

RESTRICTED SUBSTANCE LIST

New Wave Group
Chemical Requirements
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RSL

New Wave
G R O U P



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PREFACE

It is important to New Wave Group that our products are safe and free from banned chemicals. The manufacturing process can involve many toxic substances with negative effects on both human health and the environment.

This RSL has been developed by New Wave Group in accordance with various national and multi-national legislations, e.g. REACH, POPs Regulation 2019/1021 (previous 850/2004) and Biocide Regulation 538/2012, also taking into account industry recommendations and standards such as Oeko Tex and the recommendations of the Swedish Chemicals Group.

Please note in particular that no substance included on the REACH candidate list is allowed in concentrations above 0.1% by weight.

All New Wave Group Suppliers must follow the requirements in this RSL.

You must continuously monitor the requirements of the European Union REACH Annex XVII/ Annex XIV / The Candidate List, the United States TSCA and the California Proposition 65 (The Safe Drinking Water and Toxic Enforcement Act) specifically.

We expect our suppliers to cooperate with our CSR- and Lab Department in order to ensure safe handlings of chemicals and delivery of safe and compliant products. Suppliers are required to communicate and keep us informed about substances used to manufacture our products.

If any doubts regarding compliance, please make contact with us to help solve the issue

New Wave Group performs regular and random testing on selected articles. Such tests are intended to ensure that the product is compliant. A limited number of products could be tested at the Supplier's expense. Products that should be tested are decided by New Wave Groups Lab Department or Quality Department. New Wave Group does not perform a complete chemical testing package to check the full compliance of a product. The Supplier is fully responsible to make sure that all products delivered to New Wave Group comply with current legislation and this RSL.

Any product that is found to be violating this RSL will be rejected.

The supplier will be claimed for the cost of the products and any additional costs caused by the non-compliance.

CAS NO = Chemical Abstracts Service number

CI = Color Index number.

1000 **mg/kg** = 1000 **ppm** = 0,1 % by weight

LOQ = Limit of quantification. The smallest concentration of an analyte that can be reliably measured by an analytical procedure.

ND = NOT DETECTED = The substance should not be present in products

GUIDELINES TO AVOID RESTRICTED SUBSTANCES

Make sure all your subcontractors, accessory suppliers, dye mills, print mills, tanneries and chemical suppliers are aware of New Wave Groups Chemical Restrictions and have the latest updated version available.

Use dyestuffs, pigments and textile auxiliaries from reputable manufacturers only. More information about dye manufacturers is available from the Ecological Toxicological Association of Dyestuffs (ETAD) in Switzerland; www.etad.com

When choosing a reputable chemical vendor, Suppliers can often get necessary technical support and dye recipe for free to be able to comply with both chemical and quality requirements. When considering total cost (energy, water, time, total chemical usage, quality tests etc.) it will be beneficial.

Study of New Wave Groups Chemical Restrictions can help to reveal whether the materials used are free from banned amines, disperse dyes and restricted metals and chemicals. Supplier should also consider New Wave Groups Quality Requirements which are shown in the Fabric ID Form (e.g. staining, dry rubbing).

Make a list of all dyes and chemical products currently used along with their CAS/C.I. number and check it with the restricted substances list and the list of dyestuffs in this RSL.

Ensure compliance with the Chemical Requirements by testing the product or garment at a laboratory. New Wave Group may request test results from authorized third party to prove compliance, if deemed necessary.

To achieve a correct and reliable test result, it is very important to use the test methods stated in New Wave Group's Chemical Restrictions. There are many laboratories around the world that are capable of performing these tests, although with varying levels of competence and types of equipment. For certain substances, there are no standardized methods.

Pay attention to accessories like buttons, sequins, badges, zippers etc. to make sure they follow set restriction limits for Lead, Phthalates, PVC etc.

Make sure dye mills, print mills and tanneries are not using products containing APEOs.

Make sure to check whether your dyes contain Chromium (Cr). This is risky for dark shades on Silk, Wool and Polyamide (Nylon).

The information about substances in this document does not claim to be complete, it is meant to work as a guideline. For example, there might be more fields of application for a substance than mentioned in this document. The Supplier is responsible to ensure that no restricted substances are present in any of New Wave Groups products.

PRODUCT-RELATED CHEMICALS

Product related, or property lending, chemicals are used to give the product certain properties such as dyes and flame retardants. Many of these chemicals are shown to cause health or environmental problems.

1.1 AZO-DYES

Dyes or Pigments that are degradable to one or more of the banned arylamines listed below may not be used.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	p-Aminoazobenzene (C.I. Solvent Yellow 1)	60-09-3	NOT DETECTED
2	2,6-Xylidines	87-62-7	
3	o-Anisidine	90-04-0	
4	2-Naphthylamine	91-59-8	
5	3,3'-Dichlorobenzidine	91-94-1	
6	4-Aminodiphenyl	92-67-1	
7	Benzidine	92-87-5	
8	o-Toluidine	95-53-4	
9	2,4-Xylidines	95-68-1	
10	4-Chloro-o-toluidine	95-69-2	
11	2,4-toluylendiamine	95-80-7	
12	o-Aminoazotoluene (C.I. Solvent Yellow 3)	97-56-3	
13	2-Amino-4-nitrotoluene	99-55-8	
14	4-chloro-o-toluidinium chloride	3165-93-3	
15	2-Naphthylammoniumacetate	553-00-4	
16	4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	
17	2,4,5-trimethylaniline hydrochloride	21436-97-5	
18	4,4'-Methylene-bis- (2-chloroaniline)	101-14-4	
19	4,4'-Diaminodiphenylmethane	101-77-9	
20	4,4'-Oxydianiline	101-80-4	
21	4-Chloroaniline	106-47-8	
22	3,3'-Dimethoxybenzidine	119-90-4	
23	3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7	
24	p-Cresidine	120-71-8	
25	2,4,5-Trimethylaniline	137-17-7	
26	4,4'-Thiodianiline	139-65-1	
27	2,4-Diaminoanisole	615-05-4	
28	3,3'-Dimethyl-4,4'--diaminodiphenylmethane	838-88-0	

APPROVED TEST METHODS:
Textile: EN 14362-1:2017. Leather: ISO 17234-1:2010
(Methods specified in REACH Annex XVII, Appendix 10)
LOQ: 20 mg/kg (per each of the arylamine breakdown products).

LEGAL REFERENCE

- REACH Annex XVII (30 mg/kg per each of the arylamine breakdown products in the dyed parts of the article, which may come into direct and prolonged contact with the human skin or oral cavity) and Candidate List.

Proposition 65

- Several arylamines are known to the State of California to cause cancer.
Safe Harbor Limit: NSRL 0.001-110 µg/day. No information on settlements.

1.2 ALLERGENIC DISPERSE DYES AND NAVY BLUE (MORDANT DYE)

Dyes which are classified as highly allergenic. Suppliers must use other dyes.

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	C.I. Disperse Blue 1	2475-45-8	NOT DETECTED
2	C.I. Disperse Blue 3	2475-46-9	
3	C.I. Disperse Blue 7	3179-90-6	
4	C.I. Disperse Blue 26	3860-63-7	
5	C.I. Disperse Blue 35	12222-75-2	
6	C.I. Disperse Blue 102	12222-97-8	
7	C.I. Disperse Blue 106*	12223-01-7, 68516-81-4	
8	C.I. Disperse Blue 124*	61951-51-7	
9	C.I. Disperse Brown 1	23355-64-8	
10	C.I. Disperse Red 1*	2872-52-8	
11	C.I. Disperse Red 11	2872-48-2	
12	C.I. Disperse Red 17	3179-89-3	
13	C.I. Disperse Orange 1	2581-69-3	
14	C.I. Disperse Orange 3*	730-40-5	
15	C.I. Disperse Orange 37/59/76*	13301-61-6	
16	C.I. Disperse Orange 149	85136-74-09	
17	C.I. Disperse Yellow 1*	119-15-3	
18	C.I. Disperse Yellow 3*	2832-40-8	
19	C.I. Disperse Yellow 9	6373-73-5	
20	C.I. Disperse Yellow 23	6250-22-3	
21	C.I. Disperse Yellow 39	12236-29-2	
22	C.I. Disperse Yellow 49	54824-37-2	
23	Navy Blue	405-665-4 (EC #)	

APPROVED TEST METHODS:

DIN 54231 for textiles (qualitative)
EN ISO 16373 (extractable dyestuffs)
LOQ: 50 mg/kg

LEGAL REFERENCE

* Disperse dyes banned in Germany
Navy Blue: REACH Annex XVII entry 43-3, Appendix 9 (0,1 % by mass)

1.3 CMR TOXIC DYES (Carcinogenic, Mutagenic, Reproductive)

Dyestuffs that are classified as carcinogens, mutagenic, reproductive toxic according to CLP			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	C.I. Disperse Blue 1	2475-45-8	NOT DETECTED
2	C.I. Solvent Blue 4	6786-83-0	
3	C.I. Direct Blue 6	2602-46-2	
4	C.I. Direct Blue 15	2429-74-5	
5	C.I. Basic Blue 26	2580-56-5	
6	C.I. Direct Black 38	1937-37-7	
7	C.I. Direct Brown 95	16071-86-6	
8	C.I. Disperse Orange 11	82-28-0	
9	C.I. Disperse Orange 149	85136-74-9	
10	C.I. Basic Red 9	569-61-9	
11	C.I. Acid Red 26	3761-53-3	
12	C.I. Acid Red 114	6459-94-5	
13	C.I. Direct Red 28	573-58-0	
14	C.I. Basic Violet 3	548-62-9	
15	C.I. Basic Violet 14	632-99-5	
16	C.I. Disperse Yellow 3	2832-40-8	
17	Michler's base	101-61-1	
18	4,4'-bis(dimethylamino)-4''-(methylamino)trityl-alcohol	561-41-1	

APPROVED TEST METHODS:
Textile: EN ISO 16373 (extractable dyestuff)
LOQ: 50 mg/kg

LEGAL REFERENCE

- No 2, 5, 14, 17 and 18 are SVHC and on the Candidate List. No 6, 13 Registry of Intentions.
- Other dyes are classified as carcinogenic in the CLP-directive, see Annex XVII entries 28-30.
- From 1 November 2020, C.I. Disperse Blue 1, C.I. Basic Red 9 and C.I. Basic Violet 3 with $\geq 0,1$ % of Michler's ketone will have a restriction limit of 50 mg/kg in textiles.

Proposition 65

- Several dyestuffs are known to the State of California to cause cancer.
Safe Harbor Limit: NSRL 0.09-300 $\mu\text{g}/\text{day}$. No information on settlements.

1.4. OTHER BANNED DYESTUFF

Other banned dyestuff restricted in Standard 100 by Oeko Tex			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	C.I. Acid Violet 49	1694-09-3	NOT DETECTED
2	C.I. Basic Green 4 (oxalate)	2437-29-8	
3	C.I. Basic Green 4 (free)	10309-95-2	
4	C.I. Basic Green 4 (chloride)	569-64-2	
5	C.I. Basic Violet 1	8004-87-3	
6	C.I. Direct Blue 218	28407-37-6	
7	C.I. Solvent Yellow 2	60-11-7	
8	C.I. Solvent Yellow 16	842-07-9	

APPROVED TEST METHODS:
Textile: EN ISO 163373 (extractable dyestuff)
LOQ: 50 mg/kg

1.5 FORMALDEHYDE

Shrinkage-resistant treatment. Wrinkle-resistant treatment. Dirt repellent-treatment. Dye fixing agent. Preservative.			
NO	RESTRICTED AREA	CAS NO	RESTRICTED LIMIT
1	Products for children age 0-3 years	50-00-0	20 mg/kg
2	Products for children above 3 years	50-00-0	75 mg/kg
3	Products for adults with direct skin contact	50-00-0	75 mg/kg
4	Products for adults without direct skin contact	50-00-0	150 mg/kg

APPROVED TEST METHODS
 Textile: ISO 14184-1. Leather: ISO 17226-2
 LOQ: 16 mg/kg

LEGAL REFERENCE

- Several national legislations, with various limits. Formaldehyde have a restriction limit of 75 mg/kg in clothing, related accessories, textiles other than clothing in skin contact, or footwear (CMR fast track) according to REACH Annex XVII. The CMR fast track restriction does not apply to clothing, related accessories, textiles other than clothing, or footwear within the scope of Regulation (EU) 2016/425 (PPE).

Proposition 65

- Formaldehyde (gas) is known to the State of California to cause cancer.
 Safe Harbor Limit: NSRL 40 µg/day. No information on settlements.

1.6 FLAME RETARDANTS

Bromoorganic + chloroorganic chemical flame retardants with persistent, bioaccumulative and toxic qualities.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	TBPP [Tris-(2,3-dibromopropyl)phosphate]	126-72-7	[Last sold in 1977]
2	TEPA [Tris(aziridinyl)-phosphine oxide]	545-55-1	NOT DETECTED
3	BBP [Bis(2,3dibromopropyl)Phosphate]	5412-25-9	
4	TetraBDE [Tetrabromodiphenyl Ether]	5436-43-1, 40088-47-9	
5	PentaBDE [Pentabromodiphenyl Ether]	32534-81-9, 60348-60-9	
6	HexaBDE [Hexabromodiphenyl Ether]	68631-49-2, 207122-15-14, 36483-60-0	
7	HeptaBDE [Heptabromodiphenyl Ether]	207122-16-5, 446255-22-7, 68928-80-3	
8	OctaBDE [Octabromodiphenyl Ether]	32536-52-0	
9	DecaBDE [Decabromodiphenyl Ether]	1163-19-5	
10	TBBPA [Tetrabromobisphenol A]	79-94-7	
11	PCBs [Polychlorinated Biphenyls]	various	
12	PBBs [Polybromobiphenyls]	59536-65-1	
13	TCEP [Tris(2-chloroethyl)phosphate]	115-96-8	
14	HBCD, HBCDD [Hexabromocyclododecane]	25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8	
15	TDCP [Tris(1,3-dichloro-isopropyl)]	13674-87-8	
16	TOCP [Tri-o-cresyl phosphate]	78-30-8	
17	1,6,7,8,9,14,15,16,17,17,18,18 Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca 7,15-diene (Dechlorane Plus)	13560-89-9, 135821-74-8, 135821-03-3	

APPROVED TEST METHODS
 EN ISO 17881-1 (textiles) EN 16377 for PBB (plastics)
 Test equipment: GC-MS, LC-MS, GC-ECD, (XRF to detect chlorine)
 LOQ: 20 mg (LOQ Dechlorane™ Plus: 100 mg/kg)

LEGAL REFERENCE

- TEPA - REACH Annex XVII (phosphorous organic)
- PentaBDE – POPs
- OctaBDE - REACH Annex XVII + suggested POPs
- DecaBDE - REACH Annex XVII
- PBBs - Rotterdam Convention
- TCEP - REACH Candidate List
- HBCDD – REACH Candidate List and listed in the Stockholm Convention on Persistent Organic Pollutants (POPs) and banned by Regulation (EC) No 2019/1021.
- Commercial TetraBDE, PentaBDE, HexaBDE, HeptaBDE, DecaBDE (sum 500 ppm in products) and Hexabromobiphenyl are listed in the Stockholm Convention on Persistent Organic Pollutants (POPs) and banned by Regulation (EC) No 2019/1021.
- Dechlorane™ Plus – REACH Candidate List

Proposition 65

- Pentabromodiphenyl ether mixture [DE-71 (technical grade)] is known to the State of California to cause cancer. Safe Harbor Limit: None. No information on settlements.
- Polybrominated and polychlorinated biphenyls are known to the State of California to cause cancer and birth defects or other reproductive harm Safe Harbor Limit: NSRL PBB 0.02 µg/day, PCB 0.09 µg/day. None for reproductive harm. No information on settlements.
- TCEP is known to the State of California to cause cancer. Safe Harbor Limit: None. Settlements agreed at 25 ppm TCEP for PVC rainwear.

1.7 BORIC ACID, BORATE COMPOUNDS

Boric acid and other boron compounds may be used as flame retardant in cellulosic materials, mainly wood, and biocidal agent in boards. Borate compounds may be used as bleaching agents in chemical preparations.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Boric acid	10043-35-3, 11113-50-1	1000 MG/KG (0,1 %)
2	Disodium tetraborate anhydrous	1303-96-4, 12179-04-3, 1330-43-4	1000 MG/KG (0,1 %)
3	Tetraboron disodium heptaoxid, hydrate	12267-73-1	1000 MG/KG (0,1 %)
4	Sodium perborate; perboric acid, sodium salt	234-390-0	1000 MG/KG (0,1 %)
5	Sodium peroxometaborate	7632-04-04	1000 MG/KG (0,1 %)
6	Disodium octaborate	12008-41-2	1000 MG/KG (0,1 %)
7	Orthoboric acid, sodium salt	13840-56-77	1000 MG/KG (0,1 %)

APPROVED TEST METHODS:
No standardised test method available. Test equipment: AAS, ICP-MS and ICP-OES.
LOQ: 25 mg/kg for individual compounds (10 mg/kg for total Boron content)

LEGAL REFERENCE
REACH Candidate List

1.8 CHLORINATED PARAFFINS

Plasticizers and flame retardants for plastic materials. Very persistent and toxic for organisms.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Short Chain Chlorinated Paraffins (C10-C13)	85535-84-8	NOT DETECTED
2	Medium Chain Chlorinated Paraffins (C14-C17)	85535-85-9, 198840-65-2, 1372804-76-6	
3	Long Chain Chlorinated Paraffins (C18-)	85535-86-0	

APPROVED TEST METHODS:
ISO 18219 (leather)
EN ISO 22818 (textiles)
Test equipment: GC-MS, LC-MS.
LOQ: 100 mg/kg (textiles).

LEGAL REFERENCE

- REACH Annex XVII. Short and Medium Chain Chloro-paraffins are listed on the Candidate List and banned by POPs regulation (EC) No 2019/1021.

Proposition 65

- Chloroparaffins are known to the State of California to cause cancer. Safe Harbor Limit: NSRL 8 µg/day. No information on settlements.

1.9 PER AND POLYFLUORINATED COMPOUNDS (PFAS)

Highly fluorinated carboxylic and sulfonic acids and highly fluorinated ethers. Water- and grease-repellent substances and related substances. For a list of key PFAS related substances, see Appendix 1.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	PFOS [Perfluorooctane sulphonate] and related substances	1763-23-1	NOT DETECTED
2	PFOA [Perfluorooctanoic acid] and related substances	335-67-1	NOT DETECTED
3	HFPO-DA and related substances	13252-13-6, 67118-55-2, 2062-98-8, 62037-80-3	NOT DETECTED

APPROVED TEST METHODS
PFOS: EN/TS 15968:2009. Test equipment: LC-MS. LOQ: 0.1 µg/m².
PFOA: No standardised test method available. Test Equipment LC-MS. LOQ: 10 µg/kg.

LEGAL REFERENCE

- PFOS is listed in the Stockholm Convention. It is regulated in EU Regulation 2019/1021 - Annex 1, where the restricted limit 1 µg/m² for textile is found. Also REACH Annex XVII p 53. The limit corresponds with Oeko Tex 100.
- PFOA is a potential carcinogenic. Listed on REACH Candidate List. Restricted in consumer goods in Norway with PFOA more than 1 µg/m² (1 juni 2014).
- HFPO-DA, its salts and its acyl halides are listed on REACH Candidate List.
- From 4 July 2020, PFOA and its salts are restricted in articles and mixtures in a concentration equal to or above 25 ppb of PFOA including its salts or 1 000 ppb of one or a combination of PFOA-related substances.
- From 4 July 2023 the restriction applies to textiles for the protection of workers from risks to their health and safety. REACH Annex XVII, entry 68.

Proposition 65

- PFOS and PFOA is known to the State of California to cause birth defects or other reproductive harm. Safe Harbor Limit: None. No information on settlements.
- Highly fluorinated ethers (i.e. HFPO-DA) are not listed under Proposition 65.

ALTERNATIVES TO PFC and C8

Short-chained PFAS (≤ C6)

Major manufacturers and global regulators have agreed to stop the production of long-chain fluorinated substances and replace them with short-chained fluorinated substances, e.g. C4 and C6. These substances also implicate some concerns regarding persistence and contamination of the environment. However, where performance only can be met with PFAS's, short-chained are the preferred alternative. In order to avoid PFOA, C8 may not be used.

Non-Fluorinated Substances

Where oil repellent properties are not essential and just water repellency is required, non-fluorinated chemistries (C0) such as waxes and paraffins but not silicones are requested.

1.10 PHTHALATES

Hazardous to human health and environment. Phthalates are used to make plastics more flexible and soft.
Risk materials and products: PVC, prints, coated fabrics, shoe soles and flexible plastic articles.

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	DINP [Di-isononyl phthalate]	28553-12-0, 68515-48-0	0.1% by weight (1000 mg/kg) for regulated phthalates (sum of) in the material of interest (e.g. a print)
2	DEHP [Di(ethylhexyl) phthalate]	117-81-7	
3	DNOP [Di-n-octyl phthalate]	117-84-0	
4	DIDP [Di-iso-decyl phthalate]	26761-40-0, 68515-49-1	
5	BBP [Butyl benzyl phthalate]	85-68-7	
6	DBP [Dibutyl Phthalate]	84-74-2	
7	DPP (Dipentyl phthalate)	131-18-0	
8	DIBP [Diisobutyl phthalate]	84-69-5	
9	DHNUP [Di(C7-C11 alkyl)phthalate]linear+branched	68515-42-4	
10	DIHP [Di(C6-C8 alkyl)phthalate]branched	71888-89-6	
11	BMEP [Bis(2-methoxyethyl)phthalate]	117-82-8	
12	DHP [Di-n-Hexyl phthalate]	84-75-3	
13	DIPP [Di isopentyl phthalate]	605-50-5	
14	N-pentyl-isopentylphthalate	776297-69-9	
15	1,2-Benzenedicarboxylic acid, dipentylester branched and linear	84777-06-0	
16	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	
17	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters with ≥ 0.3% of dihexyl phthalate (84-75-3)	68515-51-5	
18	1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (84-75-3)	68648-93-1	
19	DCHP (dicyclohexyl phthalate)	84-61-7	
20	DnHP	84-75-3	
21	Diisohexyl phthalate	71850-09-4	

APPROVED TEST METHODS:

ISO 14389. Test equipment: GC-MS, LC-MS. LOQ: 100 mg/kg.

LEGAL REFERENCE

- REACH Candidate List, Annex XIV, Annex XVII for Childrens' Articles:
- 0.1% by weight of the plasticized material in all articles for DEHP, DBP and BBP
- 7 July 2020, 0.1% by weight of the plasticized material in all articles for DEHP, DBP, BBP and DIDP.
- 0.1% by weight of the plasticized material in toys and childcare articles which can be placed in the mouth for DEHP, DBP, BBP, DINP, DIDP and DNOP.
- DEHP, DBP, BBP and DIBP, DIHP, DHNUP, DMEP, 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear, DIPP, N-pentyl-isopentylphthalate and DPP are listed in REACH Candidate List
- Dihexyl phthalate, 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear, 1,2-benzenedicarboxylic acid, diC6-10-alkyl esters with ≥ 0.3% of dihexyl phthalate (84-75-3): 68515-51-5
1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (84-75-3): 68648-93-1 DCHP and Diisohexyl phthalate are listed in the REACH Candidate List.
- All phthalates in toys and childcare articles for children aged 0-3 years are restricted (0.05%) in Denmark (BEK nr 855).

Proposition 65

- BBP and DINP are known to the State of California to cause cancer. Safe Harbor Limit: NSRL BBP 1200 µg/day (oral), DINP 146 µg/day.
- DEHP is known to the State of California to cause cancer and birth defects or other reproductive harm. Safe Harbor Limit: NSRL 310 µg/day (oral). None for reproductive harm.
- DBP, DnHP and DIDP are known to the State of California to cause birth defects or other reproductive harm. Safe Harbor Limit: MADL DBP 8.7 58 µg/day, DnHP 2200 µg/day (oral), DIDP 2200 µg/day.
Settlements agreed at 1000 ppm for various products for DBP, DEHP, DIDP, DINP and DnHP.

1.11 HEAVY METALS

Total Content and Releasable. Surface treatment. Pigment in Dye Stuffs. Stabilizers and pigment in plastics. Plastic and Metal Accessories. For a list of Lead related substances, see Appendix 2			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Cadmium (Cd) (including oxide, sulphide, chloride, fluoride, sulphate, nitrate, carbonate, hydroxide)	7440-43-9 (1306-19-0) (1306-23-6) (10108-64-2) (7790-79-6) (10124-36-4, 31119-53-6) (10325-94-7) (513-78-0) (21041-95-2)	NOT DETECTED
2	Lead (Pb) and lead salts	7439-92-1	Should not be present in textiles. 100 mg/kg for lead as a metal in plastic and metallic accessories.
3	Nickel (Ni)	7440-02-0	0,5 µg/cm ² /week (migration limit)
4	Arsenic (As)	7440-38-2	100 mg/kg
6	Mercury (Hg)	7439-97-6	0,5 mg kg

EXTRACTABLE			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Antimony (Sb)	7440-36-0	30 mg/kg
2	Arsenic (As) (including Diarsenic Pentoxide, Diarsenic Trioxide, Triethyl arsenate, Arsenic acid, Calcium arsenate)	7440-38-2 (1303-28-2) (1327-53-3) (15606-95-8) (7778-39-4) (7778-44-1)	0,2 mg/kg (baby) 1,0 mg/kg (others)
3	Cadmium (Cd)	7440-38-2	0,1 mg/kg
4	Chromium (Cr)	7440-47-3	1,0 mg/kg (baby) 2,0 mg/kg (others)
5	Cobalt (Co)	7440-48-4	1,0 mg/kg (baby) 4,0 mg/kg (other)
6	Copper (Cu)	7440-50-8	25 mg/kg (baby) 50 mg/kg (others)
7	Lead (Pb)	7439-92-1	0,2 mg/kg (baby) 1,0 mg/kg (others)
8	Mercury (Hg)	7439-97-6	NOT DETECTED
9	Nickel (Ni)	7440-02-0	0.5 µg per cm ² and week for products intended to come into direct and prolonged contact with the skin. 0.2 µg per cm ² and week for piercing items.

APPROVED TEST METHODS

Cd, Pb, As, Hg:

EN16711-1 (total content in textiles)

EN 16711-2 (extractable content in textiles)

EN ISO 17072-1 (extractable content in leather)

EN ISO 17072-2 (total content in leather)

LOQ: 10 mg/kg (total content), 0.1 mg/kg (extractable content).

Test equipment: XRF screening for metal chromium, lead and mercury. LOQ: 50 mg/kg.

Ni: EN 12472:2005+A1:2009 and EN 1811:2011+A1:2015 (for coated items)

EN 1811:2011+A1:2015 (for non-coated item)

(CEN methods specified in REACH Annex XVII, entry 27)

LOQ:0.02 µg/cm²/week

LEGAL REFERENCE

- **Cd:** legal limit 100 mg/kg in articles produced from plastic material and in the paint of painted articles.
- REACH Annex XVII + Candidate List
- Cadmium is restricted in Denmark. Danish legal limits: 75 mg/kg.
- Directive (EC) No 94/62/EC of 20 December 1994 on packaging and packaging waste:
The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium VI present in packaging or packaging components shall not exceed 100 ppm by weight.
- **As, Hg:** Total content with reference to Standard 100 by Oeko-Tex

Proposition 65

- Mercury, Cadmium and cadmium compounds, lead and lead compounds, are known to the State of California to cause cancer and birth defects or other reproductive harm. Metallic nickel and inorganic arsenic compounds are known to the State of California to cause cancer. Inorganic arsenic oxides are known to the State of California to cause birth defects or other reproductive harm.
- Safe Harbor Limit Cd: MADL cadmium 4.1 µg/day (oral). None for cancer effects. No information on settlements.
- Safe Harbor Limit Ld: NRSL lead acetate 23 µg/day (oral), lead 15 µg/day (oral), lead phosphate 58 µg/day (oral), lead subacetate 41 µg/day (oral), MADL lead 0.5 µg/day. Settlements agreed at 50, 90 or 100 ppm for various products.
- Safe Harbor Limit Metallic Nickel: None. No information on settlements.
- Safe Harbor Limit inorganic arsenic compounds: NSRL 0.06 µg/day (inhalation), 10 µg/day (except inhalation)
- Safe Harbor Limit Inorganic arsenic oxides: None. No information on settlements.

1.12 CHROMIUM VI (6)

The restriction applies to leather articles and articles containing leather parts used by consumers or workers that under normal or reasonably foreseeable conditions of use come into contact with the skin. Exposure to Chromium VI, when contained in leather articles or leather parts of articles poses a risk to human health and is dangerous for the environment. For a list of related substances, see Appendix 2			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Chromium VI (Cr + 6)	18540-29-9	NOT DETECTED
<p>APPROVED TEST METHODS: EN ISO 17075-1, (Colorimetric method), 17075-2 (Chromatographic method) for leather. No standardized test method available for textiles. Test equipment: UV-VIS Spectrometer. LOQ: 0.5 mg/kg Test equipment: XRF screening for metal chromium. LOQ: 50 mg/kg.</p> <p>LEGAL REFERENCE</p> <ul style="list-style-type: none"> REACH Annex XVII + Candidate List for Chromium VI compounds. Restriction limit 1 mg/kg for extractable chromium content in textiles. Directive (EC) No 94/62/EC of 20 December 1994 on packaging and packaging waste: The sum of concentration levels of lead, cadmium, mercury and hexavalent chromium VI present in packaging or packaging components shall not exceed 100 ppm by weight. <p>Proposition 65</p> <ul style="list-style-type: none"> Chromium VI is known to the State of California to cause cancer and birth defects or other reproductive harm. Safe Harbor Limit: NSRL 0.001 µg/day (inhalation), MADL 8.2 µg/day (oral). No information on settlements. 			

1.13 ICOCYANATES

Compounds in Polyurethane (PU)			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	HDI [Hexamethylene diisocyanate]	822-06-0	NOT DETECTED
2	IPDI [Isophorone diisocyanate]	4098-71-9	
3	2,4-TDI [2,4-Toluene diisocyanate]	584-84-9	
4	2,6-TDI [2,6-Toluene diisocyanate]	91-08-7	
5	MDI [Diphenylmethane diisocyanate]	101-68-8	
6	TMXD [Tetramethylxylediisocyanate]	2778-42-9	
<p>APPROVED TEST METHODS: Various</p> <p>LEGAL REFERENCE Manufacturers in EU are required to follow the "IED", 2010/75/EU</p>			

1.14 SILOXANES

Used in washing and cleaning products, polishes and waxes, cosmetics and personal care products, textile treatment products and dyes, Paper and cardboard products. Precursors in the production of polymers.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Octamethylcyclotetrasiloxane (D4)	556-67-2	1000 MG/KG (0,1 %)
2	Decamethylcyclopentasiloxane (D5)	541-02-6	1000 MG/KG (0,1 %)
3	Dodecamethylcyclohexasiloxane (D6)	540-97-6	1000 MG/KG (0,1 %)
<p>APPROVED TEST METHODS: No standardised test method available. Test equipment: GC-MS, LC-MS. LOQ: 100 mg/kg.</p> <p>LEGAL REFERENCE REACH Candidate List</p>			

1.15 BENZOTRIAZOLS (UV-320, UV-327, UV-328 AND UV-350)

UV-stabilizer for plastics, polyurethanes and rubber and constituent in formulations used for coating of surface.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	1000 MG/KG (0,1 %)
2	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	1000 MG/KG (0,1 %)
3	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	1000 MG/KG (0,1 %)
4	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350);	36437-37-3	1000 MG/KG (0,1 %)
<p>APPROVED TEST METHODS: No standardised test method available. Test equipment: GC-MS, LC-MS, GC-ECD LOQ: 50 mg/kg</p> <p>LEGAL REFERENCE REACH Candidate List</p>			

1.16 TRISUBSTITUTED PHOSPHATES

Mainly used as functional fluid. Plasticizer of vinylite (a copolymer of vinyl chloride and vinyl acetate), cellulosic resins and natural and synthetic rubber. Plasticizer and flame retardant of PVC and PU.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Trixylyl phosphate	25155-23-1	NOT DETECTED
2	Phenol, isopropylated, phosphate (3:1)	68937-41-7	
<p>APPROVED TEST METHODS: EN ISO 17881-2 (textiles). Test equipment: GC-MS, LC-MS, GC-ECD. LOQ: 5 mg/kg</p> <p>LEGAL REFERENCE REACH Candidate List</p>			

PROCESS CHEMICALS

Process chemicals are used in the manufacturing process of the textile and leather goods but have no function in the finished product. Remains of the process chemicals may however be found in the finished product and cause health or environmental problems.

2.1 ALKYLPHENOL ETHOXYLATES (APEO / NPEO / OPEO)

Process Chemical. Have endocrine disruptive effect (hormones) and are dangerous for the environment. NPEO are rapidly degraded to 4-nonylphenol. NWG recommend to use NPEO-free laundry detergents etc in order to fulfil our requirements

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	NPEOs [Nonylphenol ethoxylates]	Various	100 mg/kg
2	OPEOs [Octylphenol ethoxylates]	Various	100 mg/kg
3	NP [Nonylphenol]	Various	30 mg/kg
4	OP [Octylphenol]	Various	30 mg/kg

APPROVED TEST METHODS

ISO 18254 (textile), APEO
EN ISO 21084:2019 (textile), AP
ISO 18218-1 (leather).
LOQ: 10 mg/kg

LEGAL REFERENCE

Nonylphenol and Nonylphenolethoxylates are listed on REACH Annex XVII + Candidate List. NPEOs shall not be placed on the market after 3 February 2021 in textile articles, in concentrations equal to or greater than 0.01 % by weight of that textile article or of each part of the textile article.

Prop 65: APEOs are not listed under Proposition 65.

2.2 CATIONIC SURFACTANTS

Fabric softeners that could occur in fabric/yarn preparation. Preservative and Toxic, Environmental Dangers

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	DSDMACD [Istearyldimethyl Ammoniumchloride]	107-64-2	SHOULD NOT BE USED
2	DHTDMAC [Dimethylammonium Chloride]	61789-80-8	

APPROVED TEST METHODS:

Methanol extraction analysis by LC-MS

LEGAL REFERENCE

Pre-registered substance for REACH. Oeko Tex for Manufacturers.

2.3 BISPHENOLS (BPA INCLUDED)

In production of epoxy resins and polycarbonate plastics. Plastics and PVC-materials (Shoes, Shoe Soles, Bags, Accessories)			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Bisphenol A (BPA)	80-05-7	NOT DETECTED
2	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	
3	Bisphenol B; (4,4'-(1-methylpropylidene)bisphenol)	77-40-7	
<p>APPROVED TEST METHODS: No standardised test method available. Test equipment LC-MS, GC-MS. LOQ: 10 mg/kg</p> <p>LEGAL REFERENCE</p> <ul style="list-style-type: none"> REACH Candidate List. BPA is Restricted in thermal paper (0,02v%) from January 2020 (REACH Annex XVII) <p>Proposition 65</p> <ul style="list-style-type: none"> BPA is known to the State of California to cause birth defects or other reproductive harm. Safe Harbor Limit: MADL 3 µg/day (dermal exposure from solid materials). Settlements agreed at 3 ppm, 20 ppm or zero limit for various products. 			

2.4 CHLORINATED ORGANIC CARRIERS (COC)

Solvents in dyeing of synthetic fibres (carriers). Non autoclave/atmospheric dyeing of polyester, acetate, polyamide and vinyl fibres. Solvents in printing for textile and leather. Finishing agents. Fabric softeners.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Chlorobenzenes	VARIOUS	NOT DETECTED
2	Chlorotoluenes	VARIOUS	
3	Chloroform	67-66-3	1000 mg/kg (0,1 %)
4	1,1,2 Trichloroethane	79-00-5	1000 mg/kg (0,1 %)
5	1,1,2,2 Tetrachloroethane	79-34-5	1000 mg/kg (0,1 %)
6	1,1,1,2 Tetrachloroethane	630-20-6	1000 mg/kg (0,1 %)
7	Pentachloroethane	76-01-7	1000 mg/kg (0,1 %)
8	1,1 Dichloroethylene	75-35-4	1000 mg/kg (0,1 %)
<p>APPROVED TEST METHODS: Analysis by GC-MS, GC-ECD. LOQ: 0.5 mg/kg (GC-MS)</p> <p>LEGAL REFERENCE</p> <ul style="list-style-type: none"> REACH Annex XVII. Manufacturers in EU are required to follow the "IED", 2010/75/EU. <p>Proposition 65</p> <ul style="list-style-type: none"> Several chlorinated solvents are known to the State of California to cause cancer and/or birth defects or other reproductive harm. Safe Harbor Limit: NSRL 3-50 µg/day. No information on settlements. 			

2.5 SOLVENTS (VOC)

Aromatic-, aliphatic-, chlorinated- and other organic solvents that are volatile should not be present in products. Solvents are used for dyeing and printing textile and leather, whenever something is needed to be solved; stain removal of spots and glues. Substances below are examples of common VOC solvents. Manufacturers in EU are required to follow the "IED", 2010/75/EU.

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	DMFa [Dimethylformamide]	68-12-2	500 mg/kg (sum of DMFa, DMAC and NMP)
2	DMAC [Dimethylacetamide]	127-19-5	
3	NMP [N-methyl-2-pyrrolidone]	872-50-4	
4	Benzene	71-43-2	NOT DETECTED
5	Ethylbenzene	100-41-4	
6	Styrene	100-42-5	
7	Toluene	108-88-3	
8	Xylene	1330-20-7	
9	Orthoxylene	95-47-6	
10	Metaxylene	108-38-3	
11	Paraxylene	106-42-3	
12	Trichloroethylene	79-01-6	
13	Tetrachloroethylene	127-18-4	
14	Cyclohexanone	108-94-1	
15	MEK [Methyl-ethyl-ketone]	78-93-3	
16	Naphthalene	91-20-3	
17	2-Ethoxyethylacetate	111-15-9	
18	1,2,3-Trichloropropane	96-18-4	
19	Acetophenone	98-86-2	
20	2-Phenyl-2-propanole	617-94-7	
21	1,2-Dichloroethane	107-06-2	
22	Bis-(2-methoxyethyl)ether	111-96-6	
23	Formamide	75-12-7	
24	2-methoxyethyl acetate	110-49-6	

APPROVED TEST METHODS

- DMFa: EN 16778 (protective gloves), CEN ISO/TS 16189 (footwear and footwear components), EN 17131 (textile). Test equipment: GC-MS. LOQ: 10 mg/kg
- DMAC: No standardised quantitative test method available for textiles. Test equipment: GC-MS, LC-MS. LOQ: 10 mg/kg
- Aliphatic organic solvents: SNV 195 651, screening method. Panel odour test. Detection limit: No odour. No standardised quantitative test method available.
- NMP: ISO 19070 (leather). No standardised quantitative test method available for textiles. Test equipment: GC-MS, LC-MS. LOQ: 25 mg/kg

LEGAL REFERENCE

- REACH Annex XVII + Candidate List. Manufacturers in EU are required to follow the Industry Emissions Directive (IED), 2010/75/EU.
- DMFa is legally restricted in polyurethane-coated work gloves in Germany. The maximum DMFa content must be less than 10 mg/kg glove material (TRGS 401).
- Formamide is restricted in puzzle mats in Belgium and France and will be included in the Toy Safety Directive in 2017 (limit value 200 mg/kg).

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- Benzene is known to the State of California to cause cancer and birth defects or other reproductive harm. Safe Harbor Limit Benzene: NSRL 6.4 µg/day (oral), 13 µg/day (inhalation). MADL: 24 µg/day (oral), 49 µg/day (inhalation). No information on settlements.
- DMFa and DMAC are known to the State of California to cause cancer. Safe Harbor Limit DMFa and DMAC: None. No information on settlements.
- NMP is known to the State of California to cause birth defects or other reproductive harm. Safe Harbor Limit NMP: MADL 3200 µg/day (inhalation), 17000 µg/day (dermal). No information on settlements.

2.6 POLYCYCLIC AROMATIC HYDROCARBRONS (PAH)

Rubber and Plastic. Derived from extender oils (tar oil)
Risk materials: PVC, shoes, shoe soles, carbon black pigment.

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Benzo(a)pyrene [BaP]*	50-32-8	NOT DETECTED (G) (A)
2	Naphthalene	91-20-3	NOT DETECTED (G)
3	Phenanthrene	85-01-8	NOT DETECTED (G)
4	Anthracene	120-12-7	NOT DETECTED (G) (A)
5	Fluoranthene	206-44-0	NOT DETECTED (G)
6	Pyrene	129-00-0	NOT DETECTED (G)
7	Benzo(a)anthracene*	56-55-3	NOT DETECTED (G) (A)
8	Chrysene*	218-01-9	NOT DETECTED (G) (A)
9	Benzo(b)fluoranthene*	205-99-2	NOT DETECTED (G) (A)
10	Benzo(k)fluoranthene*	207-08-9	NOT DETECTED (G) (A)
11	Indeno(1,2,3-cd)pyrene	193-39-5	NOT DETECTED (G) (A)
12	Dibenzo(a,h)anthracene*	53-70-3	NOT DETECTED (G) (A)
13	Benzo(g,h,i)perylene	191-24-2	NOT DETECTED (G)
14	Benzo(j)fluoranthene*	205-82-3	NOT DETECTED (G) (A)
15	Benzo(e)pyrene*	192-97-2	NOT DETECTED (G)
16	Dibenzo[a,e] pyrene	192-65-4	1 mg/kg (A)
17	Dibenzo[a,i] pyrene	189-55-9	1 mg/kg (A)
18	Dibenzo[a,l] pyrene	191-30-0	1 mg/kg (A)
19	Dibenzo[a,h] pyrene	189-64-0	1 mg/kg (A)
20	Cyclopenta[c,d]pyrene	27208-37-3	1 mg/kg (A)
21	1-Methylpyrene	2381-21-7	1 mg/kg (A)
22	7H-Dibenzo(c,g)carbazole	194-59-2	1 mg/kg (A)
23	Dibenz(a,j)acridine	224-42-0	1 mg/kg (A)
24	Dibenz(a,h)acridine	226-36-8	1 mg/kg (A)
25	5-Methylchrysene	3697-24-3	1 mg/kg (A)
26	Dibenzo(a,e)fluoranthene	5385-75-1	1 mg/kg (A)
27	1-Nitropyrene	5522-43-0	1 mg/kg (A)
28	3-Methylcholanthrene	56-49-5	1 mg/kg (A)
29	7,12-Dimethylbenz(a)anthracen	57-97-6	1 mg/kg (A)
30	Cyclopenta[c,d]pyrene	27208-37-3	1 mg/kg
31	1-Methylpyrene	2381-21-7	1 mg/kg
32	Acenaphthylene	208-96-8	1 mg/kg
33	Acenaphthene	83-32-9	1 mg/kg
34	Fluorene	86-73-7	1 mg/kg

APPROVED TEST METHODS:

ISO 21461 (NMR)
AfPS GS 2014-01 PAK
ISO/TS 16190 (footwear)
EN 17132:2019 (textile)
LOQ: 0.2 mg/kg

LEGAL REFERENCE

- *PAHs restricted in the REACH Annex XVII. Others Candidate List, German law (G) + American recommendation (A) prioritized by US EPA. The voluntary German GS standard has requirements for the sum of 15 PAH.

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- Several PAH are known to the State of California to cause cancer. Safe Harbor Limit: NSRL 0.033-0.35 µg/day. No information on settlements.

2.7 NITROSE AMINES

For rubber production (shoes, shoe soles)			
NO	RESTRICTED LEVEL	CAS NO	RESTRICTED LIMIT
1	N-Nitrosodimethylamine	62-75-9	NOT DETECTED
2	N-Nitrosodiethylamine	55-18-5	
3	N-Nitrosodi-N-propylamine	621-64-7	
4	N-Nitrosodibutylamine	924-16-3	
5	N-Nitrosopiperidine	100-75-4	
6	N-Nitrosopyrrolidine	930-55-2	
7	N-Nitrosomorpholine	59-89-2	
8	N-Nitroso-N-methylaniline	614-0-6	
9	N-Nitroso-N-ethylaniline	612-64-6	
10	N-Nitrosomethylethylamine	10595-95-6	
<p>APPROVED TEST METHODS EN12828 for shoes</p> <p>Limits for textile with reference to Oeko Tex: Nitrosamines: 0.5 mg/kg each</p> <p>LEGAL REFERENCE Eco-label for shoes.</p> <p>Limits for textile with reference to Oeko Tex: Nitrosamines: 0.5 mg/kg each N-Nitrosatable substances: 5,0 mg/kg sum</p>			

2.8 QUINOLINE

Quinoline is used mainly as an intermediate in the manufacture of other products. Also as a catalyst, a corrosion inhibitor, in metallurgical processes, in the manufacture of dyes, in polymers, and as a solvent for resins and terpenes.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Quinoline	91-22-5	50 mg/kg
<p>APPROVED TEST METHODS No standardised test method available for textiles or leather. Test equipment: GC-MS, LC-MS. LOQ: 10 mg/kg</p> <p>LEGAL REFERENCE</p> <ul style="list-style-type: none"> REACH Annex XVII <p>Proposition 65</p> <ul style="list-style-type: none"> Quinoline is known to the State of California to cause cancer. Safe Harbor Limit: None. No information on settlements. 			

2.9 OTHER BANNED PROCESS CHEMICALS

Other relevant process chemicals on the REACH Candidate List.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Hydrazine	302-01-2, 7803-57-8	NOT DETECTED
2	C,C'-azodi(formamide) (ADCA)	123-77-3	
3	Ethylenediamine (EDA)	107-15-3	
4	Imidazolidine-2-thione (2-imidazoline-2-thiol) also called Ethylenethiourea	96-45-7	
5	3-benzylidene camphor (1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1] heptan-2-one) (3-BC)	15087-24-8	
<p>1. Foaming agent in preparing polymer foams, in accessories of metal and plastics. LOQ: 200 mg/kg.</p> <p>2. Azodicarbonamide, or azodiformamide is mainly used as a blowing agent in the rubber and plastics industry. Blowing agent in especially EVA and PVC. LOQ: 200 mg/kg.</p> <p>3. Used in the production of many industrial chemicals. Used in the production of polyurethane fibres. LOQ: 100 mg/kg.</p> <p>4. Used primarily as an accelerator for vulcanizing rubber.</p> <p>5. UV-stabilizer for cosmetics, but possibly also for polymeric materials such as plastics, polyurethanes and rubber. LOQ: 100 mg/kg.</p> <p>APPROVED TEST METHODS: No standardised test method available for textiles. Test equipment: LC-MS, GC-MS.</p> <p>LEGAL REFERENCE REACH Candidate List</p> <p>Proposition 65 Hydrazine is known to the State of California to cause cancer. Safe Harbor Limit: NSRL 0.04 µg/day. No information on settlements.</p>			

BIOCIDAL AGENTS

Biocidal agents are both used as process chemicals to prohibit growth of microbes and product related chemicals to render biocidal property to the article. The use of biocidal products in articles should be kept limited, for instance to avoid the increase of resistant bacteria.

3.1 BIOCIDES

Process chemicals to prohibit growth of microbes. Fungicides, Antibacterial agents. Biocides should not be used in products. If required for function, the Supplier must follow and continuously monitor the provisions in EU Regulation 528/2012.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	DMFu [Dimethylfumarate]	624-49-7	NOT DETECTED
2	TBTO [Tributyltin oxide] + TBT-compounds	56-35-9*	
3	Permethrin*	52645-53-1	
4	Silver and its compounds*	7440-22-4	
5	Triclosan	3380-34-5	
6	Triclocarban	101-20-2	
7	Cu-HDO	312600-89-8	
8	PHMB 1600; 1.8	27083-27-8, 32289-58-0	
9	Zincpyrithion*	13463-41-7	
10	Carbendazim	10605-21-7	
11	Glutaral	111-30-8	
APPROVED TEST METHODS:			
<ul style="list-style-type: none"> DMFu: ISO/TS 16186 (footwear). SS-EN 17130 (textile and textile material). Test equipment: GC-MS, LC-MS. LOQ: 0.1 mg/kg. Tributyltin compounds: No standardised test method for textile. Test equipment: GC-MS. LOQ: 0.2 mg/kg. Permethrin: No standardised test method available. Test equipment: GC-MS, LC-MS. LOQ: 5 mg/kg Silver and its compounds: No standardised test method. Test equipment: ICP-MS, ICP-OES or AAS. LOQ: 10 mg/kg. Triclosan: EN 17134:2019 (textile). Test equipment: GC-MS, LC-MS. LOQ: 10 mg/kg Cu-HDO: No standardised test method available. Test equipment: ICP-AES. LOQ: 50 mg/kg. Zincpyrithion: No standardised test method available. Test equipment: GC-MS, LC-MS. LOQ: 1000 mg/kg (100 mg/kg via Zinc) Carbendazim: No standardised test method available. Test equipment: GC-MS, LC-MS. LOQ: - Glutaral: No standardised test method available. Test equipment: LC-UV, GC-UV. LOQ: - 			
LEGAL REFERENCE			
<ul style="list-style-type: none"> EU Regulation 528/2012. Glutaral listed on REACH Candidate List. DMFu is on REACH Annex XVII - legal limit: 0.00001 % by weight. All TBT-compounds are listed in REACH Annex XVII. TBT compounds are also included in the Rotterdam convention. 			
*Substance is on the list of temporarily permitted existing biocides within PT9 (product type 9) that includes textiles, polymers and leather, according to the Biocidal Product Regulation (EU 528/2012)			

3.2 PARABENES

Bactericide. Used in cosmetic products and detergents.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Various, including: Butyl 4-hydroxybenzoate (Butylparaben),	94-26-8	NOT DETECTED
APPROVED TEST METHODS:			
No standardised test method for textile or leather available. Test equipment: GC-MS, LC-MS. LOQ: 100 mg/kg			
LEGAL REFERENCE			
Butylparaben is listed on the REACH Candidate List			

3.3 TIN ORGANIC COMPOUNDS

Use in textile and leather to counteract noxious odours in clothes and shoes. Preservative, fungicide and antifouling agent. See Appendix 3 for DBTs.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	DBT [Dibutyltin] and its compounds	78-04-6 several	NOT DETECTED
2	DBTC [Dibutyltin dichloride]	683-18-1	
3	DOT [Dioctyltin]	870-08-6	
4	TBTO [Tributyltin oxide]	56-35-9	
5	Tributyltin chloride	1461-22-9	
6	Tributyltin fluoride	1983-10-4	
7	Tributyltin methacrylate	2155-70-6	
8	Tributyltin benzoate	4342-36-3	
9	Tributyltin linoleate	24124-25-2	
10	Tributyltin naphthenate	85409-17-2	
11	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	
12	TOT [Trioctyltin]	VARIOUS	
13	TPT [Tripropyltin]	VARIOUS	
14	TPhT [Triphenyltin]	VARIOUS	
15	TCyHT [Tricyclohexyltin]	VARIOUS	
16	Other tri-substituted organotin compounds	VARIOUS	
17	Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety		
<p>APPROVED TEST METHODS: EN ISO 22744 (textiles) EN ISO 17353 (water and sediment) Test equipment: GC-MS. LOQ: 0.2 mg/kg</p> <p>LEGAL REFERENCE REACH Annex XVII + Candidate List + Rotterdam Convention</p>			

3.4 PHENOLS

Fungicide for preservative treatment. Preservative in sizing agents and adhesives. Component in printing pastes.			
NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	PCP [Pentachlorophenol]	87-86-5, 131-52-2	NOT DETECTED
2	TeCP [Tetrachlorophenol] + all isomers	VARIOUS	
3	OPP [o-Phenylphenol]	90-43-7	50 mg/kg
<p>APPROVED TEST METHODS: ISO 17070 (leather), XP G 08-015 (French standard method for PCP in textiles). LOQ: 0.1 mg/kg CEN/TR 14823 (wood). Detection limit 25 mg/kg EN ISO 15320 (Pulp, paper and board)</p> <p>LEGAL REFERENCE</p> <ul style="list-style-type: none"> REACH Annex XVII entry 22. Rotterdam Convention + Norway. <p>Proposition 65</p> <ul style="list-style-type: none"> PCP is known to the State of California to cause cancer. Safe Harbor Limit: NRSL 40 µg/day. No information on settlements. 			

MISCELLANEOUS

4.1 PVC

If PVC must be used by functional request, the material must meet NWG requirement on Phthalates and REACH Annex XVII p 23 on Cadmium.

NO	RESTRICTED SUBSTANCE	CAS NO	RESTRICTED LIMIT
1	Polyvinylchloride (PVC)	9002-86-2	USAGE BAN

APPROVED TEST METHODS: Beilstein test /Infrared spectroscopy (FTIR)

4.2 PH VALUE

A pH higher than 10 or lower than 3 can cause skin irritation.
The pH value can easily be corrected by washing.

NO	RESTRICTED LEVEL	CAS NO	TEST METHOD
1	$4.0 \leq \text{pH} \leq 7.5$	N/A	Textile: ISO 3071:2005 Leather: EN ISO 4045

LEGAL REFERENCE
There is no European legislation regarding pH-value, as it is a parameter that will change in the washing process. However, China has legal requirements for pH. New Wave Groups restriction is in line with Oeko Tex 100.

4.3 CHLORINATED BLEACHING AGENTS

Bleaching methods and substances

Chlorinated Bleaching Agents used for bleaching of textiles, paper etc shall not be used or be present in our garments.

APPENDIX 1 – KEY PFAS RELATED SUBSTANCES

Substance name	Acronym	CAS RN
PFSA related substances		
Perfluorooctane sulfonate	PFOS	1763-23-1
Perfluorooctanesulfonamide	PFOSA	754-91-6
N-Methyl-Perfluorooctanesulfonamide	N-Me FOSA	31506-32-8
N-Ethyl-Perfluorooctanesulfonamide	N-Et_FOSA	4151-50-2
N-Methyl-Perfluorooctanesulfonamidoethanol	N-Me-FOSE	24448-09-7
N-Ethyl-Perfluorooctanesulfonamidoethanol	N-Et-FOSE	1691-99-2
Perfluorohexane sulfonate	PFHxS	355-46-4
PFCA related substances		
Perfluorooctane acid	PFOA	335-67-1*, **
Perfluorobutanoic acid	PFBA	375-22-4
Perfluoropentanoic acid	PFPeA	2706-90-3
Perfluorohexanoic acid	PFHxA	307-24-4
Perfluoroheptanoic acid	PFHpA	375-85-9
Perfluorononanoic acid	PFNA	375-95-1,
Perfluorononanoic acid and its sodium and ammonium salts	NaPFN/APFN	21049-39-8, 4149-60-4
Perfluorodecanoic acid	PFDA	335-76-2,
Perfluorodecanoic acid and its sodium and ammonium salts	NaPFD/APFD	3108-42-7, 3830-45-3
Perfluoroundecanoic acid	PFUnA	2058-94-8
Heptacosafuorotetradecanoic acid	PFTA	376-06-7
Tricosafuorododecanoic acid	PFDoA	307-55-1
Pentacosafuorotridecanoic acid	PFTrDA	72629-94-8
Ammonium pentadecafluorooctanoate	APFO	3825-26-1*, **
Sodium perfluorooctanoate	NaPFO	335- 95-5*, **
Potassium perfluorooctanoate	CaPFO	2395-00-8*, **
Silver perfluorooctanoate	AgPFO	335-93-3*, **
Perfluorooctanoyl fluoride	FPFO	335-66-0*, **
Methyl pentadecafluorooctanoate	MePFO	376-27-2*, **
Ethyl perfluorooctanonate	EtPFO	3108-24-5*, **
Fluorotelomers (precursors)		
4:2 fluorotelomer sulfonate	4:2 FTS	757124-72-4
6:2 fluorotelomer sulfonate	6:2 FTS	27619-97-2
8:2 fluorotelomer sulfonate	8:2 FTS	678-39-7 **
1H,1H,2H,2H-Perfluorohexanol	4:2 FTOH	2043-47-2
1H,1H,2H,2H-Perfluoro-1-octanol	6:2 FTOH	647-42-7
1H,1H,2H,2H-Perfluoro-1-decanol	8:2 FTOH	678-39-7**
1H,1H,2H,2H-Perfluorododecane-1-ol	10:2 FTOH	865-86-1
1H,1H,2H,2H-Perfluorooctylacrylat	6:2 FTA	17527-29-6
1H,1H,2H,2H-Perfluorodecylacrylat	8:2 FTA	27905-45-9 **
1H,1H,2H,2H-Perfluorododecylacrylat	10:2 FTA	17741-60-5
3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl methacrylate	6:2 FTMA	2144-53-8

- Green-marked substances in the list relate to PFOS ban in the POPs regulation.
- Blue-marked substances listed are SVHC (candidate list substances) in the REACH regulation.
- * Included in the Norwegian regulation.
- ** from 4 July 2020 all PFOA related substances are restricted in REACH annex XVII.
- Red-marked substances in the list relate to whether the material is fluorine-treated.

APPENDIX 2 - CHROMIUM VI AND LEAD COMPOUNDS

CHROMIUM VI COMPOUNDS, REACH Candidate List

	Substance name	CAS RN
1	Ammonium dichromate	7789-09-5
2	Potassium chromate	7789-00-6
3	Potassium dichromate	7778-50-9
4	Sodium chromate	7775-11-3
5	Sodium dichromate dehydrate	7789-12-0, 10588-01-9
6	Strontium chromate	7789-06-2
7	Chromium trioxide	1333-82-0
8	Chromic acid	7738-94-5
9	Dichromic acid	13530-68-2
10	Lead chromate	7758-97-6
11	Lead sulfochromate (Pigment Yellow 34)	1344-37-2
12	Lead chromate molybdate sulphate (Pigment Red 104)	12656-85-8
13	Dichromium tris(chromate)	24613-89-6
14	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9
15	Pentazinc chromate octahydroxide	49663-84-5

LEAD COMPOUNDS, REACH Candidate List

	Substance name	CAS RN
1	Lead chromate	7758-97-6
2	Lead sulfochromate	1344-37-2
3	Lead chromate molybdate sulphate	12656-85-8
4	Lead dipicrate	6477-64-1
5	Lead styphnate	15245-44-0
6	Lead diazide	13424-46-9
7	Lead hydrogen arsenate	7784-40-9
8	Lead monoxide (Lead oxide)	1317-36-8
9	Orange lead (Lead tetroxide)	1314-41-6
10	Lead bis(tetrafluoroborate)	13814-96-5
11	Trilead bis(carbonate)dihydroxide	1319-46-6
12	Lead titanium trioxide	12060-00-3
13	Lead titanium zirconium oxide	12626-81-2
14	Lead(II) bis(methanesulfonate)	17570-76-2
15	Silicic acid, lead salt	11120-22-2
16	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped	68784-75-8
17	Acetic acid, lead salt, basic	51404-69-4
18	Lead oxide sulfate	12036-76-9
19	[Phthalato(2-)]dioxotrilead	69011-06-9
20	Dioxobis(stearato)trilead	12578-12-0
21	Fatty acids, C16-18, lead salts	91031-62-8
22	Lead cyanamidate	20837-86-9
23	Lead dinitrate	10099-74-8
24	Pentalead tetraoxide sulphate	12065-90-6
25	Pyrochlore, antimony lead yellow	8012-00-8
26	Sulfurous acid, lead salt, dibasic	62229-08-7
27	Tetraethyllead	78-00-2
28	Tetralead trioxide sulphate	12202-17-4
29	Trilead dioxide phosphonate	12141-20-7
30	Lead di(acetate)	301-04-2

APPENDIX 3 – DBTs (DIBUTYL TIN SUBSTANCES)

Constituent	CAS RN	No of carbons
R = oxide (DBTO)	818-08-6	0
R = acetate	1067-33-0	2
R = butoxide	3349-36-8	4
R = methylmaleate	15546-11-9	5
R = octanoate	4731-77-5	8
R = isoocanoate	85702-74-5	8
R = (monobutyl)maleate	15546-16-4	8
R = 2-ethylhexanoate	2781-10-4	8
R = laurate	77-58-7	12
R = palmitate	13323-63-2	16
R = stearate	5847-55-2	18
R = oleate	13323-62-1	18
R = linoleate	85391-79-3	18
R = linolenate	95873-60-2	18

APPENDIX 4 – CALIFORNIA PROPOSITION 65

Other chemicals listed in California Proposition 65 (than already included in this RSL) with relevance to the materials referred to in this guidance document:

Chemicals related to dyestuffs

Substance name	CAS RN	Comment
Aniline	62-53-3	NSRL: 100 µg/day
Benzyl violet 4B	1694-09-3	NSRL: 30 µg/day
Carbon black (airborne, unbound particles of respirable size)	1333-86-4	No Safe Harbor Limit
C.I. Acid Red 114	6459-94-5	No Safe Harbor Limit
C.I. Direct Blue 15	2429-74-5	No Safe Harbor Limit
Cobalt sulfate	10124-43-3	No Safe Harbor Limit
Ethylene dichloride (1,2-Dichloroethane)	107-06-2	NSRL: 10 µg/day
Ethylene oxide	75-21-8	NSRL: 2 µg/day, MADL: 20 µg/day
Michler's ketone	90-94-8	NSRL: 0.8 µg/day
Naphthalene	91-20-3	NSRL: 5.8 µg/day
1,3-Propane sultone	1120-71-4	NSRL: 0.3 µg/day
Trypan blue (commercial grade)	72-57-1	No Safe Harbor Limit
Hexachlorobenzene	118-74-1	NSRL: 0.4 µg/day

Chemicals related to materials

Substance name	CAS RN	Comment
Antimony oxide (Antimony trioxide)	1309-64-4	Polyester catalyst No Safe Harbor Limit
Dichloromethane (Methylene chloride)	1975-09-02	Triacetate (NSRL): 50 µg/day NSRL- Inhalation: 200 µg/day
N-Nitrosodimethylamine	62-75-9	Rubber NSRL: 0.04 µg/day

Biocides

Substance name	CAS RN	Comment
Metham sodium	137-42-8	No Safe Harbor Limit
o-Phenylphenate, sodium	132-27-4	NSRL: 200 µg/day
o-Phenylphenol	90-43-7	No Safe Harbor Limit
2,4,6-Trichlorophenol	1988-06-02	NSRL: 10 µg/day
Methyl bromide, as a structural fumigant	74-83-9	MADL - Inhalation: 810 µg/day

Flame retardants

Substance name	CAS RN	Comment
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	13674-87-8	NSRL: 5.4 µg/day
Vinyl bromide	593-60-2*	No Safe Harbor Limit