluoroheptane Sulfonate (PFHpS)	375-92-8			
Perfluorodecane Sulfonate (PFDS)	335-77-3 or 2806-15-7 or 2806-16-8			
Perfluorobutane Acid (PFBA)	375-22-4			
Perfluoropentane Acid (PFPA)	2706-90-3			
Perfluorohexane Acid (PFHxA)	307-24-4			
Perfluoroheptane Acid (PFHpA)	375-85-9			
7H-dodecanefluoroheptane Acid (HPFHpA)	1546-95-8			
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-Perfluoro-1-hexanol (4:2 FTOH)	2043-47-2			
1H,1H,2H,2H-Perfluoro-1-oktanol (6:2 FTOH)	647-42-7			
Polycarbonate (PC)	80-05-7	Upcoming restriction for Accessories by the end of 2023. The restriction will be extended to FBB, trims, intimates during 2024 and to all product categories by the end of 2025. This restriction applies to both virgin and recycled PC.	Input control.	

Substances and/or materials	CAS	Limit/Requirement	Test/Compliance method	Reporting limit
Polyvinyl chloride (PVC), polychloroprene (e.g. Neoprene) and other similar chlorinated polymers	Various	For products and in production process: General material ban.	Input control.	
Potassium permanganate	7722-64-7	Usage ban		
REACH SVHC **and Substances defined as hazardous due to intrinsic properties Criteria for hazardous as defined in REACH Article 57.**	Various	For products: General restriction of 0.1% (w/w) for all SVHC substances. Certain substances may be subjected to additional, stricter limits according to H&M Group Chemical Restrictions. Make sure such limits are met. Confirmation is required.	Input control.	
Styrene-based polymers	Various	Upcoming restriction for Accessories by the end of 2023. The restriction will be extended to FBB, trims, intimates during 2024 and to all product categories by the end of 2025. This restriction applies to both virgin and recycled styrene-based polymers.	Input control.	
Styrene-based Thermoplastic Rubber (TPR)	Various	Upcoming restriction for Accessories by the end of 2023. The restriction will be extended to FBB, trims, intimates during 2024 and to all product categories by the end of 2025. This restriction applies to both virgin and recycled styrene-based TPR.	Input control.	
Recycled natural and synthetic textile materials RSL exceptions for products made **of 100% mechanically recycled** fibers. Provided that no additional restricted substances, as listed below, have been used after the collection of the waste, the restriction of the chemicals are as follows:				
Nonylphenol Ethoxylates (NPE) Octylphenol Ethoxylates (OPE)	Various	Total 1000 ppm	According to AFIRM RSL.	
UV absorbers/stabilisers/filters	Various	For textile products: General ban for chemicals used for this function.	Input control Certain substances are included in ZDHC MRSL. Certain substances are included in AFIRM RSL and can thus be product tested.	-

Additional Requirements – GOTS-certified products

In addition to H&M Group Chemical Restrictions for Textile Products and for Production (H&M Group Requirements, AFIRM RSL and ZDHC MRSL 3.1), GOTS-certified products shall also comply with requirements in the latest version of Global Organic Textile Standard, in particular the requirements specified in **Table 5.2.7.2** (Limit values for residues in GOTS Goods) **and 5.2.8.1** (Limit values for residues in additional fibres materials and accessories).

Products: Where H&M Group Chemical Restrictions, AFIRM RSL and GOTS-tables list requirements for the same substances, the strictest requirement shall always take precedence.

Production: Where H&M Group Chemical Restrictions, ZDHC MRSL and GOTS-tables list requirements for the same substances, the strictest requirement shall always take precedence.

Direct link to version 7 (current latest version) of the standard: GOTS_7.0__SIGNED_.pdf (global-standard.org)

Additional Requirements – Self-adhesive products for skin contact

Table 2. Additional requirements Self-adhesive products for skin contact.

Restricted substance/property	CAS	Limit/Requirement	Test method	Reporting limit
Self-adhesive products for skin contact including, but not limited to: body tape, self-adhesive bra, nipple covers.				
Adhesives	Various	All compliance documents must be globally approved at the product development stage, minimum once per season.	In addition to regular chemical compliance assurance (risk assessment and related testing), the following documents are required. 1. Full Material Declaration (FMD) for chemical products for the adhesive. 2. Third-party Toxicological Risk Assessment (TRA) for the adhesive, of the following endpoints according to Regulation (EC) No 1272/2008 (CLP): -Corrosivity -Skin irritation -Eye irritation -Skin sensitization -Oral toxicity -Inhalation toxicity Considering: -Ingredient toxicology profile -Potential ingredient interaction -Consumer exposure scenario	

Additional Requirements – Cosmetic accessories

Table 3. Additional requirements Cosmetic accessories

Restricted substance/property	CAS	Limit/Requirement	Test method	Reporting limit
Cotton swabs and pads				
Plastic materials	-	Usage Ban		
Fluorescent brightening agent	-	Usage Ban	UV-lamp	-
Total viable count of yeast and mold	-	< 300 CFU/g	EN ISO 16212 / European Pharmacopeia (Ph. Eur.), 2.6.12. "Microbiological examination of non-sterile products."	
Total viable count of aerobic mesophilic bacteria	-	< 300 CFU/g	EN ISO 21149 / European Pharmacopeia (Ph. Eur.), 2.6.12. "Microbiological examination of non-sterile products."	
Other cosmetics accessories				
Metals extractable amount				
Antimony (Sb)	7440-36-0	30 ppm	EN ISO 16711-2	3 ppm
Arsenic (As)	7440-38-2	0.2 ppm		0.1 ppm
Barium (Ba)	7440-39-3	1000 ppm		100 ppm
Cadmium (Cd)	7440-43-9	0.1 ppm		0.02 ppm
Chromium (Cr)	7440-47-3	1 ppm		0.3 ppm
Lead (Pb)	7439-92-1	0.2 ppm		0.1 ppm
Mercury (Hg)	7439-97-6	0.02 ppm		0.02 ppm
Selenium (Se)	7782-49-2	460 ppm		50 ppm

Additional Requirements – Carpets and Mats (all materials)

Table 4. Additional requirements Carpets and Mats

Restricted substances	CAS	Limit/Requirement	Test method	Reporting limit
4-Phenylcyclohexene	4994-16-5	≤ 0.050 mg/m^2/h	GB 18587-2001 Grade B (products qualified in respect of limitations of emitted harmful substances)	As specified in test standard
Formaldehyde	50-00-0	≤ 0.050 mg/m^2/h		
Styrene	100-42-5	≤ 0.500 mg/m^2/h		
Volatile Organic Compounds, Total (TVOC)	-	≤ 0.600 mg/m^2/h		

4. More Information and Guidelines

The *AFIRM Group Chemistry Toolkit* shares valuable information about RSL compliance, RSL failure resolution, chemicals management, SDS and other online educational resources. More information about substances in *AFIRM RSL* can be found in *AFIRM Chemical Information Sheets*: www.afirm-group.com/publications/.