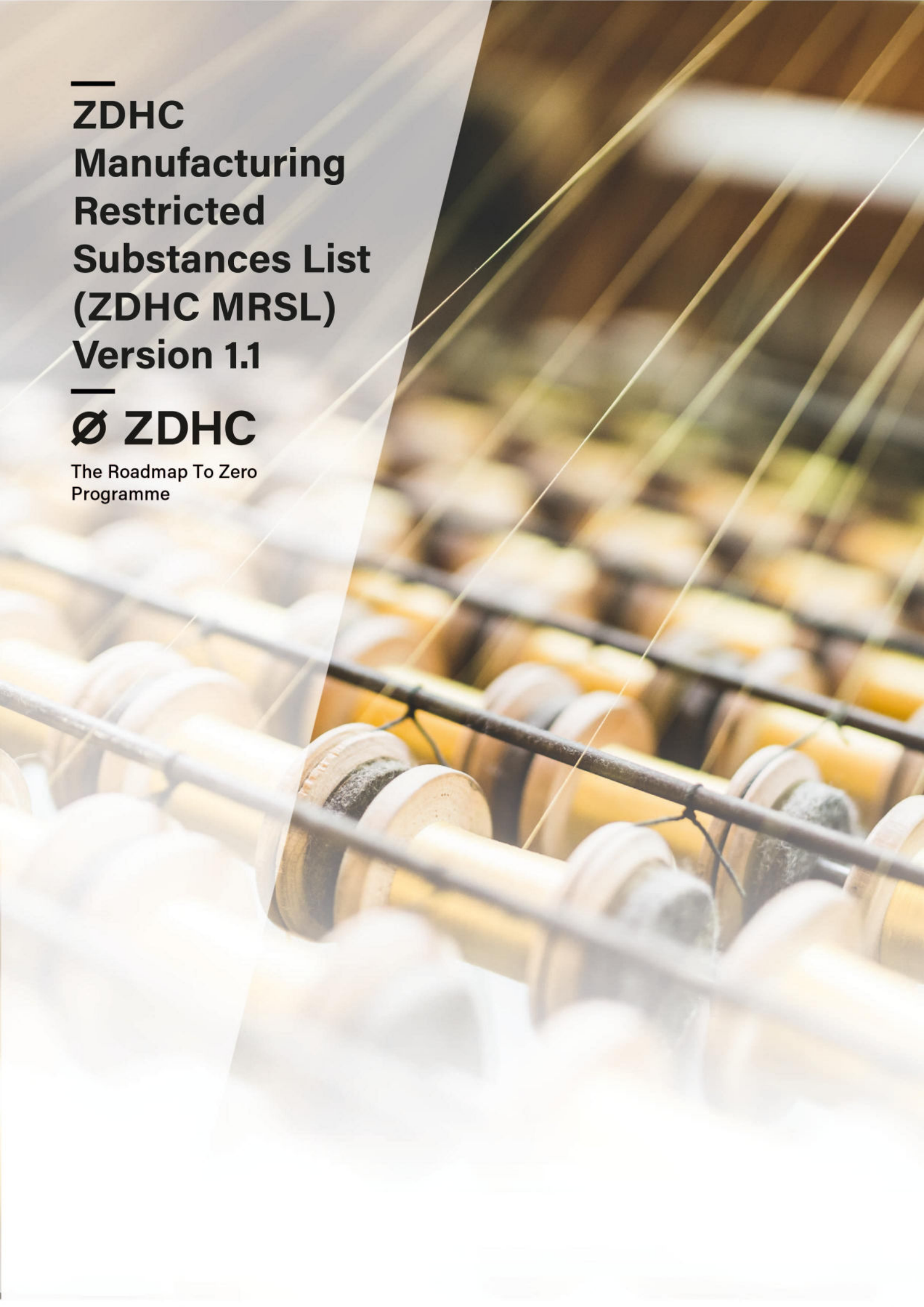

**ZDHC
Manufacturing
Restricted
Substances List
(ZDHC MRSL)
Version 1.1**

Ø ZDHC

The Roadmap To Zero
Programme



Signatory Brands

Value-Chain Affiliates - Chemical Industry

Value-Chain Affiliates - Solution Provider

Value-Chain Affiliates - Textile and Footwear Industry

Associates

1 Background

The ZDHC Roadmap to Zero Programme has developed a Manufacturing Restricted Substances List (ZDHC MRSL) for the textile, apparel, and footwear (including leather) industries (“Industry”). The ZDHC MRSL addresses hazardous substances potentially used and discharged into the environment during manufacturing and related processes deep within the value chain – not just those substances that could be present in finished products. In 2014, ZDHC MRSL version 1 was released, along with Chemical Guidance Sheets. The current version 1.1 was released in December 2015 and added leather.

The ZDHC MRSL is a list of chemical substances that should not be intentionally used by the Industry in the production of products. The ZDHC MRSL applies to chemicals used in facilities that process materials and trim parts for use in the Industry. Chemicals in the ZDHC MRSL include solvents, cleaners, adhesives, paints, inks, detergents, dyes, colourants, auxiliaries, coatings and finishing agents used during raw material production, wet-processing, maintenance, wastewater treatment, sanitation and pest control. ZDHC MRSL limits¹ apply to substances in commercially available chemical formulations and not those from earlier stages of chemical synthesis.

Now the ZDHC MRSL is being released in a digital format, rather than a static pdf type document.

2 Purpose

The ZDHC MRSL provides brands and suppliers with a single, harmonised list of chemical substances banned from intentional use during manufacturing and related processes within the Industry supply chain.

The ZDHC MRSL Version 1.1 applies to textiles and leather with separate sections for each material. This separation accounts for the differences between the creation and processing of these materials used within the Industry and the need to set limits applicable to each that reflect the functional use of these chemicals. The ZDHC MRSL should be communicated to the value chain suppliers responsible for production and conversion of raw materials into finished goods including agents, chemical distributors and formulators, as well as facilities (especially cut & sew, wet-processing, laundries, and tanneries). This is to support our goal of using ZDHC MRSL compliant chemical formulations, ensuring that listed substances are not present in chemical formulations above established limits.

Notes: 1) The ZDHC MRSL does not replace applicable national environmental or workplace safety restrictions. Worker exposure to chemical substances listed in this document, along with other hazardous substances, must not exceed occupational exposure limits. 2) Chemical formulations also must comply with all applicable legal restrictions, including any subsequent restrictions that establish stricter limits. 3) The ZDHC MRSL does not replace legal or brand-specific restrictions on hazardous substances in finished products.

1 Note: Threshold Limit values on restricted substances in chemical formulations are in some cases substantially higher than limits on restricted substances in finished products. This is because restricted substances in finished products are almost always found in smaller concentrations than in the chemical formulations used to produce them. Chemical formulations are highly concentrated before being diluted upon application to textiles and other materials.

3 How the ZDHC MRSL connects to other ZDHC Tools

The ZDHC Roadmap to Zero Programme takes a holistic approach to tackling the issue of hazardous chemicals in the global Industry and its value chain through input chemical management, process management and verification that banned hazardous chemicals are not present in outputs such as wastewater and sludge. The ZDHC MRSL is the fundamental backbone and one part of that approach.

3.1 The ZDHC MRSL Conformance Guidance

To accelerate the global impact of the ZDHC Roadmap to Zero Programme, ZDHC decided at a very early stage not to start its own certification system for ZDHC MRSL conformant chemistry but instead to leverage existing certification as indicators of ZDHC MRSL conformance.

Therefore, in June 2017, ZDHC launched the ZDHC MRSL Conformance Guidance (“Guidance”) which provides chemical distributors and formulators with an indication system to assess the extent to which a chemical formulation conforms to, in other words meets, the requirements of the ZDHC MRSL.

ZDHC Accepted Certification Standards for ZDHC MRSL Conformance are listed on the ZDHC Gateway – Chemical Module, ranging from level 1 to level 3 in accordance with the system set out in the Guidance. Chemical formulations certified by these standards are directly verified and officially ranked within the ZDHC Gateway – Chemical Module.

3.2 The ZDHC Gateway – Chemical Module

The ZDHC Gateway – Chemical Module is an easy to use, web-based platform that manufacturing facilities can use to find chemical formulations that conform to the ZDHC MRSL in accordance with the Guidance.

The ZDHC Gateway – Chemical Module lists chemical formulations and their ZDHC MRSL conformance level, based on ZDHC accepted third-party product certifications or testing. A high level of conformance (e.g. level 3) indicates a high level of confidence that the chemical formulation will conform to the ZDHC MRSL.

3.3 The ZDHC Wastewater Guidelines

The ZDHC Wastewater Guidelines define a single, unified expectation for wastewater testing that goes beyond regulatory compliance. Covering not only conventional wastewater parameters, it is also the first guideline to define pass and fail criteria for chemical substances. Testing in accordance to the ZDHC Wastewater Guidelines helps check whether or not chemical substances in the ZDHC MRSL are in fact being used intentionally.

3.4 The ZDHC Gateway – Wastewater Module

The ZDHC Gateway – Wastewater Module is a global web-based platform that is designed to share verified wastewater and sludge test data based on testing against the ZDHC Wastewater Guidelines. It provides suppliers (manufacturing facilities) with an easy way to disclose secured and verified wastewater and sludge test data to their clients (brands/retailers). With this we enable the suppliers to reduce the number of unnecessary duplication on testing, and instead they could focus on improving the quality of discharge.

4 Definitions

4.1 Chemical Substance

A chemical substance is a chemical element and its compounds in the natural state or obtained by any manufacturing process (REACH, 2014)[1]. A chemical substance is usually identifiable by a single, unique Chemical Abstracts Service (CAS) number or Colour Index (CI) number. The ZDHC MRSL will primarily focus on chemical substances listed by CAS number and CI number, but also will include groups of substances for which listing individual substances is not practical.

4.2 Commercial Chemical Formulation

A commercial chemical formulation is usually a proprietary blend of several chemical substances that is available for purchase from chemical suppliers under their own trade name.

4.3 Usage Ban

A usage ban indicates that the ZDHC MRSL-listed chemical substance or group of substances may not be used to achieve a desired function or effect during production of the raw material or product (that is, no intentional use). This usage ban extends to other uses within a facility like cleaning and maintenance. Due to the existence of manufacturing impurities in chemical formulations, a minor or trace amount of the restricted substance is permitted. Chemical formulations containing restricted substances that exceed limits are not compliant with the ZDHC MRSL.

5 ZDHC MRSL Instructions

5.1 ZDHC MRSL Chapters

Chapter 1: ZDHC MRSL for Textiles and Coated Fabrics Processing

This section applies to chemical formulations and substances used during the creation and wet processing of textile fibers, and during the creation and processing of coated fabrics.

Chapter 2: ZDHC MRSL for Natural Leather Processing

This section applies to chemical formulations and substances used throughout the production of natural leather, from rawhide to finished leather.

5.2 ZDHC MRSL Groups

Group A: Raw Material and Finished Product Supplier Guidance

Group A substances are banned from intentional use in facilities that process raw materials and manufacture finished products. Please refer to the AFIRM guidance document for the lowest agreed upon material or finished product limits among AFIRM brands: <http://www.afirm-group.com/rsl-guidance/>. See brand RSLs for individual requirements.

Group B: Chemical Supplier Formulation Limit

Group B substances are restricted to concentration limits in chemical formulations commercially available from chemical suppliers. These limits ban intentional use while allowing for reasonable expected manufacturing impurities that should be consistently achievable by responsible chemical manufacturers. [3]

[1] "A chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition." http://www.reachonline.eu/REACH/EN/REACH_EN/article3.html. Accessed May 8, 2014.

[2] These are alkylphenol ethoxylates/alkylphenols (APEOs/APEs), brominated and chlorinated flame retardants, chlorinated solvents, chlorobenzenes, chlorophenols, heavy metals, organotin compounds (e.g., TBT), perfluorinated and polyfluorinated chemicals (PFCs), phthalates (ortho-phthalates), short-chain chlorinated paraffins (SCCPs) and azo dyes that may release carcinogenic amines as defined in Annex XVII of REACH.

[3] Safety Data Sheets (SDS) only list substances present at concentrations of 1000 ppm or greater. Suppliers must communicate with chemical suppliers to ensure MRSL limits are met.

[4] Note: Threshold Limit values on restricted substances in chemical formulations are in some cases substantially higher than limits on restricted substances in finished products. This is because restricted substances in finished products are almost always found in smaller concentrations than in the chemical formulations used to produce them. Chemical formulations are highly concentrated before being diluted upon application to textiles and other materials.

Chapter 1 MRSL for Textiles and Coated Fabrics Processing

Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
104-40-5 11066-49-2 25154-52-3 84852-15-3	Nonylphenol (NP), mixed isomers	No intentional use
140-66-9 1806-26-4 27193-28-8	Octylphenol (OP), mixed isomers	No intentional use
9002-93-1 9036-19-5 68987-90-6	Octylphenol ethoxylates (OPEO)	No intentional use
9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	Nonylphenol ethoxylates (NPEO)	No intentional use

Chlorobenzenes and Chlorotoluenes

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
95-50-1	1,2-dichlorobenzene	No intentional use
Multiple	Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- chlorobenzene and mono-, di-, tri-, tetra- and penta- chlorotoluene	No intentional use

Chlorophenols

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
25167-83-3	Tetrachlorophenol (TeCP)	No intentional use
87-86-5	Pentachlorophenol (PCP)	No intentional use
4901-51-3	2,3,4,5-tetrachlorophenol	No intentional use
58-90-2	2,3,4,6-tetrachlorophenol	No intentional use
935-95-5	2,3,5,6-tetrachlorophenol	No intentional use
95-57-8	2-chlorophenol	No intentional use
120-83-2	2,4-dichlorophenol	No intentional use
583-78-8	2,5-dichlorophenol	No intentional use
87-65-0	2,6-dichlorophenol	No intentional use
95-95-4	2,4,5-trichlorophenol	No intentional use
88-06-2	2,4,6-trichlorophenol	No intentional use
591-35-5	3,5-dichlorophenol	No intentional use
576-24-9	2,3-dichlorophenol	No intentional use
95-77-2	3,4-dichlorophenol	No intentional use
108-43-0	3-chlorophenol	No intentional use
106-48-9	4-chlorophenol	No intentional use
15950-66-0	2,3,4-trichlorophenol	No intentional use
933-78-8	2,3,5-trichlorophenol	No intentional use
609-19-8	3,4,5-trichlorophenol	No intentional use

Dyes – Azo (Forming Restricted Amines)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
101-14-4	4,4'-methylene-bis-(2-chloro-aniline)	No intentional use
101-77-9	4,4'-methylenedianiline	No intentional use
101-80-4	4,4'-oxydianiline	No intentional use
106-47-8	4-chloroaniline	No intentional use
119-90-4	3,3'-dimethoxybenzidine	No intentional use
119-93-7	3,3'-dimethylbenzidine	No intentional use
120-71-8	6-methoxy-m-toluidine	No intentional use
137-17-7	2,4,5-trimethylaniline	No intentional use
139-65-1	4,4'-thiodianiline	No intentional use
60-09-3	4-aminoazobenzene	No intentional use
615-05-4	4-methoxy-m-phenylenediamine	No intentional use
838-88-0	4,4'-methylenedi-o-toluidine	No intentional use
87-62-7	2,6-xylydine	No intentional use
90-04-0	o-anisidine	No intentional use
91-59-8	2-naphthylamine	No intentional use
91-94-1	3,3'-dichlorobenzidine	No intentional use
92-67-1	4-aminodiphenyl	No intentional use
92-87-5	Benzidine	No intentional use
95-53-4	o-toluidine	No intentional use
95-68-1	2,4-xylydine	No intentional use

95-69-2	4-chloro-o-toluidine	No intentional use
95-80-7	4-methyl-m-phenylenediamine	No intentional use
97-56-3	o-aminoazotoluene	No intentional use
99-55-8	5-nitro-o-toluidine	No intentional use

Dyes – Navy Blue Colourant

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
118685-33-9	Component 1: C ₃₉ H ₂₃ ClCrN ₇ O ₁₂ S ₂ ·2Na	No intentional use
Not Allocated	Component 2: C ₄₆ H ₃₀ CrN ₁₀ O ₂₀ S ₂ ·3Na	No intentional use

Dyes – Carcinogenic or Equivalent Concern

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
1937-37-7	C.I. Direct Black 38	No intentional use
2602-46-2	C.I. Direct Blue 6	No intentional use
3761-53-3	C.I. Acid Red 26	No intentional use
569-61-9	C.I. Basic Red 9	No intentional use
573-58-0	C.I. Direct Red 28	No intentional use
632-99-5	C.I. Basic Violet 14	No intentional use
2475-45-8	C.I. Disperse Blue 1	No intentional use
2475-46-9	C.I. Disperse Blue 3	No intentional use
2580-56-5	C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	No intentional use
569-64-2	C.I. Basic Green 4 (malachite green chloride)	No intentional use
2437-29-8	C.I. Basic Green 4 (malachite green oxalate)	No intentional use

10309-95-2	C.I. Basic Green 4 (malachite green)	No intentional use
82-28-0	Disperse Orange 11	No intentional use
Dyes – Disperse (Sensitising)		
Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
119-15-3	Disperse Yellow 1	No intentional use
12222-97-8	Disperse Blue 102	No intentional use
12223-01-7	Disperse Blue 106	No intentional use
12236-29-2	Disperse Yellow 39	No intentional use
13301-61-6	Disperse Orange 37/59/76	No intentional use
23355-64-8	Disperse Brown 1	No intentional use
2581-69-3	Disperse Orange 1	No intentional use
2832-40-8	Disperse Yellow 3	No intentional use
2872-48-2	Disperse Red 11	No intentional use
2872-52-8	Disperse Red 1	No intentional use
3179-89-3	Disperse Red 17	No intentional use
3179-90-6	Disperse Blue 7	No intentional use
3860-63-7	Disperse Blue 26	No intentional use
54824-37-2	Disperse Yellow 49	No intentional use
12222-75-2	Disperse Blue 35	No intentional use
61951-51-7	Disperse Blue 124	No intentional use
6373-73-5	Disperse Yellow 9	No intentional use
730-40-5	Disperse Orange 3	No intentional use

56524-77-7	Disperse Blue 35	No intentional use
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Flame Retardants

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)	No intentional use
1163-19-5	Decabromodiphenyl ether (DecaBDE)	No intentional use
126-72-7	Tris(2,3-dibromopropyl)-phosphate (TRIS)	No intentional use
32534-81-9	Pentabromodiphenyl ether (PentaBDE)	No intentional use
32536-52-0	Octabromodiphenyl ether (OctaBDE)	No intentional use
5412-25-9	Bis(2,3-dibromopropyl)phosphate (BIS)	No intentional use
545-55-1	Tris(1-aziridinyl)phosphine oxide (TEPA)	No intentional use
59536-65-1	Polybromobiphenyl (PBB)	No intentional use
79-94-7	Tetrabromobisphenol A (TBBPA)	No intentional use
3194-55-6	Hexabromocyclodecane (HBCDD)	No intentional use
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)	No intentional use
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	No intentional use
85535-84-8	Short-chain chlorinated Paraffins (SCCP) (C10-C13)	No intentional use

Glycols

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
111-96-6	Bis(2-methoxyethyl)-ether	No intentional use
110-80-5	2-ethoxyethanol	No intentional use
111-15-9	2-ethoxyethyl acetate	No intentional use
110-71-4	Ethylene glycol dimethyl ether	No intentional use
109-86-4	2-methoxyethanol	No intentional use
110-49-6	2-methoxyethylacetate	No intentional use
70657-70-4	2-methoxypropylacetate	No intentional use
112-49-2	Triethylene glycol dimethyl ether	No intentional use

Halogenated Solvents

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
107-06-2	1,2-dichloroethane	No intentional use
75-09-2	Methylene chloride	No intentional use
79-01-6	Trichloroethylene	No intentional use
127-18-4	Tetrachloroethylene	No intentional use

Organotin Compounds

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
Multiple	Dibutyltin (DBT)	No intentional use
Multiple	Mono-, di- and tri-methyltin derivatives	No intentional use
Multiple	Mono-, di- and tri-butyltin derivatives	No intentional use
Multiple	Mono-, di- and tri-phenyltin derivatives	No intentional use
Multiple	Mono-, di- and tri-octyltin derivatives	No intentional use

Polycyclic Aromatic Hydrocarbons (PAHs)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
50-32-8	Benzo[a]pyrene (BaP)	No intentional use
120-12-7	Anthracene	No intentional use
129-00-0	Pyrene	No intentional use
191-24-2	Benzo[ghi]perylene	No intentional use
192-97-2	Benzo[e]pyrene	No intentional use
193-39-5	Indeno[1,2,3-cd]pyrene	No intentional use
205-82-3	Benzo[j]fluoranthene	No intentional use
205-99-2	Benzo[b]fluoranthene	No intentional use
206-44-0	Fluoranthene	No intentional use
207-08-9	Benzo[k]fluoranthene	No intentional use
208-96-8	Acenaphthylene	No intentional use
218-01-9	Chrysene	No intentional use

53-70-3	Dibenz[a,h]anthracene	No intentional use
56-55-3	Benzo[a]anthracene	No intentional use
83-32-9	Acenaphthene	No intentional use
85-01-8	Phenanthrene	No intentional use
86-73-7	Fluorene	No intentional use
91-20-3	Naphthalene	No intentional use

Perfluorinated and Polyfluorinated Chemicals (PFCs)

Durable water, oil and stain repellent finishes and soil release finishes (fluorinated polymers) based on long-chain technology are banned from intentional use. Long-chain compounds according to the Organisation for Economic Co-operation and Development (OECD) definition (<http://www.oecd.org/ehs/pfc/>) are based on long-chain perfluorocarboxylic acids (C8 and higher) and on long-chain perfluoroalkyl sulfonates (C6 and higher).

The main contaminants of this technology include:

Perfluoroalkyl sulfonates (PFSA) with carbon chain lengths C6 and higher (e.g., PFOS, perfluorooctane sulfonate)

Perfluorocarboxylic acids with carbon chain lengths C8 and higher (e.g., PFOA, perfluorooctanoic acid)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
Multiple	Perfluorooctane sulfonate (PFOS) and related substances	No intentional use
Multiple	Perfluorooctanoic acid (PFOA) and related substances	No intentional use

Phthalates – including all other esters of ortho-phthalic acid

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
117-81-7	Di(ethylhexyl) phthalate (DEHP)	No intentional use
117-82-8	Bis(2-methoxyethyl) phthalate (DMEP)	No intentional use
117-84-0	Di-n-octyl phthalate (DNOP)	No intentional use
26761-40-0	Di-iso-decyl phthalate (DIDP)	No intentional use
28553-12-0	Di-isononyl phthalate (DINP)	No intentional use
84-75-3	Di-n-hexyl phthalate (DnHP)	No intentional use
84-74-2	Dibutyl phthalate (DBP)	No intentional use
85-68-7	Butyl benzyl phthalate (BBP)	No intentional use
84-76-4	Dinonyl phthalate (DNP)	No intentional use
84-66-2	Diethyl phthalate (DEP)	No intentional use
131-16-8	Di-n-propyl phthalate (DPRP)	No intentional use
84-69-5	Di-isobutyl phthalate (DIBP)	No intentional use
84-61-7	Di-cyclohexyl phthalate (DCHP)	No intentional use
27554-26-3	Di-iso-octyl phthalate (DIOP)	No intentional use
68515-42-4	1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)	No intentional use
71888-89-6	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	No intentional use

Total Heavy Metals

Listed metals are banned from intentional use in textile manufacturing/finishing. Additionally, residual traces of antimony, zinc, copper, nickel, tin, barium, cobalt, iron, manganese, selenium and silver in colourants are expected to comply with the Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD) concentration limits (<http://www.etad.com/>).

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
7440-38-2	Arsenic (As)	No intentional use
7440-43-9	Cadmium (Cd)	No intentional use
7439-97-6	Mercury (Hg)	No intentional use
7439-92-1	Lead (Pb)	No intentional use
18540-29-9	Chromium (VI)	No intentional use

Volatile Organic Compounds (VOC)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
71-43-2	Benzene	No intentional use
1330-20-7	Xylene	No intentional use
95-48-7	o-cresol	No intentional use
106-44-5	p-cresol	No intentional use
108-39-4	m-cresol	No intentional use

Chapter 2 MRS� for Leather Processing

Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
104-40-5 11066-49-2 25154-52-3 84852-15-3	Nonylphenol (NP), mixed isomers	No intentional use
140-66-9 1806-26-4 27193-28-8	Octylphenol (OP), mixed isomers	No intentional use
9002-93-1 9036-19-5 68987-90-6	Octylphenol ethoxylates (OPEO)	No intentional use
9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	Nonylphenol ethoxylates (NPEO)	No intentional use

Chlorobenzenes and Chlorotoluenes

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
95-50-1	1,2-dichlorobenzene	No intentional use
Multiple	Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- chlorobenzene and mono-, di-, tri-, tetra- and penta- chlorotoluene	No intentional use

Chlorophenols

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
25167-83-3	Tetrachlorophenol (TeCP)	No intentional use
87-86-5	Pentachlorophenol (PCP)	No intentional use
4901-51-3	2,3,4,5-tetrachlorophenol	No intentional use
58-90-2	2,3,4,6-tetrachlorophenol	No intentional use
935-95-5	2,3,5,6-tetrachlorophenol	No intentional use
95-57-8	2-chlorophenol	No intentional use
120-83-2	2,4-dichlorophenol	No intentional use
583-78-8	2,5-dichlorophenol	No intentional use
87-65-0	2,6-dichlorophenol	No intentional use
95-95-4	2,4,5-trichlorophenol	No intentional use
88-06-2	2,4,6-trichlorophenol	No intentional use
591-35-5	3,5-dichlorophenol	No intentional use
576-24-9	2,3-Dichlorophenol	No intentional use
95-77-2	3,4-Dichlorophenol	No intentional use

108-43-0	3-Chlorophenol	No intentional use
106-48-9	4-Chlorophenol	No intentional use
15950-66-0	2,3,4-Trichlorophenol	No intentional use
933-78-8	2,3,5-Trichlorophenol	No intentional use
609-19-8	3,4,5-Trichlorophenol	No intentional use

Dyes – Azo (Forming Restricted Amines)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
101-14-4	4,4'-methylene-bis-(2-chloro-aniline)	No intentional use
101-77-9	4,4'-methylenedianiline	No intentional use
101-80-4	4,4'-oxydianiline	No intentional use
106-47-8	4-chloroaniline	No intentional use
119-90-4	3,3'-dimethoxybenzidine	No intentional use
119-93-7	3,3'-dimethylbenzidine	No intentional use
120-71-8	6-methoxy-m-toluidine	No intentional use
137-17-7	2,4,5-trimethylaniline	No intentional use
139-65-1	4,4'-thiodianiline	No intentional use
60-09-3	4-aminoazobenzene	No intentional use
615-05-4	4-methoxy-m-phenylenediamine	No intentional use
838-88-0	4,4'-methylenedi-o-toluidine	No intentional use
87-62-7	2,6-xylydine	No intentional use
90-04-0	o-anisidine	No intentional use
91-59-8	2-naphthylamine	No intentional use

91-94-1	3,3-dichlorobenzidine	No intentional use
92-67-1	4-aminodiphenyl	No intentional use
92-87-5	Benzidine	No intentional use
95-53-4	o-toluidine	No intentional use
95-68-1	2,4-xylidine	No intentional use
95-69-2	4-chloro-o-toluidine	No intentional use
95-80-7	4-methyl-m-phenylenediamine	No intentional use
97-56-3	o-aminoazotoluene	No intentional use
99-55-8	5-nitro-o-toluidine	No intentional use

Dyes – Navy Blue Colourant

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
118685-33-9	Component 1: C ₃₉ H ₂₃ ClCrN ₇ O ₁₂ S ₂ ·2Na	No intentional use
Not Allocated	Component 2: C ₄₆ H ₃₀ CrN ₁₀ O ₂₀ S ₂ ·3Na	No intentional use

Dyes – Carcinogenic or Equivalent Concern

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
1937-37-7	C.I. Direct Black 38	No intentional use
2602-46-2	C.I. Direct Blue 6	No intentional use
3761-53-3	C.I. Acid Red 26	No intentional use
569-61-9	C.I. Basic Red 9	No intentional use
573-58-0	C.I. Direct Red 28	No intentional use
632-99-5	C.I. Basic Violet 14	No intentional use
2475-45-8	C.I. Disperse Blue 1	No intentional use
2475-46-9	C.I. Disperse Blue 3	No intentional use
2580-56-5	C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	No intentional use
569-64-2	C.I. Basic Green 4 (malachite green chloride)	No intentional use
2437-29-8	C.I. Basic Green 4 (malachite green oxalate)	No intentional use
10309-95-2	C.I. Basic Green 4 (malachite green)	No intentional use
82-28-0	Disperse Orange 11	No intentional use

Dyes – Disperse (Sensitizing)

Disperse dyes have no applicability to leather processing.

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
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Fat liquoring agents

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
85535-84-8	Short-chain chlorinated paraffin (C10 – C13)	No intentional use

Flame Retardants

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)	No intentional use
1163-19-5	Decabromodiphenyl ether (DecaBDE)	No intentional use
126-72-7	Tris(2,3-dibromopropyl)-phosphate (TRIS)	No intentional use
32534-81-9	Pentabromodiphenyl ether (PentaBDE)	No intentional use
32536-52-0	Octabromodiphenyl ether (OctaBDE)	No intentional use
5412-25-9	Bis(2,3-dibromopropyl)phosphate (BIS)	No intentional use
545-55-1	Tris(1-aziridiny)phosphine oxide (TEPA)	No intentional use
59536-65-1	Polybromobiphenyl (PBB)	No intentional use
79-94-7	Tetrabromobisphenol A (TBBPA)	No intentional use
3194-55-6	Hexabromocyclodecane (HBCDD)	No intentional use
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)	No intentional use
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	No intentional use

Glycol Ethers

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
111-96-6	Bis(2-methoxyethyl)-ether	No intentional use
110-80-5	2-ethoxyethanol	No intentional use
111-15-9	2-ethoxyethyl acetate	No intentional use
110-71-4	Ethylene glycol dimethyl ether	No intentional use
109-86-4	2-methoxyethanol	No intentional use
110-49-6	2-methoxyethylacetate	No intentional use
112-49-2	Triethylene glycol dimethyl ether	No intentional use
70657-70-4	2-methoxypropylacetate	No intentional use

Halogenated Solvents

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
107-06-2	1,2-dichloroethane	No intentional use
75-09-2	Methylene chloride	No intentional use
79-01-6	Trichloroethylene	No intentional use
127-18-4	Tetrachloroethylene	No intentional use

Organotin Compounds

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
Multiple	Dibutyltin (DBT)	No intentional use
Multiple	Mono-, di- and tri-methyltin derivatives	No intentional use
Multiple	Mono-, di- and tri-butyltin derivatives	No intentional use
Multiple	Mono-, di- and tri-phenyltin derivatives	No intentional use
Multiple	Mono-, di- and tri-octyltin derivatives	No intentional use

Polycyclic Aromatic Hydrocarbons (PAHs)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
50-32-8	Benzo[a]pyrene (BaP)	No intentional use
120-12-7	Anthracene	No intentional use
129-00-0	Pyrene	No intentional use
191-24-2	Benzo[ghi]perylene	No intentional use
192-97-2	Benzo[e]pyrene	No intentional use
193-39-5	Indeno[1,2,3-cd]pyrene	No intentional use
205-82-3	Benzo[j]fluoranthene	No intentional use
205-99-2	Benzo[b]fluoranthene	No intentional use
206-44-0	Fluoranthene	No intentional use
207-08-9	Benzo[k]fluoranthene	No intentional use
208-96-8	Acenaphthylene	No intentional use
218-01-9	Chrysene	No intentional use

53-70-3	Dibenz[a,h]anthracene	No intentional use
56-55-3	Benzo[a]anthracene	No intentional use
83-32-9	Acenaphthene	No intentional use
85-01-8	Phenanthrene	No intentional use
86-73-7	Fluorene	No intentional use
91-20-3	Naphthalene	No intentional use

Perfluorinated and Polyfluorinated Chemicals (PFCs)

Durable water, oil and stain repellent finishes and soil release finishes (fluorinated polymers) based on long-chain technology are banned from intentional use. Long-chain compounds according to the Organisation for Economic Co-operation and Development (OECD) definition (<http://www.oecd.org/ehs/pfc/>) are based on long-chain perfluorocarboxylic acids (C8 and higher) and on long-chain perfluoroalkyl sulfonates (C6 and higher).

The main contaminants of this technology include:

Perfluoroalkyl sulfonates (PFSA) with carbon chain lengths C6 and higher (e.g., PFOS, perfluorooctane sulfonate)

Perfluorocarboxylic acids with carbon chain lengths C8 and higher (e.g., PFOA, perfluorooctanoic acid)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
Multiple	Perfluorooctane sulfonate (PFOS) and related substances	No intentional use
Multiple	Perfluorooctanoic acid (PFOA) and related substances	No intentional use

Phthalates – including all other esters of ortho-phthalic acid

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
117-81-7	Di(ethylhexyl) phthalate (DEHP)	No intentional use
117-82-8	Bis(2-methoxyethyl) phthalate (DMEP)	No intentional use
117-84-0	Di-n-octyl phthalate (DNOP)	No intentional use
26761-40-0	Di-iso-decyl phthalate (DIDP)	No intentional use
28553-12-0	Di-isononyl phthalate (DINP)	No intentional use
84-75-3	Di-n-hexyl phthalate (DnHP)	No intentional use
84-74-2	Dibutyl phthalate (DBP)	No intentional use
85-68-7	Butyl benzyl phthalate (BBP)	No intentional use
84-76-4	Dinonyl phthalate (DNP)	No intentional use
84-66-2	Diethyl phthalate (DEP)	No intentional use
131-16-8	Di-n-propyl phthalate (DPRP)	No intentional use
84-69-5	Di-isobutyl phthalate (DIBP)	No intentional use
84-61-7	Di-cyclohexyl phthalate (DCHP)	No intentional use
27554-26-3	Di-iso-octyl phthalate (DIOP)	No intentional use
68515-42-4	1,2-benzenedicarboxylic acid, di-C7-11- branched and linearalkyl esters (DHNUP)	No intentional use
71888-89-6	1,2-benzenedicarboxylic acid, di-C6-8- branched alkyl esters, C7-rich (DIHP)	No intentional use

Total Heavy Metals

Listed metals are banned from intentional use in textile manufacturing/finishing. Additionally, residual traces of antimony, zinc, copper, nickel, tin, barium, cobalt, iron, manganese, selenium and silver in colourants are expected to comply with the Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD) concentration limits (<http://www.etad.com/>).

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
7440-38-2	Arsenic (As)	No intentional use
7440-43-9	Cadmium (Cd)	No intentional use
7439-97-6	Mercury (Hg)	No intentional use
7439-92-1	Lead (Pb)	No intentional use
18540-29-9	Chromium (VI)	No intentional use

Volatile Organic Compounds (VOC)

Cas No	Substance	Group A: Raw Material and Finished Product Supplier Guidance
71-43-2	Benzene	No intentional use
95-48-7	o-cresol	No intentional use
106-44-5	p-cresol	No intentional use
108-39-4	m-cresol	No intentional use