HUGO BOSS

8.0

Restricted Substances List & Product Compliance Guideline

Status:	**Released**
Valid from:	**Season S20SR**
Valid for:	**All Product Divisions AG & TI / All Main Product Groups**
Created by:	**Team Product Risk Management**
Released by:	**Team Lead Product & Environment of Global Sustainability**

Changes to RSL 7.0	
↑	The new limit is higher than before
↓	The new limit is lower than before
⇔	No change of limit; e.g. test method, reporting limit changed
+	Adding of e.g. chapter, substance
-	Deleting of e.g. chapter, substance

CAS No.	Substance	Modification		Page
98-86-2 617-94-7	Acetophenone and 2-Phenyl-2-propanol	Reporting limit modified	⇔	9
Various	Alkylphenol (AP) and Alkyphenolethoxylates (APEOs)	Potential use, test methods and reporting limit modified	⇔	9
3165-93-3 553-00-4 39156-41-7 21436-97-5	Azo-amines and Arylamine Salts	4-chloro-o-toluidinium chloride, 2-Naphthylammoniumacetate, 4-methoxy-m-phenylene diammonium sulphate, 2,4,5-trimethylaniline hydrochloride added with a limit of 20 ppm each (EU CMR Regulation). Scope of test method and reporting limit modified.	+	10
80-09-1 620-92-8 1478-61-1	Bisphenols	Bisphenol S (BPS), Bisphenol F (BPF), Bisphenol AF (BPAF) added for information purpose only; Test method modified for all Bisphenols, reporting limit valid for all Bisphenols	+	11
85535-84-8 85535-85-9	Chlorinated Paraffins	Scope of test method modified	⇔	11
Various	Chlorophenols	Potential use, test method and reporting limit modified	⇔	11
5216-25-1 98-07-7 100-44-7	Chlororganic Carriers	P-Chlorobenzotrichloride, Benzotrichloride, Benzyl Chloride added with a limit of 1 ppm total (all chlororganic carriers). Scope of test method and reporting limit modified.	+	12
68-12-2	Dimethylformamide (DMFa)	Switched to the new chapter “SOLVENTS”	⇔	24
624-49-7	Dimethylfumarate (DMFu)	Scope of test method modified.	⇔	13
Various	Dyes, Forbidden and Disperse	Scope of test method and reporting limit modified.	⇔	13-14
Various	Dyes, Navy Blue	Scope of test method and reporting limit modified.	⇔	14
Various	Flame-Retardants	Scope of test method and reporting limit modified.	⇔	14-15
Various	Fluorinated Greenhouse Gases	Potential use and reporting limit modified	⇔	15
Various	Formaldehyde	Potential use and test method modified.	⇔	15
Various	Heavy Metals ALL	Scope of test method modified.	⇔	16-17
18540-29-9	Heavy Metals – Chromium VI	Textiles limit changed to 1 ppm extractable for all textile Test method modified for aging test. Reporting limit for leather changed into 2 ppm.	↑	16
7440-02-0	Heavy Metals – Nickel	Limit for Eyewear frames added: 0.5 µg/cm²/week. Test method modified.	+	17
Various	N-Nitrosamine	Scope of reporting limit modified.	⇔	18

CAS No.	Substance	Modification		Page
Various	Organotin Compounds	Scope of test method and reporting limit modified.	⇔	18
90-43-7	Ortho-Phenylphenol	Test method modified. Scope of test method modified.	⇔	19
Various	Ozone-Depleting Substances	Scope of test method modified.	⇔	19
Various	Perfluorinated and Polyfluorinated Chemicals (PFCs)	PFOA-related substances added with a limit of 1000 ppb total. Potential use, test methods and reporting limit modified	+	19
Various	Perfluorooctanoic Acid (PFOA) and its salts	Potential use and testing methods modified	⇔	19
Various	PFSs - PFOA-related substances	Limit added with 1000 ppb total	+	19
Various	Pesticides, Agriculrural	Scope of test method and reporting limit modified. Halogenated terphenols, including polychlorinated terphenyl (PCT), Halogenated diarylalkanes, Halogenated diphenyl methanes, including Monomethyl-dibromo-diphenyl methane, Monomethyl-dichloro-diphenyl methane, and Monomethyl; Lead hydrogen arsenate deleted	-	19-22
71888-89-6 117-82-8 605-50-5 131-16-8 27554-26-3 68515-50-4 68515-42-4 84777-06-0	Phthalates	Test method modified. Scope of test method modified, reporting limit modified 1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich, Bis(2-methoxyethyl) phthalate, Diisopentyl phthalate (DIPP), Dipropyl phthalate (DPRP), Diisooctyl phthalate (DIOP), Diisohexyl phthalate (DIHP), 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP), 1,2-benzenedicarboxylic acid Dipentyl ester, branched and linear added with 500 ppm limit each, 1000 ppm total for all phthalates	+	23
Various	Polycyclic Aromatic Hydrocarbons (PAHs)	Scope of test method and reporting limit modified.	⇔	24
91-22-5	Quinoline	Added with a limit of 50 ppm	+	24
75-12-7 872-50-4	Solvents (Residual)	New category created to include DMFa and DMAC. Formamide added with a 1000 ppm limit. N-methyl-2-pyrrolidone (NMP) added with a limit of 1000 ppm	+	24
3846-71-7 3864-99-1 25973-55-1 36437-37-3	UV Absobers / Stabilizers	Chapter added with restrictions on UV 320, UV 327, UV 328 UV 350	+	25
127-19-5 108-38-3 95-47-6 106-42-3	Volatile Organic Compounds (VOCs)	Dimethylacetamide (DMAC) (CAS 127-19-5) included into the new category “Solvents” 3 new CAS NO. are added under Xylenes (meta-, ortho-, para-) All VOCs: reporting limit modified	- +	25
Various	Restricted Substances for Packaging	Whole chapter added to the RSL 8.0	+	26-28
Changes to RSL 8.0 version ‘for information only’				
Various	Restricted Substances for Packaging	Test method for Lead (Pd) changed for packaging		26-28

Table of Contents

INTRODUCTION

Scope and validation of HUGO BOSS Restricted Substances List
The production of HUGO BOSS products is a long and complex process. To ensure the highest possible standard of chemical safety, the lowest possible chemical impact on HUGO BOSS products and to minimize the chemical impact on the environment, HUGO BOSS has developed the present Restricted Substances List (hereinafter “RSL”), based on the AFIRM RSL. In the chapter ‘RESTRICTED SUBSTANCES FOR PRODUCTS’ the phrase ‘corresponding to AFIRM’ indicates, that the substances, the limits as well as the test methods are aligned with AFIRM RSL.

The RSL applies to all products supplied to HUGO BOSS and the processes necessary to produce them, including but not limited to raw materials e.g. fabrics and leather, trimmings, semi-finished and finished goods typically used in the production of apparel, footwear, accessories and jewelry (hereinafter referred to as "Product/Products").

The chapter ‘RESTRICTED SUBSTANCES FOR PACKAGING’ is valid for Product packaging and other items that are closely connected to the Product, including clothes hangers, suit bags, sales packaging and / or any other item which is intended to be used for Product protection. The chapters based on the AFIRM RSL for packaging.

Addressees of the RSL are all vendors that procure, produce or treat Products and either supply their Product directly to HUGO BOSS or forward the Product to vendors in the next production level where it will be used in a HUGO BOSS Product (hereinafter referred to as "Vendor/Vendors").

The present RSL will become effective from season S20SR on, starting with the development phase. The present RSL will be valid until a new RSL will become effective.

Definition of Restricted Substances
Restricted Substances are chemicals which have been banned from or limited for the use in the Products. The usage ban and the limits are based on either statutory law, best practices and/or the AFIRM Group’s RSL which HUGO BOSS as member has adopted.

Generally the RSL differentiates between an overall usage ban for certain chemical substances and specific, defined limitations in concentration for components based on international, European Union or national legal regulations of other countries. Usage bans or limitations in single components mentioned herein often go beyond legally defined usage bans or limitations. Usage ban means that the restricted substances must not be used in production processes intentionally.

The RSL implies that all Products have a high probability of having skin contact.
Thus any and all Products have to comply with the provisions of the RSL with respect to bans, limits, detection limits etc. The Vendor must inform HUGO BOSS without delay about a Product not being compliant with the RSL restrictions. Failure to inform HUGO BOSS will result in legal consequences.

Some substances, even though not listed in the RSL might appear in laboratory test reports due to monitoring purposes. These substances are not yet restricted by statutory law but are generally suspected to have an environmental impact or an impact on human health. The substances will be tested in our test

routines. Vendors will be notified of any findings. However, this will not be considered as a violation against the RSL until the monitored substance is included in the present document.

General RSL Set-Up

- Guarantee Declaration
- Chemical substances in alphabetical order which have to be observed and tested on **products** if applicable by the Vendor. This chapter is based on the AFIRM RSL **2019** in terms of Restricted Substances, limits and test methods.
- Chemical substances in alphabetical order which have to be observed and tested on **packaging** if applicable by the Vendor. This chapter is based on the AFIRM RSL **2018** in terms of Restricted Substances, limits and test methods.
- Further Product requirements which have to be observed, some of them being closely linked to a chemical condition of a Product, e.g. REACH, or a physical condition of a Product e.g. color fastness whose fulfillment is required due to international legislation.

Supplier Obligations

Overall compliance with the requirements of the RSL is mandatory for all Vendors. Therefore each Vendor guarantees that any Product, material or any part of Product or material intended for use in a HUGO BOSS Product, complies with the usage bans, the limits and all further requirements of the RSL described or referred to herein (see ‘Guarantee Declaration’). Vendors are able to proof the compliance with a third party test report for chemical tests carried out on the Products by an accredited laboratory.

GUARANTEE DECLARATION

Guarantee Declaration on Compliance with the HUGO BOSS Restricted Substances List

made in favour of HUGO BOSS AG, Dieselstraße 12, D-72555 Metzingen, Federal Republic of Germany (hereinafter referred to as HUGO BOSS) as well as its HUGO BOSS affiliates:

1. The Vendor guarantees that all items procured or produced and/or otherwise treated by him are in compliance with the HUGO BOSS Restricted Substances List (RSL) in its currently applicable version 8.0. The Vendor also guarantees compliance with the RSL regarding its subcontractors and subvendors and to monitor compliance in an appropriate manner.

a) The Vendor especially guarantees that it will not use such substances that are prohibited according to the RSL.

b) The Vendor guarantees compliance with the prescriptive limits of the RSL for the mentioned substances and other all requirements set forth in the RSL.

c) In order to guarantee compliance with the RSL the Vendor shall test its products or ensure in an equally qualified way that its products comply with the HUGO BOSS requirements. HUGO BOSS may at any time request presentation of test reports or disclosure of other quality management measures.

2. The Vendor agrees that it will compensate HUGO BOSS AG for any loss or damage arising from its violation of its guarantee obligations in clauses 1 a to c, irrespective of whether the loss or damage occurred directly to HUGO BOSS AG or to one of the enterprises affiliated with HUGO BOSS AG.

3. The guarantee declaration shall also refer to shipments that are not made directly to HUGO BOSS but to other HUGO BOSS vendors for the purpose of further handling or production.

4. This guarantee declaration shall be governed exclusively by German law.

5. The courts of Stuttgart, Federal Republic of Germany shall have jurisdiction for all disputes arising directly or indirectly from this guarantee declaration. HUGO BOSS shall be entitled to appeal to another competent court.

6. The RSL will be made available to you in English and/or other language versions. However, only the English language version shall be binding for you. In case of discrepancies between the two versions the English version shall prevail.

LEGEND / ABBREVIATIONS

AFIRM	The AFIRM Group (Apparel and Footwear International RSL Management Group) is a voluntary association of brands who have the aim to reduce the use and impact of harmful substances in the apparel and footwear supply chain. Therefore the group developed a Restricted Substances List and a Toolkit to reach the aim. The HUGO BOSS Restricted Substances List & Product Compliance is based on the AFIRM RSL.
CADS	Cooperation at DSI (Deutsches Schuhinstitut)
CAS	Chemical-Abstract-Service; Unique numerical identifiers for chemical elements, compounds, polymers, biological sequences, mixtures and alloys
CEN	Comité Européen de Normalisation
C.I.	Color Index; Compendium of dyes: In the U.K. the color Index was prepared by the Society of Dyers and Colorists, while in USA it is done by American Association of Textile Chemists and Colorists.
DIN	Deutsches Institut für Normung
EN	European Norm
EPA	(US) Environmental Protection Agency
ISO	International Society for Standardization
ISO/TS	International Society for Standardization/Technical Specification
mg/kg	milligram per kilogram
MI	Material Information
ppb	parts per billion
ppm	parts per million
prEN	Draft European Norm
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
Reporting limit	Values equal or higher than this limit have to be documented in the test report
RSL	Restricted Substances List
SVHC	Substances of Very High Concern
Usage ban	Substance must not be used intentionally in any production of the product
S20SR	Season: Summer 2020 Spring Summer
w/o	without
µg/cm^2	microgram per square centimeter
µg/cm^2/week	microgram per square centimeter per week

RESTRICTED SUBSTANCES FOR PRODUCTS

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	ACETOPHENONE AND 2-PHENYL-2-PROPANOL		**- corresponding to AFIRM**		
98-86-2	Acetophenone	50 ppm each	Potential breakdown products in EVA foam when using dicumyl peroxide as a crosslinking agent.	Extraction in acetone or methanol GC/MS, sonication for 30 minutes at 60°C	25 ppm each
617-94-7	2-Phenyl-2-propanol				
	ALKYLPHENOL (AP) AND ALKYLPHENOLETHOXYLATES (APEOs), INCLUDING ALL ISOMERS			**- corresponding to AFIRM**	
Various	Nonylphenol (NP), mixed isomers	Total: 100 ppm	APEOs can be used as or found in detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifying/dispersing agents for dyes and prints, impregnating agents, de-gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings. APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers. Biodegradation of APEOs into APs is the main source of APs in the environment. APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes. This limit covers EU legislation restricting NPEOs effective 3 February 2021 and provides advance warning to suppliers.	Textiles: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 70°C Measurement: EN ISO 18857-2:2011 (with derivatization) Leather: EN ISO 18218-2:2015 Polymers: 1 g sample/20 ml THF, sonication for 60 minutes at 70°C analysis with LC/MS or LC/MS/MS All other materials: 1 g sample/20 ml THF, sonication for 60 minutes at 70°C analysis with GC/MS	10 ppm sum of NP & OP
Various	Octylphenol (OP), mixed isomers				
Various	Nonylphenol ethoxylates (NPEOs)	Total: 100 ppm		All materials except leather: EN ISO 18254-1:2016, determination of APEO using LC/MS or LC/MS/MS Leather: EN ISO 18218-1:2015	20 ppm sum of NPEO & OPEO
Various	Octylphenol ethoxylates (OPEOs)				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	AZO-AMINES and Arylamine salts - corresponding to AFIRM				
92-67-1	4-Aminobiphenyl	20 ppm each	Azo dyes and pigments are colorants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those which degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for dyeing of textiles.	All materials except leather: EN ISO 14362-1:2017 Leather: EN ISO 17234-1:2015 **p-Aminoazobenzene:** All materials except leather: EN ISO 14362-3:2017 Leather: EN ISO 17234-2:2011	5 ppm each
92-87-5	Benzidine				
95-69-2	4-Chlor-o-toluidine				
91-59-8	2-Naphthylamine				
97-56-3	o-Aminoazotoluene				
99-55-8	2-Amino-4-nitrotoluene				
106-47-8	p-Chloraniline				
615-05-4	2,4-Diaminoanisole				
101-77-9	4,4'-Diaminodiphenylmethane				
91-94-1	3,3'-Dichlorobenzidine				
119-90-4	3,3'-Dimethoxybenzidine				
119-93-7	3,3'-Dimethylbenzidine				
838-88-0	3,3'-dimethyl-4,4'-Diaminodiphenylmethane				
120-71-8	p-Cresidine				
101-14-4	4,4'-Methylen-bis(2-chloraniline)				
101-80-4	4,4'-Oxydianiline				
139-65-1	4,4'-Thiodianiline				
95-53-4	o-Toluidine				
95-80-7	2,4-Toluylendiamine				
137-17-7	2,4,5-Trimethylaniline				
95-68-1	2,4 Xylidine				
87-62-7	2,6 Xylidine				
90-04-0	2-Methoxyaniline (= o-Anisidine)				
60-09-3	p-Aminoazobenzene				
3165-93-3	4-chloro-o-toluidinium chloride				
553-00-4	2-Naphthylammoniumacetate				
39156-41-7	4-methoxy-m-phenylene diammonium sulphate				
21436-97-5	2,4,5-trimethylaniline hydrochloride				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	BISPHENOLS	**- corresponding to AFIRM**			
80-05-7	Bisphenol-A (BPA)	Total: 1 ppm	Used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC. Prohibited from use in food and drink containers, and items intended to come into contact with oral cavity.	All materials: Extraction: 1 g sample/20 ml THF, sonication for 60 minutes at 60°C, analysis with LC/MS	1 ppm each
80-09-1	Bisphenol S (BPS)	For informational purposes only – testing of polycarbonate materials recommended to assess content levels	BPA Alternatives with similar hazards used in the production of epoxy resins, polycarbonate plastics, flame retardants and PVC.		
620-92-8	Bisphenol F (BPF)				
1478-61-1	Bisphenol AF (BPAF)				
	CHLORINATED PARAFFINS	**- corresponding to AFIRM**			
85535-84-8	Short-chain chlorinated Paraffins (SCCP) (C10-C13)	1000 ppm	May be used as softeners, flame retardants or as fat liquoring agents in leather production. Also used as plasticizer in polymer production.	All materials: Combined CADS[1]/ ISO 18219:2015 method V1:06/17 (extraction by ISO 18219:2015 and analysis by GC-NCI-MS)	100 ppm
85535-85-9	Medium-chain chlorinated Paraffins (MCCP) (C14-C17)	1000 ppm			100 ppm
	CHLOROPHENOLS	**- corresponding to AFIRM**			
15950-66-0	2,3,4-Trichlorophenol (TriCP)	0,5 ppm each	Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP), tetrachlorophenol (TeCP), and trichlorophenols (TriCP) are sometimes used to prevent mold and kill insects when growing cotton and when storing/transporting fabrics. PCP, TeCP and TriCP can also be used as in-can preservatives in print pastes and other chemical mixtures.	All materials: 1 M KOH extraction, 16 hours at 90°C, derivatization and analysis §64 LFGB B 82.02-08 or DIN EN ISO 17070:2015	0,5 ppm each
933-78-8	2,3,5-Trichlorophenol (TriCP)				
933-75-5	2,3,6-Trichlorophenol (TriCP)				
95-95-4	2,4,5-Trichlorophenol (TriCP)				
88-06-2	2,4,6-Trichlorophenol (TriCP)				
609-19-8	3,4,5-Trichlorophenol (TriCP)				
4901-51-3	2,3,4,5-Tetrachlorophenol (TeCP)				
58-90-2	2,3,4,6-Tetrachlorophenol (TeCP)				
935-95-5	2,3,5,6-Tetrachlorophenol (TeCP)				
87-86-5	Pentachlorophenol (PCP)				

[1] CADS test method: *Determination of SCCP and MCCP in different matrices by use of GC-ECNI-MS V8_final_20171117* published on the AFIRM website

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	CHLORORGANIC CARRIERS	**- corresponding to AFIRM**			
95-49-8	2-Chlorotoluene	Total: 1 ppm	Chlorobenzenes and Chlorotoluenes (chlorinated aromatic hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/polyester fibers. They can also be used as solvents.	All materials: DIN 54232:2010	0,2 ppm each
108-41-8	3-Chlorotoluene				
106-43-4	4-Chlorotoluene				
32768-54-0	2,3-Dichlorotoluene				
95-73-8	2,4-Dichlorotoluene				
19398-61-9	2,5-Dichlorotoluene				
118-69-4	2,6-Dichlorotoluene				
95-75-0	3,4-Dichlorotoluene				
2077-46-5	2,3,6-Trichlorotoluene				
6639-30-1	2,4,5-Trichlorotoluene				
76057-12-0	2,3,4,5-Tetrachlorotoluene				
875-40-1	2,3,4,6-Tetraclorotoluene				
1006-31-1	2,3,5,6-Tetrachlorotoluene				
877-11-2	Pentachlorotoluene				
541-73-1	1,3-Dichlorobenzene				
106-46-7	1,4-Dichlorobenzene				
87-61-6	1,2,3-Trichlorobenzene				
120-82-1	1,2,4-Trichlorobenzene				
108-70-3	1,3,5-Trichlorobenzene				
634-66-2	1,2,3,4-Tetrachlorobenzene				
634-90-2	1,2,3,5-Tetrachlorobenzene				
95-94-3	1,2,4,5-Tetrachlorobenzene				
608-93-5	Pentachlorobenzene				
118-74-1	Hexachlorobenzene				
5216-25-1	P-Chlorobenzotrichloride				
98-07-7	Benzotrichloride				
100-44-7	Benzyl Chloride				
95-50-1	1,2-Dichlorobenzene	10 ppm			1 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	DIMETHYLFUMARATE	**- corresponding to AFIRM**			
624-49-7	Dimethylfumarate (DMFu)	0,1 ppm	DMFu is an anti-mold agent used in sachets in packaging to prevent the buildup of mold, especially during shipping.	All materials: CEN ISO/TS 16186:2012	0,05 ppm
	DYES, FORBIDDEN AND DISPERSE	**- corresponding to AFIRM**			
2475-45-8	C.I. Disperse Blue 1	50 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fiber system of synthetic or manufactured fibers and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fiber (e.g. polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions or of being carcinogenic and are prohibited from use for dyeing of textiles.	All materials: DIN 54231:2005	15 ppm each
2475-46-9	C.I. Disperse Blue 3				
3179-90-6	C.I. Disperse Blue 7				
3860-63-7	C.I. Disperse Blue 26				
56524-77-7	C.I. Disperse Blue 35A				
56524-76-6	C.I. Disperse Blue 35B				
12222-97-8	C.I. Disperse Blue 102				
12223-01-7	C.I. Disperse Blue 106				
61951-51-7	C.I. Disperse Blue 124				
23355-64-8	C.I. Disperse Brown 1				
2581-69-3	C.I. Disperse Orange 1				
730-40-5	C.I. Disperse Orange 3				
82-28-0	C.I. Disperse Orange 11				
12223-33-5 / 13301-61-6 / 51811-42-8	C.I. Disperse Orange 37/76/59				
85136-74-9	C.I. Disperse Orange 149				
2872-52-8	C.I. Disperse Red 1				
2872-48-2	C.I. Disperse Red 11				
3179-89-3	C.I. Disperse Red 17				
61968-47-6	C.I. Disperse Red 151				
119-15-3	C.I. Disperse Yellow 1				
2832-40-8	C.I. Disperse Yellow 3				
6300-37-4	C.I. Disperse Yellow 7				
6373-73-5	C.I. Disperse Yellow 9				
6250-23-3	C.I. Disperse Yellow 23				
12236-29-2	C.I. Disperse Yellow 39				
54824-37-2	C.I. Disperse Yellow 49				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
54077-16-6	C.I. Disperse Yellow 56	50 ppm each	Disperse dyes are a class of water-insoluble dyes that penetrate the fiber system of synthetic or manufactured fibers and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fiber (e.g. polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions or of being carcinogenic and are prohibited from use for dyeing of textiles.	All materials: DIN 54231:2005	15 ppm each
3761-53-3	C.I. Acid Red 26				
569-61-9	C.I. Basic Red 9				
569-64-2 / 2437-29-8 / 10309-95-2	C.I. Basic Green 4				
548-62-9	C.I. Basic Violet 3				
632-99-5	C.I. Basic Violet 14				
2580-56-5	C.I. Basic Blue 26				
1937-37-7	C.I. Direct Black 38				
2602-46-2	C.I. Direct Blue 6				
573-58-0	C.I. Direct Red 28				
16071-86-6	C.I. Direct Brown 95				
60-11-7	4-Dimethylaminoazobenzene (Solvent Yellow 2)				
6786-83-0	C.I. Solvent Blue 4				
561-41-1	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol				
	DYES, NAVY BLUE	**- corresponding to AFIRM**			
118685-33-9	Component 1: C39H23ClCrN7O12S.2Na	50 ppm each	Navy blue colorants are regulated and are prohibited from use for dyeing of textiles. (Index 611-070-00-2)	All materials: DIN 54231:2005	15 ppm each
Not allocated	Component 2: C46H30CrN10O20S2.3Na				
	FLAME-RETARDANTS	**- corresponding to AFIRM**			
32534-81-9	Pentabromodiphenyl ether (PentaBDE)	10 ppm each	Flame-retardant chemicals, including the entire class of organohalogen flame retardants, should no longer be used.	All materials:EN ISO 17881-1:2016	5 ppm each
32536-52-0	Octabromodiphenyl ether (OctaBDE)				
1163-19-5	Decabromodiphenyl ether (DecaBDE)				
various	All other Polybrominated diphenyl ether (PBDE)				
79-94-7	Tetrabromobisphenol A (TBBP A)				
59536-65-1	Polybromobiphenyls (PBB)				
3194-55-6	Hexabromocyclododecane (HBCDD)				
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	FLAME-RETARDANTS; continued	**- corresponding to AFIRM**			
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCPP)	10 ppm each	Flame-retardant chemicals, including the entire class of organohalogen flame retardants, should no longer be used.	All materials: EN ISO 17881-2:2016	5 ppm each
25155-23-1	Trixylyl phosphate (TXP)				
126-72-7	Tris(2,3,-dibromopropyl) phosphate (TRIS)				
545-55-1	Tris(1-aziridinyl)phosphine oxide) (TEPA)				
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)				
5412-25-9	Bis(2,3-dibromopropyl) phosphate (BDBPP)				
	FLUORINATED GREENHOUSE GASES	**- corresponding to AFIRM**			
Various	See Regulation (EC) No 842/2006 for a complete list: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006R0842	0,1 ppm each	May be used as foam blowing agents, solvents, fire retardants, and aerosol propellants and are prohibited from use.	Sample preparation: Purge and trap — thermal desorption or SPME Measurement: GC/MS	0,1 ppm each
	FORMALDEHYDE	**- corresponding to AFIRM**			
50-00-0	Formaldehyde	Adults and children: 75 ppm Babies: 16 ppm	Used in textiles as an anti-creasing and anti-shrinking agent, often also in polymeric resins. Although very rare in apparel & footwear, composite wood materials, e.g. particle board and plywood, must comply with existing California forthcoming US formaldehyde emission requirements (40 CFR 770).	All materials except leather: JIS L 1041-1983 A (Japan Law 112) or EN ISO 14184-1:2011 Leather: prEN ISO 17226-2:2017 with prEN ISO 17226-1:2017 confirmation method in case of interferences. Alternatively, prEN ISO 17226-1:2017 can be used on its own.	16 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	HEAVY METALS	**- corresponding to AFIRM**			
7440-36-0	Antimony (Sb)	Extractable: 30 ppm	Found in or used as a catalyst in polymerization of polyester, flame retardants, fixing agents, pigments and alloys.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 3 ppm
7440-38-2	Arsenic (As)	Extractable: 0,2 ppm Total: 100 ppm	Arsenic and its compounds can be used in preservatives, pesticides and defoliants for cotton, synthetic fibers, paints, inks, trims and plastics.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: All materials except leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	Extractable: 0.1 ppm Total: 10 ppm
7440-39-3	Barium (Ba)	Extractable: 1000 ppm	Barium and its compounds can be used in pigments for inks, plastics, surface coatings, as well as in dyeing, mordant, filler in plastics, textile finish and leather tanning.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	100 ppm
7440-43-9	Cadmium (Cd)	Extractable: 0,1 ppm Total: 40 ppm	Cadmium compounds are used as pigments (especially in red, orange, yellow and green); as a stabilizer for PVC; and in fertilizers, biocides and paints.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: All materials except leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	Extractable: 0,05 ppm Total: 5 ppm
7440-47-3	Chromium (Cr)	Extractable: Textiles: 2 ppm Leather footwear for babies: 60 ppm	Chromium compounds can be used as dyeing additives, dye-fixing agents, colorfastness after-treatments, dyes for wool, silk and polyamide (especially dark shades) and leather tanning.	All materials except leather: DIN EN 16711-2:2016 Leather: EN ISO 17072-1:2017	Extractable: 0,5 ppm
18540-29-9	Chromium VI	Extractable: Leather: 3 ppm Textiles: 1 ppm	Though typically associated with leather tanning, Chromium VI also may occur in the dyeing of wool (after the chroming process).	All materials except leather: DIN EN 16711-2:2016 with EN ISO 17075-1:2017 if Cr is detected Leather: EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case the extract causes interference. Ageing test: ISO 10195:2018 Method A2 is used at brand discretion	Extractable: Leather: 2 ppm Textile 0,5 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	HEAVY METALS, continued				
7440-48-4	Cobalt (Co)	Extractable: Adults: 4 ppm Children/babies: 1 ppm	Cobalt and its compounds can be used in alloys, pigments, dyestuff and the production of plastic buttons.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	0,5 ppm
7440-50-8	Copper (Cu)	Extractable: Adults: 50 ppm Children/babies: 25 ppm	Copper and its compounds can be found in alloys and pigments and in textiles as an antimicrobial agent.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	5 ppm
7439-92-1	Lead (Pb)	Extractable: Adults and children: 1 ppm Babies: 0,2 ppm Total: 90 ppm	May be associated with plastics, paints, inks, pigments, surface coatings and metal components.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: Non-metal: CPSC-CH-E1002-08.3 Metal: CPSC-CH-E1001-08.3 Lead in paint and surface coating: CPSIA Section 101 16 CFR 1303	Extractable: 0,1 ppm Total: 10 ppm
7439-97-6	Mercury (Hg)	Extractable: 0,02 ppm Total: 0,5 ppm	Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They could also occur in paints.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Total: All materials except leather: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	Extractable: 0,02 ppm Total: 0,1 ppm
7440-02-0	Nickel (Ni)	Extractable: 1 ppm Release (metal parts): Prolonged skin contact: 0,5 µg/cm²/week Pierced part: 0,2 µg/cm²/week Eyewear frames: 0.5 µg/cm²/week	Nickel and its compounds can be used for plating alloys and improving corrosion-resistance and hardness of alloys. They can also occur as impurities in pigments and alloys.	Extractable: All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017 Release: EN 12472:2005+A1:2009 and EN 1811:2011+A1:2015 Release (Eyewear Frames): EN16128:2015	Extractable & Release: 0,1 ppm
7782-49-2	Selenium (Se)	Extractable: 500 ppm	May be found in synthetic fibers, paints, inks, plastics and metal trims.	All materials except leather: DIN EN 16711-2:2016 Leather: DIN EN ISO 17072-1:2017	Extractable: 50 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	MONOMERS	**- corresponding to AFIRM**			
100-42-5	Styrene	500 ppm	Styrene is a precursor for polymerization and may be present in various styrene-copolymers like plastic buttons.	GC/MS 120°C for 45 minutes; -or- Extraction in Methanol GC/MS, sonication for 60 minutes at 60°C	50 ppm
75-01-4	Vinyl Chloride	1 ppm	Vinyl Chloride is a precursor for polymerization and may be present in various PVC material like prints, coatings, flip flops and synthetic leather.	EN ISO 6401:2008	1 ppm
	N-NITROSAMINE	**- corresponding to AFIRM**			
62-75-9	N-nitrosodimethylamine (NDMA)	0,5 ppm each	Can be formed as by-product in the production of rubber.	GB/T 24153-2009: determination using GC/MC with LC/MS/MS verification if positive. Alternatively, LC/MS/MS may be performed on its own. prEN 19577:2017	0,5 ppm each
55-18-5	N-nitrosodiethylamine (NDEA)				
621-64-7	N-nitrosodipropylamine (NDPA)				
924-16-3	N-nitrosodibutylamine (NDBA)				
100-75-4	N-nitrosopiperidine (NPIP)				
930-55-2	N-nitrosopyrrolidine (NPYR)				
59-89-2	N-nitrosomorpholine (NMOR)				
614-00-6	N-nitroso N-methyl N-phenylamine (NMPhA)				
612-64-6	N-nitroso N-ethyl N-phenylamine (NEPhA)				
	ORGANOTIN COMPOUNDS	**- corresponding to AFIRM**			
Various	Dibutyltin (DBT)	1 ppm each	Class of chemicals combining tin and organics such as butyl and phenyl groups. Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g. antibacterials), catalysts in plastic and glue production and heat stabilizers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.	All materials: CEN ISO/TS 16179:2012	0,1 ppm each
Various	Dioctyltin (DOT)				
Various	Monobutyltin (MBT)				
Various	Tricyclohexyltin (TCyHT)				
Various	Trimethyltin (TMT)				
Various	Trioctyltin (TOT)				
Various	Tripropyltin (TPT)				
Various	Tributyltin (TBT)	0,5 ppm each			
Various	Triphenyltin (TPhT)				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	ORTHO-PHENYLPHENOL	**- corresponding to AFIRM**			
90-43-7	Ortho-phenylphenol (OPP)	1000 ppm	OPP can be used for its preservative properties in leather or as a carrier in dyeing processes.	All materials: 1 M KOH extraction, 16 hours at 90°C, derivatization and analysis §64 LFGB B 82.02-08 or DIN EN ISO 17070:2015	100 ppm
	OZONE-DEPLETING SUBSTANCES	**- corresponding to AFIRM**			
Various	See Regulation (EC) No 1005/2009 for a complete list: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:286:0001:0030:EN:PDF	5 ppm	Ozone-depleting substances have been used as a foaming agent in PU foams as well as a dry-cleaning agent and are prohibited from use.	All materials: GC/MS headspace 120°C for 45 minutes	5 ppm
	PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFCs)	**- limits corresponding to AFIRM**			
Various	Perfluorooctane Sulfonate (PFOS) and related substances	1 µg/m^2	PFOA and PFOS may be present as unintended byproducts in long-chain and short-chain commercial water, oil and stain repellent agents. PFOA may also be used in polymers like polytetrafluoroethylene (PTFE). The area-based limit for PFOA will be superseded by Commission Regulation (EU) 2017/1000 and removed in 2023.	All materials: prISO FDIS 23702-1: 2018	1 µg/m^2 each
Various	Perfluorooctanoic Acid (PFOA) and its salts	1 µg/m^2 25 ppb total			
Various	PFOA-related substances	1000 ppb total			1000 ppb total
	PESTICIDES, AGRICULTURAL	**- corresponding to AFIRM**			
93-72-1	2-(2,4,5-trichlorophenoxy) propionic acid, its salts and compounds; 2,4,5-TP	0,5 ppm each	May be found in natural fibers (primarily cotton).	All materials: ISO 15913 / DIN 38407 F2 or EPA 8081 / EPA 8151A or BVL L 00.00-34:2010-09	0,5 ppm each
93-76-5	2,4,5-trichlorophenoxyacetic acid, its salts and compounds; 2,4,5-T				
94-75-7	2,4-dichlorophenoxy-acetic acid, its salts and compounds; 2,4-D				
309-00-2	Aldrine				
86-50-0	Azinophosmethyl				
2642-71-9	Azinophosethyl				
4824-78-6	Bromophos-ethyl				
2425-06-1	Captafol				
63-25-2	Carbaryl				
510-15-6	Chlorbenzilat				
57-74-9	Chlordane				
6164-98-3	Chlordimeform				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	PESTICIDES; AGRICULTURAL; continued				
470-90-6	Chlorfenvinphos	0,5 ppm each	May be found in natural fibers (primarily cotton).	All materials: ISO 15913 / DIN 38407 F2 or EPA 8081 / EPA 8151A or BVL L 00.00-34:2010-09	0,5 ppm each
1897-45-6	Chlorthalonil				
56-72-4	Coumaphos				
68359-37-5	Cyfluthrin				
91465-08-6	Cyhalothrin				
52315-07-8	Cypermethrin				
78-48-8	S,S,S-Tributyl phosphorotrithioate (Tribufos)				
52918-63-5	Deltamethrin				
53-19-0	o,p-Dichlorodiphenyl-dichloroethane (o,p-DDD)				
72-54-8	p,p-Dichlorodiphenyl-dichloroethane (p,p-DDD)				
3424-82-6	o,p-Dichlorodiphenyl-dichloroethylene (o,p-DDE)				
72-55-9	p,p-Dichlorodiphenyl-dichloroethylene (p,p-DDE)				
789-02-6	o,p-Dichlorodiphenyl-trichloroethane (o,p-DDT)				
50-29-3	p,p-Dichlorodiphenyl-trichloroethane (p,p-DDT)				
333-41-5	Diazinone				
1085-98-9	Dichlofluanide				
120-36-5	Dichloroprop				
115-32-2	Dicofol				
141-66-2	Dicrotophos				
60-57-1	Dieldrine				
60-51-5	Dimethoate				
88-85-7	Dinoseb, its salts and acetate				
63405-99-2	DTTB (4,6-Dichloro-7 (2,4,5-trichloro-phenoxy) -2- Trifluoro methyl benz imidazole)				
115-29-7	Endosulfan				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	PESTICIDES; AGRICULTURAL; continued				
959-98-8	Endosulfan I (alpha)	0,5 ppm each	May be found in natural fibers (primarily cotton)	All materials: ISO 15913 / DIN 38407 F2 or EPA 8081 / EPA 8151A or BVL L 00.00-34:2010-09	0,5 ppm each
33213-65-9	Endosulfan II (beta)				
72-20-8	Endrine				
66230-04-4	Esfenvalerate				
106-93-4	Ethylenedibromid				
56-38-2	Ethylparathione; Parathion				
51630-58-1	Fenvalerate				
1336-36-3	Halogenated biphenyls, including Polychlorinatedbiphenyl (PCB)				
Various	Halogenated naphthalenes, including polychlorinated naphthalenes (PCNs)				
76-44-8	Heptachlor				
1024-57-3	Heptachloroepoxide				
319-84-6	a-Hexachlorocyclohexane with and without Lindane				
319-85-7	b-Hexachlorocyclohexane with and without Lindane				
319-86-8	g-Hexachlorocyclohexane with and without Lindane				
118-74-1	Hexachlorobenzene				
465-73-6	Isodrine				
4234-79-1	Kelevane				
143-50-0	Kepone				
58-89-9	Lindane				
121-75-5	Malathione				
94-74-6	MCPA				
94-81-5	MCPB				
93-65-2	Mecoprop				
10265-92-6	Metamidophos				
72-43-5	Methoxychlor				
2385-85-5	Mirex				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	PESTICIDES; AGRICULTURAL; continued				
6923-22-4	Monocrotophos	0,5 ppm each	May be found in natural fibers (primarily cotton)	All materials: ISO 15913 / DIN 38407 F2 or EPA 8081 / EPA 8151A or BVL L 00.00-34:2010-09	0,5 ppm each
298-00-0	Parathion-methyl				
1825-21-4	Pentachloroanisole				
7786-34-7	Phosdrin/Mevinphos				
72-56-0	Perthane				
31218-83-4	Propethamphos				
41198-08-7	Profenophos				
13593-03-8	Quinalphos				
82-68-8	Quintozene				
8001-50-1	Strobane				
297-78-9	Telodrine				
8001-35-2	Toxaphene				
731-27-1	Tolylfluanide				
1582-09-8	Trifluarline				

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	PHTHALATES	**- corresponding to AFIRM**			
28553-12-0	Di-Iso-nonylphthalate (DINP)	500 ppm each Total: 1000 ppm	Esters of ortho-phthalic acid (phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the molding of plastic by decreasing its melting temperature. Phthalates can be found in: Flexible plastic components (e.g., PVC) Print pastes Adhesives Plastic buttons Plastic sleevings Polymeric coatings The listed phthalates are those most commonly used and regulated across industry sectors. Find more information about additional phthalates on the REACH substances of very high concern (SVHC) candidate list, which is updated frequently.	Sample preparation for all materials: CPSC-CH-C1001-09.4 Measurement: Textile: GC-MS, EN ISO 14389:2014 (7.1 Calculation based on weight of print only; 7.2 Calculation based on weight of print and textile if print cannot be removed). All materials except textiles: GC-MS	50 ppm each
117-84-0	Di-n-octylphthalate (DNOP)				
117-81-7	Di(2-ethylhexyl)-phthalate (DEHP)				
26761-40-0	Diisodecylphthalate (DIDP)				
85-68-7	Butylbenzylphthalate (BBP)				
84-74-2	Dibutylphthalate (DBP)				
84-69-5	Diisobutylphthalate (DIBP)				
84-75-3	Di-n-hexylphthalate (DnHP)				
84-66-2	Diethylphthalate (DEP)				
131-11-3	Dimethylphthalate (DMP)				
131-18-0	di-n-pentyl phthalate (DPENP)				
84-61-7	dicyclohexyl phthalate (DCHP)				
71888-89-6	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich				
117-82-8	Bis(2-methoxyethyl) phthalate				
605-50-5	Diisopentyl phthalate (DIPP)				
131-16-8	Dipropyl phthalate (DPRP)				
27554-26-3	Diisooctyl phthalate (DIOP)				
68515-50-4	Diisohexyl phthalate (DIHP)				
68515-42-4	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)				
84777-06-0	1,2-benzenedicarboxylic acid Dipentyl ester, branched and linear				

CAS No.	Substance	Limits Raw Material & Finished Product		Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)	**- corresponding to AFIRM**				
83-32-9	Acenaphthene	No individual restriction	Total: 10 ppm	PAHs are natural components of crude oil and are common residues from oil refining. PAHs have a characteristic smell similar to that of car tires or asphalt. Oil residues containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers and coatings. PAHs are often found in the outsoles of footwear and in printing pastes for screen prints. PAHs can be present as impurities in Carbon Black. They also may be formed from thermal decomposition of recycled materials during reprocessing **Naphthalene: Dispersing agents for textile dyes may contain high residual naphthalene concentrations due to the use of low-quality naphthalene derivatives (e.g. poor-quality naphthalene sulphonate formaldehyde condensation products).	All materials: AFPS GS 2014	0,2 ppm each
208-96-8	Acenaphthylene					
120-12-7	Anthracene					
191-24-2	Benzo(g,h,i)perylene					
86-73-7	Fluorene					
206-44-0	Fluoranthene					
193-39-5	Indeno(1,2,3-cd)pyrene					
91-20-3	Naphthalene**					
85-01-8	Phenanthrene					
129-00-0	Pyrene					
56-55-3	Benzo(a)anthracene	1 ppm each Child care articles: 0,5 ppm each				
50-32-8	Benzo(a)pyrene					
205-99-2	Benzo(b)fluoranthene					
192-97-2	Benzo(e)pyrene					
205-82-3	Benzo(j)fluoranthene					
207-08-9	Benzo(k)fluoranthene					
218-01-9	Chrysene					
53-70-3	Dibenzo(a,h)anthracene					
	QUINOLINE					
91-22-5	Quinoline	50 ppm		Found as an impurity in polyester and some dyestuffs.	All materials: AFPS GS 2014	10 ppm
	SOLVENTS (RESIDUAL)					
68-12-2	Dimethylformamide (DMFa)	500 ppm		DMFa is a solvent used in plastics, rubber, and polyurethane (PU) coating. Water-based PU does not contain DMFa and is therefore preferable.	All materials: DIN CEN ISO/TS 16189:2013	50 ppm each
75-12-7	Formamide	1000 ppm each		Byproduct in the production of EVA foams used in products such as baby mats.		
127-19-5	Dimethylacetamide (DMAC)			DMAC is a solvent used in the production of elastane fibers and sometimes as substitute for DMFa.		
872-50-4	N-Methyl-2-pyrrolidone (NMP)			Industrial solvent utilized in production of water-based polyurethanes and other polymeric materials. May also be used for surface treatment of textiles, resins, and metal coated plastics or as a paint stripper.		

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Textile Processing for Apparel & Footwear	Suitable Test Method Sample Preparation & Measurement	Reporting Limit
	UV ABSORBERS / STABILIZERS **- corresponding to AFIRM**				
3846-71-7	UV 320	1000 ppm each	PU foam materials such as open cell foams for padding. Used as UV-absorbers for plastics (PVC, PET, PC, PA, ABS, and other polymers), rubber, polyurethane.	DIN EN 62321-6:2016-05 (ultrasonication with THF)	500 ppm each
3864-99-1	UV 327				
25973-55-1	UV 328				
36437-37-3	UV 350				
	VOLATILE ORGANIC COMPOUNDS (VOCs) **- corresponding to AFIRM**				
71-43-2	Benzene	5 ppm	These VOCs should not be used in textile auxiliary chemical preparations. They are also associated with solvent-based processes such as solvent-based polyurethane coatings and glues/adhesives. They should not be used for any kind of facility cleaning or spot cleaning.	For general VOC screening: GC/MS headspace 45 minutes at 120 degrees C.	5 ppm
75-15-0	Carbon Disulfide	Total: 1000 ppm			20 ppm each
56-23-5	Carbon tetrachloride				
67-66-3	Chloroform				
108-94-1	Cyclohexanone				
71-55-6	1,1,1- Trichloroethane				
107-06-2	1,2-Dichloroethane				
75-35-4	1,1-Dichloroethylene				
100-41-4	Ethylbenzene				
76-01-7	Pentachloroethane				
630-20-6	1,1,1,2- Tetrachloroethane				
79-34-5	1,1,2,2- Tetrachloroethane				
127-18-4	Tetrachloroethylene (PER)				
108-88-3	Toluene				
79-00-5	1,1,2- Trichloroethane				
79-01-6	Trichloroethylene				
1330-20-7	Xylenes (meta-, ortho-, para-)				
108-38-3					
95-47-6					
106-42-3					

RESTRICTED SUBSTANCES FOR PACKAGING

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Processing for Packaging Material	Suitable Test Method Sample preparation & Measurement	Reporting Limit
	ALKYLPHENOLS (APS) ALKYLPHENOL ETHOXYLATES (APEOS) INCLUDING ALL ISOMERS - not corresponding to AFIRM				
Various	Nonylphenol (NP), mixed isomers	Total: 100 ppm	APEOS are used as surfactants in the production of plastics, elastomers, paper, and textiles. These chemicals can be found in many processes involving foaming, emulsification, solubilzation, or dispersion. APEOs can be used in paper pulping, lubrication oils, and plastic polymer stabilization. APs are used as intermediaries in the manufacture of APEOs and antioxidants used to protect or stabilize polymers. Biodegradation of APEOs into APs is the main source of APs in the environment. APEOs and formulations containing APEOs are prohibited from use throughout supply chain and manufacturing processes. We acknowledge that residual or trace concentrations of APEOs may still be found at levels exceeding 100 ppm and that more time is necessary for the supply chain to phase them out completely. This limit aligns with forthcoming EU legislation applicable to textiles and was set to provide suppliers direction for continuous improvement.	Textiles: Extraction: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C Measurement: EN ISO 18857-2:2011 (with derivatization) Leather: EN ISO 18218-2:2015 Polymers: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C analysis with LC/MS or LC/MS/MS All other materials: 1 g sample/20 mL THF, sonication for 60 minutes at 70°C analysis with GC/MS	10 ppm sum of NP & OP
Various	Octylphenol (OP), mixed isomers				
Various	Nonylphenol ethoxylates (NPEOs)	Total: 100 ppm		Textiles: EN ISO 18254-1:2016 with determination of AP using LC/MS or GC/MS Leather: EN ISO 18218-1:2015	20 ppm sum of NPEO & OPEO:
Various	Octylphenol ethoxylates (OPEOs)				
	BUTYLATED HYDROXYTOLUENE (BHT) - corresponding to AFIRM				
128-37-0	Dibutylhydroxytoluene (BHT)	25 ppm	Used as an additive in plastics as an antioxidant to prevent aging. Can cause phenolic yellowing of textiles.	ASTM D4275	5 ppm
	Bisphenol-A (BPA) - corresponding to AFIRM				
80-05-7	Bisphenol-A (BPA)	1 ppm	Used in the production of epoxy resins, polycarbonate plastics, flame retardants, and PVC. It is often used as a coating in thermal receipt paper as a developer.	Sample preparation: Extraction: 1 g sample/20 ml methanol, sonication for 60 minutes at 70°C Measurement: DIN EN ISO 18857-2:2011 (mod)	1 ppm
	DIMETHYLFUMARATE - corresponding to AFIRM				
624-49-7	Dimethylfumarate (DMFu)	0.1 ppm	DMFu is an anti-mold agent used in sachets in packaging to prevent the buildup of mold, especially during shipping.	CEN ISO/TS 16186:2012	0.05 ppm

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Processing for Packaging Material	Suitable Test Method Sample preparation & Measurement	Reporting Limit
	FORMALDEHYDE **- corresponding to AFIRM**				
50-00-0	Formaldehyde	150 ppm	Formaldehyde can be found in polymeric resins, binders, and fixing agents for dyes and pigments, including those with fluorescent effects. It is also used as a catalyst in certain printing, adhesives, and heat transfers. Formaldehyde can be used in antimicrobial applications for odor control. Formaldehyde found in packaging can off-gas directly onto product. Composite wood materials (e.g., particle board and plywood) must comply with existing California and forthcoming U.S. formaldehyde emission requirements (40 CFR 770). Though formaldehyde legislation does not specifically apply to packaging, suppliers are advised to refer to brand-specific requirements for these materials.	All materials except leather: JIS L 1041-1983 A (Japan Law 112) or EN ISO 14184-1:2011 Plastics: EN ISO 1484-2 Leather: ISO 17226-2:2008 with ISO 17226-1:2008 confirmation method in case of interferences	16 ppm
	HEAVY METALS **- not corresponding to AFIRM**				
7440-43-9	Cadmium (Cd)	100 ppm (Sum)	Cadmium compounds are used as pigments (especially in red, orange, yellow and green) and in paints. It can also be used as a stabilizer for PVC.	Total: Textiles, plastics, and metal: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	50 ppm (Sum)
18540-29-9	Chromium VI		Though typically associated with leather tanning, Chromium VI also may be used in pigments, chrome plating of metals, and wood preservatives.	Textiles: DIN EN 16711-2:2016 with EN ISO 17075-1:2017 if Cr is detected Leather: EN ISO 17075-1:2017 and EN ISO 17075-2:2017 for confirmation in case the extract causes interference Conditions for leather ageing: 24 hours, 80°C, maximum 5% relative humidity, no ventilation Ageing test: ISO 10195:2018 Method A2 is used at brand discretion.	
7439-92-1	Lead (Pb)		May be associated with plastics, paints, inks, pigments, and surface coatings.	Total: DIN EN 16711-1:2016 Lead in paint and surface coating: CPSIA Section 101 16 CFR 1303	
7439-97-6	Mercury (Hg)		Mercury compounds can be present in pesticides and as contaminants in caustic soda (NaOH). They may also be used in paints.	Total: Textiles, plastics, metal: DIN EN 16711-1:2016 Leather: DIN EN ISO 17072-2:2017	

CAS No.	Substance	Limits Raw Material & Finished Product	Potential Uses Processing for Packaging Material	Suitable Test Method Sample preparation & Measurement	Reporting Limit
	ORGANOTIN COMPOUNDS - corresponding to AFIRM				
Various	Dibutyltin (DBT)	1 ppm each	Class of chemicals combining tin and organics such as butyl and phenyl groups. Organotins are predominantly found in the environment as antifoulants in marine paints, but they can also be used as biocides (e.g., antibacterials), catalysts in plastic and glue production, and heat stabilizers in plastics/rubber. In textiles and apparel packaging, organotins are associated with plastics/ rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.	CEN ISO/TS 16179:2012	0.1 ppm each
Various	Dioctyltin (DOT)				
Various	Monobutyltin (MBT)				
Various	Tricyclohexyltin (TCyHT)				
Various	Trimethyltin (TMT)				
Various	Trioctyltin (TOT)				
Various	Tripropyltin (TPT)				
Various	Tributyltin (TBT)	0.5 ppm each			
Various	Triphenyltin (TPhT)				
	PERFLUORINATED AND POLYFLUORINATED CHEMICIALS (PFCs) - not corresponding to AFIRM				
Various	Perfluorooctane Sulfonate (PFOS) and related substances	1 µg/m^2	PFOA and PFOS may be present as unintended byproducts in long-chain and short-chain commercial water, oil and stain repellent agents. PFOA may also be used in polymers like polytetrafluoroethylene (PTFE). The area-based limit for PFOA will be superseded by Commission Regulation (EU) 2017/1000 and removed in 2023.	All materials: prISO FDIS 23702-1: 2018	1 µg/m^2 each
Various	Perfluorooctanoic Acid (PFOA) and its salts	1 µg/m^2 25 ppb total			
Various	PFOA-related substances	1000 ppb total			1000 ppb total
	PHTHALATES - not corresponding to AFIRM				
28553-12-0	Di-Iso-nonylphthalate (DINP)	500 ppm each Total: 1000 ppm	Esters of ortho-phthalic acid (Phthalates) are a class of organic compound commonly added to plastics to increase flexibility. They are sometimes used to facilitate the moulding of plastic by decreasing its melting temperature. Phthalates can be found in: Flexible plastic components (e.g., PVC) Print pastes Adhesives Plastic buttons Plastic sleeves Polymeric coatings The listed Phthalates are those most commonly used and regulated across industry sectors. Find more information about additional Phthalates on the REACH substances of very high concern (SVHC) candidate list, which is updated frequently.	Sample preparation: CPSC-CH-C1001-09.4 Measurement: Textile: GC-MS, EN ISO 14389:2014 Leather: GC-MS Plastics: EN 14372	50 ppm each
117-84-0	Di-n-octylphthalate (DNOP)				
117-81-7	Di(2-ethylhexyl)-phthalate (DEHP)				
26761-40-0	Diisodecylphthalate (DIDP)				
85-68-7	Butylbenzylphthalate (BBP)				
84-74-2	Dibutylphthalate (DBP)				
84-69-5	Diisobutylphthalate (DIBP)				
84-75-3	Di-n-hexylphthalate (DnHP)				
84-66-2	Diethylphthalate (DEP)				
131-11-3	Dimethylphthalate (DMP)				
84-61-7	Dicyclohexyl phthalate (DCHP)				

FURTHER REQUIREMENTS

Parameter	Limits	Comment	Suitable Test Method Sample Preparation & Measurement
SUBSTANCES RELEVANT FOR GB 18401:2010 CLASS B – pH VALUE FOR TEXTILES			
pH Value	Skin contact: 4,0 – 8,5	In case the requirements to pH-Value in our Material Information (MI) are stricter the vendor has to follow the MI requirements!	GB/T 7573
SUBSTANCES RELEVANT FOR GB 18401:2010 CLASS B – COLOR FASTNESS FOR TEXTILES			
Color fastness to Perspiration	minimum Grade 3	In case the requirements to colorfastness in our Material Information (MI) are stricter the vendor has to follow the MI requirements!	GB/T 3922
Color fastness to Dry rubbing	minimum Grade 3		GB/T 3920
Color fastness to Water	minimum Grade 3		GB/T 5713
SUBSTANCES RELEVANT FOR GB 18401:2010 CLASS B – ODOR FOR TEXTILES			
Odor (general)	No abnormal odor		GB 18401-2010: 6.7

Parameter	Limits	Comment	Suitable Test Method Sample Preparation & Measurement
REGULATION FOR MOLD			
Mold	Avoidance of mold or mildew	Raw materials, semi-finished or finished goods must not have traces of mold or mildew in order to avoid fungi growth. Warm and humid climate conditions may foster the growth especially during storage and transportation. It is recommended to perform tests at inbound and/or outbound.	AATCC Test Method 30-2013 Antifungal Activity ASTM G21 ISO 16187:2013
REGULATON FLAMMABILITY FOR TEXTILES			
Flammability[2]	Class 1	To be tested: - All fabrics with a weight under 90 g/m2 have to be tested, if they are NOT made of the exception fibers (see below) - All fabrics with raised fibers or hairy surfaces have to be tested independent from weight, if they are NOT made of the exception fibers (see below) Not to be tested: - All fabrics with a weight over 90 g/m2 are not required to be tested in detail as they are assumingly classified 1 Exceptional fibers: Fabrics made entirely of the following fibers or entirely from a combination of the fibers: - Acrylic - Modacrylic - Nylon (Polyamid) - Olefin - Polyester - Wool do not have to be tested independent from weight or fabric surface Exceptional products: hats, gloves, footwear, real fur, interlining and padding These exceptions do not need a Certification of Compliance (CoC). Included are all textile fabrics and textile trimmings.	16 C.F.R. 1610
FIBER COMPOSITION			
Material composition		The fiber composition of textiles must be given according to the Regulation (EU) No 1007/2011 of the European Parliament and of the Council on textile fiber names and related labeling and marking of the fiber composition of textile products (Textilkennzeichnungsverordnung). The fiber composition must be given in their full name not in abbreviations. The regulation can be found in all EU languages on the following website: http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1426599308357&uri=CELEX:32011R1007	

[2] Flame-retardants may not be used! See table Flame-retardants

Parameter	Limits
SUBSTANCES RELEVANT FOR REACH ACCORDING TO CANDIDATE LIST (SVHC)	
List of substances of very high concern under REACH (SVHC) to be found under the following web links: DE: http://echa.europa.eu/de/candidate-list-table EN: https://echa.europa.eu/candidate-list-table **Vendor is obliged to regularly check for SVHC candidate list which are relevant for respective products. Some substances might be regulated with stricter limits.**	< 1000 ppm each listed substance in finished goods or materials Declaration necessary if the requirement is not met.
SUBSTANCES RELEVANT FOR REACH ACCORDING TO APPENDIX XIV	
List of substances relevant under REACH Appendix XIV to be found under the following web links: DE: https://echa.europa.eu/de/authorisation-list EN: https://echa.europa.eu/authorisation-list **Vendor is obliged to regularly check for REACH Appendix XIV substances which are relevant for respective products.**	Usage ban
SUBSTANCES RELEVANT FOR REACH ACCORDING TO APPENDIX XVII	
The restrictions of substances relevant for REACH under Appendix XVII are already considered within the present RSL. https://echa.europa.eu/substances-restricted-under-reach **However Vendor is obliged to regularly check for REACH Appendix XVII substances which are relevant for respective products.**	
BIOCIDE REGULATION	
Valid for: Textile and Leather The vendors pledge themselves not to violate the Biocidal Products Directive (repealed by the BPR from 1 September 2013). This European Biocidal Products Regulation (EU) No. 528/2012 valid since September 1st, 2013 regulates that only 'Biocidal treated products' treated with or intentionally incorporating biocidal products can be sold on the European markets that are approved by the ECHA (European Chemicals Agency) and that they need to be declared. Examples are products with 'anti-bacterial', 'anti-odor' or 'anti-fungicide' characteristics. The Vendors are obliged to inform his contact person in HUGO BOSS about styles/ products treated with such substances via the biocide questionnaire. This form can be asked from the contact person at HUGO BOSS. Further information about the biocide regulation is available on the website of the ECHA. DE: https://echa.europa.eu/de/regulations/biocidal-products-regulation/understanding-bpr EN: https://echa.europa.eu/regulations/biocidal-products-regulation/understanding-bpr	