MANUFACTURING RESTRICTED SUBSTANCES LIST STUDIO ANNELOES

MRSL VERSION 3.1

September 2024

STUDIO ANNELOES

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BACKGROUND

Dear Supplier

As a next step to responsible chemical management STUDIO ANNELOES has decided to adapt the ZDHC Manufacturing Restricted Substances List (ZDHC MRSL) as its own requirements. The STUDIO ANNELOES MRSL 3.1 July 2024 is in line with the Zero Discharge Hazardous Chemicals (ZDHC) MRSL version 3.1 June 2024. The ZDHC MRSL is leading for the whole Textile, Leather and Footwear Industry.

The STUDIO ANNELOES Restricted Substances List (RSL version 1.0) and the STUDIO ANNELOES MRSL (version 3.1 July 2024) are two separate documents. The RSL and the MRSL should be communicated to all (raw material) suppliers. All chemicals used in any production process must meet the requirements of the STUDIO ANNELOES MRSL and all products delivered to STUDIO ANNELOES must meet the requirements of the RSL.

The STUDIO ANNELOES MRSL is a list of chemical substances. These substances are banned from intentional use in facilities processing textile materials, leather, rubber, foam, adhesives and trim parts in textiles, apparel, and footwear. Using chemical formulations that conform to the STUDIO ANNELOES MRSL allows suppliers to assure themselves, and their customers, that banned chemical substances are not intentionally used during production and manufacturing processes.

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.

The STUDIO ANNELOES MRSL goes beyond the traditional approaches to chemical restrictions, which only apply to finished products (STUDIO ANNELOES Restricted Substances List - RSL). This approach helps to manage the input of chemicals in the wet processing steps and protect consumers while minimising the possible impact of banned hazardous chemicals on production workers, local communities, and the environment.

Chemical formulations covered by restrictions in the STUDIO ANNELOES MRSL include, but are not limited to, cleaners, adhesives, paints, inks, detergents, dyes, colourants, auxiliaries, coatings and finishing agents used during raw material production, wet processing, process machinery maintenance, wastewater treatment, sanitation, and pest control. The STUDIO ANNELOES MRSL limits apply to substances in commercially available formulations, not those from earlier stages of chemical synthesis.

PURPOSE

The STUDIO ANNELOES MRSL offers suppliers a single, harmonised list of chemical substances banned from intentional use during manufacturing and related processes in supply chains of the textile, apparel, and footwear (including leather and rubber) industries (the Industry).

The STUDIO ANNELOES MRSL applies to textiles, leather, rubber, foam and adhesives, recognising that these materials use different processes. Filters for each material ensure limits reflect the processes.

Be aware that meeting the requirements of the STUDIO ANNELOES MRSL does not:

a) 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
b) guarantee compliance with or take the place of legal or regulatory requirements relating to the use, storage, and transport of chemical products."
The STUDIO ANNELOES MRSL does not replace legal or brand-specific restrictions on hazardous substances in finished products, including the material components of them.

In case of any question, please contact Laura Koedijk, Sustainability Manager:

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Explanation MRSL version 3.1

STUDIO ANNELOES MRSL CHAPTERS

Chapter 1: STUDIO ANNELOES MRSL

This applies to chemical formulations and substances used during creation and wet processing of textile fibres, and during creation and processing of (coated) fabrics, leather, rubber, foam and adhesives.

· The MRSL substances are listed with applicable CAS numbers and provided with Applicability filters for substrates (Textile, Leather, Polymers -Rubber, Foam, Adhesives), Supplier Guidance, Formulation Limit and Methods of Analysis.

Supplier Guidance

No intentional use: these substances are banned from intentional use in facilities that process raw materials and manufacture finished products
Not applicable: these substances are not applicable to the specific substrates
No restriction: these substances are not restricted for the specific substrates

· Formulation limits are concentration limits for the substances in commercial chemical formulations available from chemical manufacturers. These limits ban intentional use while allowing for reasonable expected manufacturing impurities, which should be consistently achievable by responsible chemical manufacturers. Methods of Analysis describe general techniques of testing and wherever available, specific test methods. In the STUDIO ANNELOES MRSL Table, R,F,A stands for Rubber, Foam and Adhesives.

Chapter 2: STUDIO ANNELOES MRSL Candidate List

Substances proposed for addition to the STUDIO ANNELOES MRSL update, as described in the Principles and Procedures, as they lack safer alternatives at scale or more information on the same needs to be collected. Substances on the Candidate List encourages the innovation of alternatives.

Chapter 3: STUDIO ANNELOES MRSL Archived Substances

· Substances without strong evidence of current use in Industry, but with clear evidence of historical use. The Archived Substances should not be reintroduced by a chemical manufacturer in their commercial chemical products. This list should be reviewed by · wet processing facility Chemical Expert through the chemical product's Safety Data Sheet or any other relevant document to confirm absence of these substances in the chemical formulation · that are being used.

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SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
ALKYLPHENOLS (AP) AND ALKYLPHENOL ETHOXYLATES (APEOs): INCLUDING ALL ISOMERS						
Nonylphenol (NP),mixed isomers	Multiple, including 104-40-5 11066-49-2 25154-52-3 84852-15-3	Textile	No intentional use	sum = 100 mg/kg	ISO 21084	Potential Uses in Apparel and Footwear Textile Processing: APEOs can be used as or found in: detergents, scouring agents, spinning oils, wetting agents, softeners, emulsifier/dispersing agents for dyes and prints, impregnating agents, de- gumming for silk production, dyes and pigment preparations, polyester padding and down/feather fillings.
		Leather	No intentional use	sum = 100 mg/kg		
		Polymers (R,F,A)	No intentional use	sum = 100 mg/kg		
Nonylphenolethoxylates (NPEO)	Multiple, including 9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	Textile	No intentional use	sum = 250 mg/kg	ISO 18254	
		Leather	No intentional use	sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	sum = 250 mg/kg		
Octylphenol (OP),mixed isomers	Multiple, including 140-66-9 1806-26-4 27193-28-8	Textile	No intentional use	sum = 100 mg/kg	ISO 21084	
		Leather	No intentional use	sum = 100 mg/kg		
		Polymers (R,F,A)	No intentional use	sum = 100 mg/kg		
Octylphenolethoxylates (OPEO)	Multiple, including 9002-93-1 9036-19-5 68987-90-6	Textile	No intentional use	sum = 250 mg/kg	ISO 18254	
		Leather	No intentional use	sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	sum = 250 mg/kg		

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SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
ANTI-MICROBIALS & BIOCIDES						
Dimethylfumarate (DMFu)	624-49-7	Textile	No intentional use	10 mg/kg	ISO 16186:2021	Potential Uses in Apparel and Footwear Textile Processing: These chemicals have antimicrobial properties, which can be used to preserve formulations, preserve articles to which they are intentionally applied, or provide customers with benefits like odour control or insect repellency. * Notes: The use of O-Phenylphenol (+salts) is permitted as an 'in-can preservative' in leather chemical formulations under BPR PT6 up to the formulation limit of 5000 mg/kg
		Leather	No intentional use	10 mg/kg		
		Polymers (R,F,A)	No intentional use	10 mg/kg		
o-Phenylphenol (+salts)*	90-43-7	Textile	No intentional use	5000 mg/kg	ISO 22992-1 (Textile), EN 17134	
		Leather	Use is permitted for chemical preservation for transportation and storage of raw hides and tanned semifinished products (wet-white, wetblue). Chemical preservation of coated or uncoated finished leather shall not be permitted.		ISO 13365-1 (Leather)	
		Polymers (R,F,A)	Not applicable	Not applicable		
Permethrin**	52645-53-1	Textile	No intentional use	250 mg/kg except for processes mentioned	Solvent extraction LC MS, GC MS	
		Leather	No intentional use	250 mg/kg except for processes mentioned		
		Polymers (R,F,A)	No intentional use	250 mg/kg except for processes mentioned		
** In many situations, deliberate use is not permitted. However, it should be noted that, Permethrin is approved for use on wool curtains, carpets, rugs and floor coverings under BPR PT 18. Permethrin is permitted for usage in personal protective equipment (PPE) (EU 2016/425, EPA registered product, APVMA registered product, PMRA registered product, etc.). Additionally, it is sometimes only allowed for specific purposes, such as military ones. All efforts should be made to maximise the chemical finish durability and to minimise losses to the environment.						
Triclosan	3380-34-5	Textile	No intentional use	250 mg/kg	Solvent extraction LC MS, DAD ISO 22992-2	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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CHLORINATED PARAFFINS						
Short-chain Chlorinated paraffins (SCCPs) (C10– C13)	85535-84-8	Textile	No intentional use	250 mg/kg	ISO 22818:2021	Potential Uses in Apparel and Footwear Textile Processing: These are occasionally used as flame retardants and PVC additives in certain industries. These are also used as fat liquoring agents in leather processing.
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Medium-chain Chlorinated paraffins (MCCPs) (C14-C17)	85535-85-9	Textile	No intentional use	250 mg/kg	ISO 22818:2021	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
CHLOROBENZENES AND CHLOROTOLUENES						
1,2-Dichlorobenzene	95-50-1	Textile	No intentional use	500 mg/kg	EN 17137 Confirmation analysis may be required to avoid false positives.	Potential Uses in Apparel and Footwear Textile Processing: Chlorobenzenes and Chlorotoluenes (chlorinated aromatic hydrocarbons) can be used as carriers in the dyeing process of polyester or wool/polyester fibres. They can also be used as solvents. Additionally, they can be found in colourants and specialty chemicals as an impurity.
		Leather	No intentional use	500 mg/kg		
		Polymers (R,F,A)	No intentional use	500 mg/kg		
Other isomers of mono-, di-, tri-, tetra-, penta- and hexa-Chlorobenzene and mono-, di-, tri-, tetra- and penta- chlorotoluene	Multiple, including *	Textile	No intentional use	Sum = 200 mg/kg tetrachlorotoluene and trichlorotoluene 10 mg/kg each	EN 17137 Confirmation analysis may be required to avoid false positives.	
		Leather	No intentional use	Sum = 200 mg/kg tetrachlorotoluene and trichlorotoluene 10 mg/kg each		
		Polymers (R,F,A)	No intentional use	Sum = 200 mg/kg tetrachlorotoluene and trichlorotoluene 10 mg/kg each		

* inluding: 108-90-7, 541-73-1, 106-46-7, 87-61-6, 120-82-1, 108-70-3, 634-66-2, 634-90-2, 95-94-3, 608-93-5, 118-74-1, 95-49-8, 108-41-8, 106-43-4, 32768-54-0, 95-73-8, 19398-61-9, 118-69-4, 95-75-0, 25186-47-4, 7359-72-0, 2077-46-5, 6639-30-1, 23749-65-7, 21472-86-6, 1006-32-2, 875-40-1, 1006-31-1, 877-11-2

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CHLOROPHENOLS						
Pentachlorophenol (PCP)	87-86-5	Textile	No intentional use	5 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	Potential Uses in Apparel and Footwear Textile Processing: Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) have been used in the past to prevent mould when storing/ transporting raw hides and leather. They are now regulated and should not be used. Note on Testing: If monochlorophenols or dichlorophenols are identified in a sample prepared for evaluation of Chlorophenols using KOH extraction, the results should be confirmed in accordance with Annex C of DIN-50009.
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
2,3,4,5 Tetrachlorophenol[2]	4901-51-3	Textile	No intentional use	Sum (2) = 15 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (2) = 15 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (2) = 15 mg/kg		
2,3,4,6 Tetrachlorophenol[2]	58-90-2	Textile	No intentional use	Sum (2) = 15 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (2) = 15 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (2) = 15 mg/kg		
2,3,5,6 Tetrachlorophenol[2]	935-95-5	Textile	No intentional use	Sum (2) = 15 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (2) = 15 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (2) = 15 mg/kg		
2,4-Dichlorophenol[1]	120-83-2	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		

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CHLOROPHENOLS CONTINUED						
2-Chlorophenol[1]	95-57-8	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	Potential Uses in Apparel and Footwear Textile Processing: Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) have been used in the past to prevent mould when storing/ transporting raw hides and leather. They are now regulated and should not be used. Note on Testing: If monochlorophenols or dichlorophenols are identified in a sample prepared for evaluation of Chlorophenols using KOH extraction, the results should be confirmed in accordance with Annex C of DIN-50009.
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
2,5-Dichlorophenol[1]	583-78-8	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
2,6-Dichlorophenol[1]	87-65-0	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
2,4,6-Trichlorophenol[1]	88-06-2	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
3,5-Dichlorophenol[1]	591-35-5	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		

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CHLOROPHENOLS CONTINUED						
2,4,5-Trichlorophenol[1]	95-95-4	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	Potential Uses in Apparel and Footwear Textile Processing: Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) have been used in the past to prevent mould when storing/ transporting raw hides and leather. They are now regulated and should not be used. Note on Testing: If monochlorophenols or dichlorophenols are identified in a sample prepared for evaluation of Chlorophenols using KOH extraction, the results should be confirmed in accordance with Annex C of DIN-50009.
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
2,3-Dichlorophenol[1]	576-24-9	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
3,4-Dichlorophenol[1]	95-77-2	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
3-Chlorophenol[1]	108-43-0	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
4-Chlorophenol[1]	106-48-9	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		

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CHLOROPHENOLS CONTINUED						
2,3,4-Trichlorophenol[1]	15950-66-0	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	Potential Uses in Apparel and Footwear Textile Processing: Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) have been used in the past to prevent mould when storing/ transporting raw hides and leather. They are now regulated and should not be used. Note on Testing: If monochlorophenols or dichlorophenols are identified in a sample prepared for evaluation of Chlorophenols using KOH extraction, the results should be confirmed in accordance with Annex C of DIN-50009.
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
3,4,5-Trichlorophenol[1]	609-19-8	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
2,3,5-Trichlorophenol[1]	933-78-8	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
2,3,6-Trichlorophenol[1]	933-75-5	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		
3,4,5-Trichlorophenol[1]	609-19-8	Textile	No intentional use	Sum (1) = 50 mg/kg	GC-MS DIN 50009:2021 or EN ISO 17070	
		Leather	No intentional use	Sum (1) = 50 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (1) = 50 mg/kg		

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DYES -ALLERGENIC DISPERSE DYES						
Disperse Yellow 39	12236-29-2	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Disperse dyes are a class of water- insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g. polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and should no longer be used for dyeing of textiles.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Brown 1	23355-64-8	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Yellow 1	119-15-3	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Blue 102	12222-97-8	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Blue 106	12223-01-7	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			

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DYES -ALLERGENIC DISPERSE DYES CONTINUED						
Disperse Orange 37/59/76	13301-61-6	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Disperse dyes are a class of water- insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g. polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and should no longer be used for dyeing of textiles. *In addition to having skin sensitising characteristics, C.I. Disperse Yellow 3 is suspected to be carcinogenic.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Orange 1	2581-69-3	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Yellow 3*	2832-40-8	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Red 11	2872-48-2	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Red 1	2872-52-8	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			

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DYES -ALLERGENIC DISPERSE DYES CONTINUED						
Disperse Red 17	3179-89-3	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Disperse dyes are a class of water- insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g. polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and should no longer be used for dyeing of textiles.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Yellow 49	54824-37-2	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Blue 7	3179-90-6	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Blue 26	3860-63-7	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Yellow 9	6373-73-5	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			

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DYES -ALLERGENIC DISPERSE DYES CONTINUED						
Disperse Blue 124	61951-51-7	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Disperse dyes are a class of water- insoluble dyes that penetrate the fibre system of synthetic or manufactured fibres and are held in place by physical forces without forming chemical bonds. Disperse dyes are used in synthetic fibre (e.g. polyester, acetate, polyamide). Restricted disperse dyes are suspected of causing allergic reactions and should no longer be used for dyeing of textiles.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Blue 35	12222-75-2 56524-77-7	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Orange 3	730-40-5	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			

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DYES - CARCINOGENIC OR EQUIVALENT CONCERN						
C.I. Basic Violet 14	632-99-5	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Most of these substances are regulated and should no longer be used for the dyeing of textiles and leather. For some dyes, it is not possible to directly detect the dye and it must be done by indirect methods as explained in the DIN standard.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Direct Black 38	1937-37-7	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	Not applicable			
C.I. Direct Blue 6	2602-46-2	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	Not applicable			
C.I. Acid Red 26	3761-53-3	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	Not applicable			
C.I. Direct Red 28	573-58-0	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	Not applicable			

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DYES - CARCINOGENIC OR EQUIVALENT CONCERN CONTINUED						
C.I. Basic Red 9	569-61-9	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Most of these substances are regulated and should no longer be used for the dyeing of textiles and leather. For some dyes, it is not possible to directly detect the dye and it must be done by indirect methods as explained in the DIN standard.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Disperse Blue 1	2475-45-8	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	Textile	No intentional use	250 mg/kg	DIN 54231 If the dye is detected, then check for the presence of Michler's ketone which is the non-conformance issue.	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Disperse Blue 3	2475-46-9	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Basic Green 4 leuco base	129-73-7	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			

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DYES - CARCINOGENIC OR EQUIVALENT CONCERN CONTINUED						
C.I. Basic Green 4 (Malachite Green Oxalate)	2437-29-8	Textile	No intentional use	250 mg/kg	DIN 54231	Potential Uses in Apparel and Footwear Textile Processing: Most of these substances are regulated and should no longer be used for the dyeing of textiles and leather. For some dyes, it is not possible to directly detect the dye and it must be done by indirect methods as explained in the DIN standard.
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Basic Green 4 (Malachite Green Chloride)	569-64-2	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
Disperse Orange 11	82-28-0	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Basic Green 4 (Malachite Green)	10309-95-2	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			
C.I. Acid Violet 49	1694-09-3	Textile	No intentional use	250 mg/kg	DIN 54231	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	Not applicable			
Basic violet 3 with >0.1% of Michler´s Ketone	548-62-9	Textile	No intentional use	250 mg/kg	DIN 54231 If the dye is detected, then check for the presence of Michler's ketone which is the non-conformance issue.	
		Leather	Not applicable			
		Polymers (R,F,A)	Not applicable			

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FLAME RETARDANTS						
Octabromodiphenyl ether (OctaBDE)	32536-52-0	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet flammability requirements in children's clothing and adult products. They should no longer be used in apparel and footwear. All Halogenated Flame Retardants are banned from intentional use, that means including - but not exclusive to - the ones mentioned here.
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Trixylyl phosphate (TXP)	25155-23-1	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Bis(2,3-dibromopropyl) phosphate (BIS)	5412-25-9	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Trixylyl phosphate (TXP)	25155-23-1	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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FLAME RETARDANTS CONTINUED						
Tris(2,3,-dibromopropyl)-phosphate (TRIS)	126-72-7	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet flammability requirements in children's clothing and adult products. They should no longer be used in apparel and footwear. All Halogenated Flame Retardants are banned from intentional use, that means including - but not exclusive to - the ones mentioned here.
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Decabromodiphenyl ether (DecaBDE)	1163-19-5	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tetrabromobisphenol A (TBBPA)	79-94-7	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tris(1,3-dichloro- isopropyl) phosphate (TDCP)	13674-87-8	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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FLAME RETARDANTS CONTINUED						
Tris(1-aziridinyl)pho sphineoxide) (TEPA)	545-55-1	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet legal and contractual flammability standards. The use of the flame retardants listed here, or any halogenated flame retardant, is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation).
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
2,2-Bis(bromomethy l)-1,3-propanediol (BBMP)	3296-90-0	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Hexabromocyclodecane(HBCDD)	3194-55-6	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Decabromobiphenyl (DecaBB)	13654-09-6	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Disodium tetraborate, anhydrous	1303-96-4 1330-43-4	Textile	No intentional use	250 mg/kg	Methanol extraction, ICP	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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FLAME RETARDANTS CONTINUED						
Boric acid	10043-35-3 11113-50-1	Textile	No intentional use	250 mg/kg	Methanol extraction, ICP	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet legal and contractual flammability standards. The use of the flame retardants listed here, or any halogenated flame retardant, is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation).
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Disodium octaborate	12008-41-2	Textile	No intentional use	250 mg/kg	Methanol extraction, ICP	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tetrabromobisphenol A bis (2,3-dibromopropyl ether)	21850-44-2	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Heptabromodipheny l ether (HeptaBDE)	68928-80-3	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Dibromobiphenyls (DiBB)	Multiple	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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FLAME RETARDANTS CONTINUED						
Diboron trioxide	1303-86-2	Textile	No intentional use	250 mg/kg	Methanol extraction, ICP	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet legal and contractual flammability standards. The use of the flame retardants listed here, or any halogenated flame retardant, is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation).
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Monobromodiphenyl ethers (MonoBDEs)	Multiple	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Monobromobiphenyls (MonoBB)	Multiple	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Nonabromobiphenyls (NonaBB)	Multiple	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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FLAME RETARDANTS CONTINUED						
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet legal and contractual flammability standards. The use of the flame retardants listed here, or any halogenated flame retardant, is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation).
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Octabromobiphenyls (OctaBB)	Multiple	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Textile	No intentional use	250 mg/kg	Methanol extraction, ICP	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tri-o-cresyl phosphate	78-30-8	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tribromodiphenylethers (TriBDEs)	Multiple	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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FLAME RETARDANTS CONTINUED						
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	Potential Uses in Apparel and Footwear Textile Processing: Flame retardant chemicals are deliberately applied to meet legal and contractual flammability standards. The use of the flame retardants listed here, or any halogenated flame retardant, is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation).
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Trimethyl phosphate	512-56-1	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	Textile	No intentional use	250 mg/kg	Solvent extraction, GC-MS and/or LC-MS	
		Leather	No intentional use	250 mg/kg		
		Polymers (R,F,A)	No intentional use	250 mg/kg		

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GLYCOLS/ GLYCOL ETHERS						
Ethylene glycol dimethylether	110-71-4	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	Potential Uses in Apparel and Footwear Textile Processing: In apparel and footwear, glycols have a wide range of uses including as solvents for finishing/ cleaning, printing agents, and dissolving/ diluting fats, oils, and adhesives (e.g. in degreasing or cleaning operations).
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
2-Methoxyethylacetate	110-49-6	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
2-Methoxypropanol	1589-47-5	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	See Candidate List	See Candidate List		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
2-Ethoxyethanol	110-80-5	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
2-Methoxyethanol	109-86-4	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		

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GLYCOLS/ GLYCOL ETHERS CONTINUED						
Bis(2-methoxyethyl) ether	111-96-6	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	Potential Uses in Apparel and Footwear Textile Processing: In apparel and footwear, glycols have a wide range of uses including as solvents for finishing/ cleaning, printing agents, and dissolving/ diluting fats, oils, and adhesives (e.g. in degreasing or cleaning operations).
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
2-Ethoxyethyl acetate	111-15-9	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
2-Methoxypropylacetate	70657-70-4	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	No intentional use	50 mg/kg, 1000 mg/kg (finishing formulations)		
		Polymers (R,F,A)	Not applicable	Not applicable		
Triethylene glycol dimethyl ether	112-49-2	Textile	No intentional use	50 mg/kg	LC-MS, GC-MS	
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		

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HALOGENATED SOLVENTS						
Methylene chloride	75-09-2	Textile	No intentional use	5 mg/kg	GC-MS	Potential Uses in Apparel and Footwear Textile Processing: In apparel and footwear, halogenated solvents are used as finishing/ cleaning and printing agents, for dissolving/ diluting fats, oils and adhesives (e.g. in degreasing or cleaning operations). * EC (Emission and Exposure Controls best practices in place
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
1,2-Dichloroethane	107-06-2	Textile	No intentional use	5 mg/kg	GC-MS	
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
Trichloroethylene	79-01-6	Textile	No intentional use	40 mg/kg	GC-MS	
		Leather	No intentional use	40 mg/kg		
		Polymers (R,F,A)	No intentional use	40 mg/kg		
Tetrachloroethylene	127-18-4	Textile	No intentional use*	5 mg/kg	GC-MS	
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
Benzyl chloride	100-44-7	Textile	No intentional use	50 mg/kg Dyes 100 mg/kg	GC-MS with confirmatory LC-MS in the event of a positive detection	
		Leather	No intentional use	50 mg/kg Dyes 100 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg Dyes 100 mg/kg		

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ORGANIC SOLVENTS						
Benzene	71-43-2	Textile	No intentional use	50 mg/kg	GC-MS	Potential Uses in Apparel and Footwear Textile Processing: In apparel and footwear, VOCs / solvents are used in processes such as coatings and glues/adhesives. Formulations containing any of the listed solvents above the published limits are NON CONFORMANT with the STUDIO ANNELOES MRSL. Despite the advancement of water-based systems, there are a small number of solvent-based systems that remain the most prevalent in the industry and STUDIO ANNELOES recognises that it will take time to phase these out completely. STUDIO ANNELOES guidance is to avoid the deliberate use of listed solvents wherever possible, with a transition to water-based formulations being preferable, and to ensure that worker exposure and emissions are minimised. * EC (Emission and Exposure Controls best practices in place (Solvent based PU coating)
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
Cresol (all isomers) o-cresol m-cresol p-cresol	1319-77-3 95-48-7 108-39-4 106-44-5	Textile	No intentional use	500 mg/kg	GC-MS	
		Leather	No intentional use	500 mg/kg		
		Polymers (R,F,A)	No intentional use	500 mg/kg		
N,N-dimethylacetamide (DMAC)	127-19-5	Textile	No intentional use*	1000 mg/kg	GC-MS	
		Leather	No intentional use*	1000 mg/kg		
		Polymers (R,F,A)	No intentional use*	1000 mg/kg		
N,N-Dimethylformamide (DMFa)	68-12-2	Textile	No intentional use*	1000 mg/kg	GC-MS, ISO/TS 16189	
		Leather	No intentional use*	1000 mg/kg		
		Polymers (R,F,A)	No intentional use*	1000 mg/kg		
N-Ethyl-2 pyrrolidone (NEP)	2687-91-4	Textile	No intentional use*	1000 mg/kg	GC-MS	
		Leather	No intentional use*	1000 mg/kg		
		Polymers (R,F,A)	No intentional use*	1000 mg/kg		

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SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
ORGANIC SOLVENTS CONTINUED						
N-Methyl-2-Pyrrolidone (NMP)	872-50-4	Textile	No intentional use*	1000 mg/kg	GC-MS, ISO 19070 (GC-MS)	Potential Uses in Apparel and Footwear Textile Processing: In apparel and footwear, VOCs / solvents are used in processes such as coatings and glues/adhesives. Formulations containing any of the listed solvents above the published limits are NON CONFORMANT with the STUDIO ANNELOES MRSL. Despite the advancement of water-based systems, there are a small number of solvent-based systems that remain the most prevalent in the industry and STUDIO ANNELOES recognises that it will take time to phase these out completely. STUDIO ANNELOES guidance is to avoid the deliberate use of listed solvents wherever possible, with a transition to water-based formulations being preferable, and to ensure that worker exposure and emissions are minimised. * EC (Emission and Exposure Controls best practices in place (Solvent based PU coating)
		Leather	No intentional use*	1000 mg/kg		
		Polymers (R,F,A)	No intentional use*	1000 mg/kg		
Toluene	108-88-3	Textile	No intentional use*	500 mg/kg	GC-MS	
		Leather	No intentional use*	500 mg/kg		
		Polymers (R,F,A)	No intentional use*	500 mg/kg		
Xylene (all isomers) 0-Xylene m-Xylene p-Xylene	1330-20-7 95-47-6 108-38-3 106-42-3	Textile	No intentional use	500 mg/kg	GC-MS	
		Leather	No intentional use	500 mg/kg		
		Polymers (R,F,A)	No intentional use	500 mg/kg		

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ORGANOTIN COMPOUNDS						
Dibutyltin (DBT)	Multiple 683-18-1	Textile	No intentional use	20 mg/kg	Solvent extraction, GC MS, ISO TS 16179, ISO 22744-1	Potential Uses in Apparel and Footwear Textile Processing: Organotins are a 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 stabilisers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material. * In order to be able to optimise performance characteristics of some leather finishes, it is sometimes desirable to use PU thickeners and create formulations on-site rather than purchasing pre-mixed formulations from chemical suppliers. In these instances, there is a more lenient limit of DBT for the thickeners themselves, but the thickeners must not be used in quantities >20% in tailored formulations.
		Leather	No intentional use	20 mg/kg (EXCEPTION 100 mg/kg for polyurethane based thickeners*		
		Polymers (R,F,A)	No intentional use	20 mg/kg		
Mono-, di- and tri- methyltin derivatives	Multiple, including 993-16-8 753-73-1 1066-45-1	Textile	No intentional use	5 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
Mono-, di- and tri- octyltin derivatives	Multiple, including 3091-25-6 3542-36-7 2587-76-0	Textile	No intentional use	5 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
Mono-, di- and tri- phenyltin derivatives	Multiple, including 1124-19-2 1135-99-5 639-58-7	Textile	No intentional use	5 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		

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ORGANOTIN COMPOUNDS CONTINUED						
Mono- and tri- butyltin derivatives	Multiple, including 1118-46-3 1461-22-9	Textile	No intentional use	5 mg/kg	Solvent extraction, GC MS, ISO TS 16179	Potential Uses in Apparel and Footwear Textile Processing: Organotins are a 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 stabilisers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
Dipropyltin compounds (DPT)	Multiple 867-36-7	Textile	No intentional use	5 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	5 mg/kg		
		Polymers (R,F,A)	No intentional use	5 mg/kg		
Tetraethyltin Compounds (TeET)	Multiple, including 597-64-8	Textile	No intentional use	1 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	1 mg/kg		
		Polymers (R,F,A)	No intentional use	1 mg/kg		
Tripropyltin Compounds (TPT)	Multiple including 2279-76-7	Textile	No intentional use	1 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	1 mg/kg		
		Polymers (R,F,A)	No intentional use	1 mg/kg		

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ORGANOTIN COMPOUNDS CONTINUED						
Tetrabutyltin compounds (TeBT)	Multiple, including 1461-25-2	Textile	No intentional use	1 mg/kg	Solvent extraction, GC MS, ISO TS 16179	Potential Uses in Apparel and Footwear Textile Processing: Organotins are a 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 stabilisers in plastics/rubber. In textiles and apparel, organotins are associated with plastics/rubber, inks, paints, metallic glitter, polyurethane products and heat transfer material.
		Leather	No intentional use	1 mg/kg		
		Polymers (R,F,A)	No intentional use	1 mg/kg		
Tetraoctyltin compounds (TeOT)	Multiple including 3590-84-9	Textile	No intentional use	1 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	1 mg/kg		
		Polymers (R,F,A)	No intentional use	1 mg/kg		
Tricyclohexyltin (TCyHT)	Multiple including 3091-32-5	Textile	No intentional use	1 mg/kg	Solvent extraction, GC MS, ISO TS 16179	
		Leather	No intentional use	1 mg/kg		
		Polymers (R,F,A)	No intentional use	1 mg/kg		

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OTHER/MISCELLANEOUS CHEMICALS (These are other chemicals/substances/process with a usage ban)						
Borate, zinc salt	1332-07-6	Textile	No intentional use	1000 mg/kg	Acid digestion, ICP	Borate, zinc salt can be used as a flame retardant but also in paints, pigments, and adhesives.
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
(Free Aniline)	62-53-3	Textile	No intentional use	Indigo 2000 mg/kg, Other dyes 500 mg/kg	Indigo - Reductive method (ISO 14362) Other - Non-reductive (ISO 14362 without reductive step)	Used in the manufacture of Indigo and some azo dyes. Residues from manufacturing can remain in the formulation. For all dyes other than indigo, it is important that non-reductive methods are used so that only the free aniline is analysed rather than that which could be formed by the cleavage of a dye molecule. For indigo, aniline can be tied up in insoluble clusters of dye and so a reductive method that fully solubilises the dye and liberates free aniline is used. The levels of aniline in indigo must be achieved by removal of the aniline and not by dilution, with a minimum indigo content of 30% being required.
		Leather	No intentional use	Indigo 2000 mg/kg, Other dyes 500 mg/kg		
		Polymers (R,F,A)	Not applicable	Not applicable		
Bisphenol A (BPA)	80-05-7	Textile	No intentional use	100 mg/kg	Solvent extraction, LC MS/MS, GC MS	Bisphenol A (BPA) is a precursor chemical used along with other chemicals to create some plastics and resins. It is commonly used to harden plastics.
		Leather	No intentional use	100 mg/kg		
		Polymers (R,F,A)	No restriction	No restriction		

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OTHER/MISCELLANEOUS CHEMICALS (These are other chemicals/substances/process with a usage ban) CONTINUED						
D4 (Octamethylcyclotetrasiloxane)	556-67-2	Textile	No intentional use	1000 mg/kg	TEGEWA method, Chloroform extraction, GC/MS	Cyclic siloxane can be present as contaminants in the formulations that contain silicone, such as softeners.
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
D5 (Decamethylcyclopentasiloxane)	541-02-6	Textile	No intentional use	1000 mg/kg	TEGEWA method, Chloroform extraction, GC/MS	
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
D6 (Dodecamethylcyclohexa-siloxane)	540-97-6	Textile	No intentional use	1000 mg/kg	TEGEWA method, Chloroform extraction, GC/MS	
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
Diazene-1,2-dicarboxamide [C,C`-azodi(formamide)] (ADCA)	123-77-3	Textile	No intentional use	1000 mg/kg	LC/MS, LC/DAD	Diazene-1,2-dicarboxamide can be used specifically for the production of foams, thermoplastics and epoxy resins as blowing agent.
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		

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OTHER/MISCELLANEOUS CHEMICALS (These are other chemicals/substances/process with a usage ban) CONTINUED						
Perboric acid, sodium salt	Multiple 11138-47-9 15120-21-5 7632-04-04 16940-66-2 13517-20-9 125022-34-6 90568-23-3	Textile	No intentional use	1000 mg/kg	Methanol extraction, ICP	Can be used as a disinfectant. It can also be part of the ingredients for detergents and bleach powders,
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
Thiourea	62-56-6	Textile	No intentional use	1000 mg/kg	Solvent extraction, LC MS/MS, LC-DAD MS	Thiourea is used in many formulations to increase the solubility.
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
Titanium Dioxide	13463-67-7	Textile	No intentional use of solid mixtures of TiO2 in powder form where >1% (w/w) of TiO2 particles have aerodynamic diameter ≤10 µm	1% (w/w) of TiO2 particles have aerodynamic diameter ≤10 µm. (Liquid mixtures or emulsions or pastes containing TiO2, having proper GHS/CLP classification, are allowed for use.)	For powder mixtures containing TiO2, the formulator should provide confirmed data to demonstrate conformance with particle size requirements for TiO2.	TiO2 is one of the most important raw materials for paints and coatings
		Leather				
		Polymers (R,F,A)				
Quinoline	91-22-5	Textile	No intentional use	1000 mg/kg	DIN 54231, LC-MS	Contaminant of dispersing agents in disperse dyes.
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		

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OTHER/MISCELLANEOUS CHEMICALS (These are other chemicals/substances/process with a usage ban) CONTINUED						
Silica (particles of respirable size)	14464-46-1	Textile	No intentional use	No use for Sand Blasting	Process due diligence, no test method available	Respirable particles of silica are often generated during the process of sand blasting.
		Leather	No intentional use	No use for Sand Blasting		
		Polymers (R,F,A)	No intentional use	No use for Sand Blasting		
2-(2-Aminoethylamino)ethanol (AEEA)	111-41-1	Textile	No intentional use	100 mg/kg	Solvent extraction, LC MS/MS or GC-MS	AEEA is used in chelating agents, surfactants and fabric softeners.
		Leather	No intentional use	100 mg/kg		
		Polymers (R,F,A)	No intentional use	100 mg/kg		
PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFAS)						
Perfluorobutane sulfonic acid (PFBS)	375-73-5	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	Formulations containing PFAS (Per and Polyfluorinated alkylated substances) are often used for water or stain repellency. The use of any formulation based on, or including, PFAS - including those listed below - is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation). The formulations will always be deemed MRSL NON-CONFORMANT. The end uses of any PFAS within an inventory should be appraised.
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		

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PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFAS) CONTINUED						
Perfluorooctane sulfonic acid (PFOS) and related substances	Multiple 1763-23-1	Textile	No intentional use	Sum = 2000 µg/kg	LC-MS or GC-MS	Formulations containing PFAS (Per and Polyfluorinated alkylated substances) are often used for water or stain repellency. The use of any formulation based on, or including, PFAS - including those listed below - is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation). The formulations will always be deemed MRSL NON-CONFORMANT. The end uses of any PFAS within an inventory should be appraised.
		Leather	No intentional use	Sum = 2000 µg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 2000 µg/kg		
Perfluorodecane sulfonic acid (PFDS)	335-77-3	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		
Perfluorobutanoic acid (PFBA)	375-22-4	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		

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PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFAS) CONTINUED						
Perfluorohexanoic acid (PFHxA) and related substances	Multiple 307-24-4	Textile	No intentional use	PFHxA = 25 µg/kg PFHxA-related substances = 1000 µg/kg	LC-MS or GC-MS	Formulations containing PFAS (Per and Polyfluorinated alkylated substances) are often used for water or stain repellency. The use of any formulation based on, or including, PFAS - including those listed below - is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation). The formulations will always be deemed MRSL NON-CONFORMANT. The end uses of any PFAS within an inventory should be appraised.
		Leather	No intentional use	PFHxA = 25 µg/kg PFHxA-related substances = 1000 µg/kg		
		Polymers (R,F,A)	No intentional use	PFHxA = 25 µg/kg PFHxA-related substances = 1000 µg/kg		
Perfluorooctanoic acid (PFOA) and related substances	Multiple 335-67-1	Textile	No intentional use	PFOA = 25 µg/kg PFOA related substances = 1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	PFOA = 25 µg/kg PFOA related substances = 1000 µg/kg		
		Polymers (R,F,A)	No intentional use	PFOA = 25 µg/kg PFOA related substances = 1000 µg/kg		
Perfluorodecanoic acid (PFDA)	335-76-2	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		

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PERFLUORINATED AND POLYFLUORINATED CHEMICALS (PFAS) CONTINUED						
4:2 Fluorotelomer alcohols (4:2 FTOH)	2043-47-2	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	Formulations containing PFAS (Per and Polyfluorinated alkylated substances) are often used for water or stain repellency. The use of any formulation based on, or including, PFAS - including those listed below - is not permitted (for fashion, sport or outdoor clothing and apparel and home textiles). It should be noted that there may be certain critical (technical textile) end uses where legally or contractually mandated standards may only be achieved using these substances (e.g. military, medical, protective clothing, transportation). The formulations will always be deemed MRSL NON-CONFORMANT. The end uses of any PFAS within an inventory should be appraised.
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		
6:2 Fluorotelomer alcohols (6:2 FTOH)	647-42-7	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		
8:2 Fluorotelomer alcohols (8:2 FTOH)	678-39-7	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		
10:2 Fluorotelomer alcohols (10:2 FTOH)	865-86-1	Textile	No intentional use	1000 µg/kg	LC-MS or GC-MS	
		Leather	No intentional use	1000 µg/kg		
		Polymers (R,F,A)	No intentional use	1000 µg/kg		

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PHTHALATES - INCLUDING ALL OTHER ESTERS OF ORTO-PHTHALIC ACID						
Di-n-octyl phthalate (DNOP)	117-84-0	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	Potential Uses in Apparel and Footwear Textile Processing: Esters of ortho-phthalic acid (phthalates) are a class of organic compounds commonly added to plastics to increase flexibility. They sometimes are used to facilitate 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 sleevings - Polymeric coatings
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di-iso-decyl phthalate (DIDP)	26761-40-0	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di(ethylhexyl) phthalate (DEHP)	117-81-7	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di-isononyl phthalate (DINP)	28553-12-0	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		

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PHTHALATES - INCLUDING ALL OTHER ESTERS OF ORTO-PHTHALATIC ACID CONTINUED						
Di-n-hexyl phthalate (DnHP)	84-75-3	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	Potential Uses in Apparel and Footwear Textile Processing: Esters of ortho-phthalic acid (phthalates) are a class of organic compounds commonly added to plastics to increase flexibility. They sometimes are used to facilitate 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 sleevings - Polymeric coatings
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Butyl benzyl phthalate (BBP)	85-68-7	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Dibutyl phthalate (DBP)	84-74-2	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Dinonyl phthalate (DNP)	84-76-4	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Diethyl phthalate (DEP)	84-66-2	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		

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PHTHALATES - INCLUDING ALL OTHER ESTERS OF ORTO-PHTHALATIC ACID CONTINUED						
n-Pentyl-isopentyl phthalate	776297-69-9	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	Potential Uses in Apparel and Footwear Textile Processing: Esters of ortho-phthalic acid (phthalates) are a class of organic compounds commonly added to plastics to increase flexibility. They sometimes are used to facilitate 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 sleevings - Polymeric coatings
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Diisohexyl phthalate	71850-09-4	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di-n-propyl phthalate (DPRP)	131-16-8	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di-cyclohexyl phthalate (DCHP)	84-61-7	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di-isobutyl phthalate (DIBP)	84-69-5	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		

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SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
PHTHALATES - INCLUDING ALL OTHER ESTERS OF ORTO-PHTHALATIC ACID CONTINUED						
Di-iso-octyl phthalate(DIOP)	27554-26-3	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	Potential Uses in Apparel and Footwear Textile Processing: Esters of ortho-phthalic acid (phthalates) are a class of organic compounds commonly added to plastics to increase flexibility. They sometimes are used to facilitate 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 sleevings - Polymeric coatings
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
1,2-Benzenedicarboxylic acid, di-C6-8-branched and linear alkyl esters, C7-rich (DIHP)	71888-89-6	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	84777-06-0	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		

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PHTHALATES - INCLUDING ALL OTHER ESTERS OF ORTO-PHTHALATIC ACID CONTINUED						
Diisopentylphthalates	605-50-5	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	Potential Uses in Apparel and Footwear Textile Processing: Esters of ortho-phthalic acid (phthalates) are a class of organic compounds commonly added to plastics to increase flexibility. They sometimes are used to facilitate 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 sleevings - Polymeric coatings
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
Di-n-pentylphthalates	131-18-0	Textile	No intentional use	Sum = 250 mg/kg	GC-MS ISO 14389	
		Leather	No intentional use	Sum = 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum = 250 mg/kg		
POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)						
Benzo[a]pyrene	50-32-8	Textile	No intentional use	20 mg/kg	GC-MS AfPS GS 2019	Potential Uses in Apparel and Footwear Textile Processing: Oil-containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings. Within the footwear producing industry, 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 dyestuffs.
		Leather	No intentional use	20 mg/kg		
		Polymers (R,F,A)	No intentional use	20 mg/kg		
Pyrene[3,4]	129-00-0	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		

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POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) CONTINUED						
Benzo(ghi)perylene[3,4]	191-24-2	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	Potential Uses in Apparel and Footwear Textile Processing: Oil-containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings. Within the footwear producing industry, 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 dyestuffs.
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Benzo[j]fluoranthene[3,4]	205-82-3	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Anthracene[3,4]	120-12-7	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Indeno[1,2,3-cd]pyrene[3,4]	193-39-5	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Benzo[e]pyrene[3,4]	192-97-2	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		

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POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) CONTINUED						
Benzo[b]fluoranthene[3,4]	205-99-2	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	Potential Uses in Apparel and Footwear Textile Processing: Oil-containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings. Within the footwear producing industry, 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 dyestuffs.
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Benzo[k]fluoranthene[3,4]	207-08-9	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Fluoranthene[3,4]	206-44-0	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Acenaphthylene[3,4]	208-96-8	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Dibenz[a,h]anthracene[3,4]	53-70-3	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		

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POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) CONTINUED						
Chrysene[3,4]	218-01-9	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	Potential Uses in Apparel and Footwear Textile Processing: Oil containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings. Within the footwear producing industry, 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 dyestuffs.
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Phenanthrene[3,4]	85-01-8	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Acenaphthene[3,4]	83-32-9	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		

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POLYCYCLIC AROMATIC HYDROCARBONS (PAHs) CONTINUED						
Fluorene[3]	86-73-7	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	Potential Uses in Apparel and Footwear Textile Processing: Oil containing PAHs are added to rubber and plastics as a softener or extender and may be found in rubber, plastics, lacquers, and coatings. Within the footwear producing industry, 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 dyestuffs.
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Naphthalene[3]	91-20-3	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		
Benzo(a)anthracene[3,4]	56-55-3	Textile	No intentional use	Sum (3) = 200 mg/kg	GC-MS AfPS GS 2019	
		Leather	No intentional use	Sum (4) = 200 mg/kg		
		Polymers (R,F,A)	No intentional use	Sum (3) = 200 mg/kg		

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RESTRICTED AROMATIC AMINES (CLEAVABLE FROM AZO-COLOURANTS)						
4,4-Oxydianiline	101-80-4	Textile	No intentional use	150 mg/kg	ISO 14362	Potential Uses in Apparel and Footwear Textile Processing: Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those that degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for the dyeing of textiles.
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4,4-Methylene-bis-(2-chloro-aniline)	101-14-4	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
3,3'-Dimethoxylbenzidine	119-90-4	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4,4'-Diaminodiphenylmethane	101-77-9	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4-Chloroaniline	106-47-8	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		

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RESTRICTED AROMATIC AMINES (CLEAVABLE FROM AZO-COLOURANTS) CONTINUED						
3,3'-Dimethylbenzidine	119-93-7	Textile	No intentional use	150 mg/kg	ISO 14362	Potential Uses in Apparel and Footwear Textile Processing: Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those that degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for the dyeing of textiles.
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
p-Cresidine	120-71-8	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4,4-Thiodianiline	139-65-1	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4-Aminoazobenzene	60-09-3	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
2,4,5-Trimethylaniline	137-17-7	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		

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RESTRICTED AROMATIC AMINES (CLEAVABLE FROM AZO-COLOURANTS) CONTINUED						
o-Anisidine	90-04-0	Textile	No intentional use	150 mg/kg	ISO 14362	Potential Uses in Apparel and Footwear Textile Processing: Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those that degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for the dyeing of textiles.
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4,4-Methylenedi-o-toluidine	838-88-0	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
3,3'-Dichlorobenzidine	91-94-1	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
2,4-Diaminoanisol	615-05-4	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
2,6-Xylidine	87-62-7	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		

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RESTRICTED AROMATIC AMINES (CLEAVABLE FROM AZO-COLOURANTS) CONTINUED						
2-Naphthylamine	91-59-8	Textile	No intentional use	150 mg/kg	ISO 14362	Potential Uses in Apparel and Footwear Textile Processing: Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those that degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for the dyeing of textiles.
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
o-Toluidine	95-53-4	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
Benzidine	92-87-5	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4-Chloro-o-toluidine	95-69-2	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
4-Aminobiphenyl	92-67-1	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		

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RESTRICTED AROMATIC AMINES (CLEAVABLE FROM AZO-COLOURANTS) CONTINUED						
2,4-Toluenediamine	95-80-7	Textile	No intentional use	150 mg/kg	ISO 14362	Potential Uses in Apparel and Footwear Textile Processing: Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those that degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for the dyeing of textiles. Substances listed here which are highlighted with an asterisk* are salts.
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
2,4-Xylidine	95-68-1	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
o-Aminoazotoluene	97-56-3	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
2-Amino-4-nitrotuluene	99-55-8	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
Salt of Naphthylammoniumacetate*	553-00-4	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		

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RESTRICTED AROMATIC AMINES (CLEAVABLE FROM AZO-COLOURANTS) CONTINUED						
Salt of 4-chloro-o-toluidinium chloride*	3165-93-3	Textile	No intentional use	150 mg/kg	ISO 14362	Potential Uses in Apparel and Footwear Textile Processing: Azo dyes and pigments are colourants that incorporate one or several azo groups (-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those that degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for the dyeing of textiles. Substances listed here which are highlighted with an asterisk* are salts.
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
Salt of 4-methoxy-m-phenylene diammonium sulphate*	39156-41-7	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		
Salt of 2,4,5-trimethylaniline hydrochloride*	21436-97-5	Textile	No intentional use	150 mg/kg	ISO 14362	
		Leather	No intentional use	150 mg/kg		
		Polymers (R,F,A)	No intentional use	150 mg/kg		

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TOTAL HEAVY METALS						
Arsenic (As)	7440-38-2	Textile	No intentional use	50 mg/kg	Acid digestion, ICP/AAS	Although typically associated with leather tanning, chromium VI also may be used in the dyeing of wool (after the chroming process). The formulation limits for As, Cd, Hg, Pb, and Cr (VI) in this list apply to all types of formulation. When a limit for pigments is specific and differs from the general limit, it is denoted by brackets. The formulation limits for Sb, Cr, Ba, Se, Sn, Ni, Cu, Co and Ag only apply to dye and/or pigment formulations. Any differences between limits for dyes and pigments are indicated in the formulation limit column. The limits for the heavy metals do not apply to colourants containing a listed metal as an inherent compositional part (e.g. metal-complex colourants, the double salts of certain cationic colourants or extenders like barium sulfate). Wet processors must be aware of the metal limits in guidelines such as the ZDHC wastewater guidelines as well as the STUDIO ANNELOES RSL limits with regard to extractable metals from dyed materials when using any colourant that has listed metals as an inherent compositional part. Where RSL and/or wastewater issues are observed, wet processors should discuss this with supply chain partners.
		Leather	No intentional use	50 mg/kg		
		Polymers (R,F,A)	No intentional use	50 mg/kg		
Cadmium (Cd)	7440-43-9	Textile	No intentional use	20 mg/kg (50 mg/kg for pigments)	Acid digestion, ICP/AAS	
		Leather	No intentional use	20 mg/kg (50 mg/kg for pigments)		
		Polymers (R,F,A)	No intentional use	20 mg/kg (50 mg/kg for pigments)		
Mercury (Hg	7439-97-6	Textile	No intentional use	4 mg/kg (25 mg/kg pigments)	Acid digestion, ICP/AAS	
		Leather	No intentional use	4 mg/kg (25 mg/kg pigments)		
		Polymers (R,F,A)	No intentional use	4 mg/kg (25 mg/kg pigments)		
Lead (Pb)	7439-92-1	Textile	No intentional use	100 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	100 mg/kg		
		Polymers (R,F,A)	No intentional use	100 mg/kg		
Chromium (VI)	18540-29- 9	Textile	No intentional use	10 mg/kg	HPLC / DAD Ion chromatography (IC) with UV detection	
		Leather	No intentional use	10 mg/kg		
		Polymers (R,F,A)	No intentional use	10 mg/kg		

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SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
TOTAL HEAVY METALS CONTINUED						
Antimony	7440-36-0	Textile	No intentional use	Dyes 50 mg/kg Pigments 250 mg/kg	Acid digestion, ICP/AAS	Although typically associated with leather tanning, chromium VI also may be used in the dyeing of wool (after the chroming process). The formulation limits for As, Cd, Hg, Pb, and Cr (VI) in this list apply to all types of formulation. When a limit for pigments is specific and differs from the general limit, it is denoted by brackets. The formulation limits for Sb, Cr, Ba, Se, Sn, Ni, Cu, Co and Ag only apply to dye and/or pigment formulations. Any differences between limits for dyes and pigments are indicated in the formulation limit column. The limits for the heavy metals do not apply to colourants containing a listed metal as an inherent compositional part (e.g. metal-complex colourants, the double salts of certain cationic colourants or extenders like barium sulfate). Wet processors must be aware of the metal limits in guidelines such as the ZDHC wastewater guidelines as well as the STUDIO ANNELOES RSL limits with regard to extractable metals from dyed materials when using any colourant that has listed metals as an inherent compositional part. Where RSL and/or wastewater issues are observed, wet processors should discuss this with supply chain partners.
		Leather	No intentional use	Dyes 50 mg/kg Pigments 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 50 mg/kg Pigments 250 mg/kg		
Chromium	7440-47-3	Textile	No intentional use	Dyes and Pigments 100 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes and Pigments 100 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes and Pigments 100 mg/kg		
Barium	7440-39-3	Textile	No intentional use	Dyes and Pigments 100 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes and Pigments 100 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes and Pigments 100 mg/kg		
Selenium	7782-49-2	Textile	No intentional use	Dyes 20 mg/kg Pigments 100 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes 20 mg/kg Pigments 100 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 20 mg/kg Pigments 100 mg/kg		
Tin	7440-31-5	Textile	No intentional use	Dyes 250 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 250 mg/kg		

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SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
TOTAL HEAVY METALS CONTINUED						
Nickel	7440-02-0	Textile	No intentional use	Dyes 250 mg/kg	Acid digestion, ICP/AAS	Although typically associated with leather tanning, chromium VI also may be used in the dyeing of wool (after the chroming process). The formulation limits for As, Cd, Hg, Pb, and Cr (VI) in this list apply to all types of formulation. When a limit for pigments is specific and differs from the general limit, it is denoted by brackets. The formulation limits for Sb, Cr, Ba, Se, Sn, Ni, Cu, Co and Ag only apply to dye and/or pigment formulations. Any differences between limits for dyes and pigments are indicated in the formulation limit column. The limits for the heavy metals do not apply to colourants containing a listed metal as an inherent compositional part (e.g. metal-complex colourants, the double salts of certain cationic colourants or extenders like barium sulfate). Wet processors must be aware of the metal limits in guidelines such as the ZDHC wastewater guidelines as well as the STUDIO ANNELOES RSL limits with regard to extractable metals from dyed materials when using any colourant that has listed metals as an inherent compositional part. Where RSL and/or wastewater issues are observed, wet processors should discuss this with supply chain partners.
		Leather	No intentional use	Dyes 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 250 mg/kg		
Copper	7440-50-8	Textile	No intentional use	Dyes 250 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes 250 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 250 mg/kg		
Cobalt	7440-48-4	Textile	No intentional use	Dyes 500 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes 500 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 500 mg/kg		
Silver	7440-22-4	Textile	No intentional use	Dyes 100 mg/kg	Acid digestion, ICP/AAS	
		Leather	No intentional use	Dyes 100 mg/kg		
		Polymers (R,F,A)	No intentional use	Dyes 100 mg/kg		

MRSL version 3.1 Chapter 1						
SUBSTANCE	**CAS NUMBER**	**APPLICABILITY**	**SUPPLIER GUIDANCE**	**FORMULATION LIMIT**	**GENERAL TECHNIQUES FOR ANALYSING CHEMICALS**	**RELEVANCE OF THE RESTRICTION**
UV ABSORBERS						
2-(2H-benzotriazol- 2-yl)-4-(tert-butyl)-6-(sec- butyl) phenol (UV-350)	36437-37- 3	Textile	No intentional use	1000 mg/kg	Solvent extraction, LC MS/MS, GC MS	Potential Uses in Apparel and Footwear Textile Processing: To make the formulations stable to the effects of UV light or sunlight, UV absorbers are frequently used.
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
2-Benzotriazol-2-yl- 4,6-di-tert-butylphenol (UV-320)	3846-71-7	Textile	No intentional use	1000 mg/kg	Solvent extraction, LC MS/MS, GC MS	
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
2,4-Di-tert-butyl-6-(5 -chlorobenzotriazole -2-yl) phenol (UV-327)	3864-99-1	Textile	No intentional use	1000 mg/kg	Solvent extraction, LC MS/MS, GC MS	
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		
2-(2H-benzotriazol- 2-yl)-4,6-ditertpentyl phenol (UV-328)	25973-55- 1	Textile	No intentional use	1000 mg/kg	Solvent extraction, LC MS/MS, GC MS	
		Leather	No intentional use	1000 mg/kg		
		Polymers (R,F,A)	No intentional use	1000 mg/kg		

NOTE:
(R,F,A) refers to Rubber, Foams and Adhesives
Sum of substances [1,2,3,4] means the limit refers to the sum of all the marked substances within the same number

MRSL Version 3.1 Chapter 2 Candidate List		
SUBSTANCE	**CAS NUMBER**	**INTENT AND POTENTIAL USE**
BISPHENOLS		
Bisphenol AF	1478-61-1	Numerous bisphenols, including those listed, are under investigation. Based on the information available and their legal status, they may be added to the main list in future updates.
Bisphenol F	620-92-8	
Bisphenol S	80-09-1	
ETHOXYLATED TALLOW AMINE		
Polyethoxylated tallow amine	61791-26-2	More information is required on specific substances in this group of chemicals to make a jugment on restrictions.
FORMALDEHYDE		
Formaldehyde	50-00-0	The deliberate use of formaldehyde or inclusion of formaldehyde in formulations is not permitted. In Version 4 of the STUDIO ANNELOES MRSL it is intended to introduce a maximum allowable limit of 250 mg/kg formaldehyde for the majority of formulations and appropriate test methods for leather and textile formulations will need to be determined. For formulations that are known to contain formaldehyde at higher levels but represent state-of-the-art technology, such as non-iron and easy to iron finish formulations or reactive organic / resin tanning agents, it is intended to introduce a limit of 1000 mg/kg in conformance with hazard labelling obligations. Formaldehyde can be used or present in many types of formulations such as fixatives, resins and binders. Formaldehyde has many uses in printing, interlinings, stiffeners, etc.
PHENOL		
Phenol	108-95-2	STUDIO ANNELOES is looking for safe limits for phenol as a contaminant in textile chemical formulations. Phenol is not deliberately used in textiles or footwear but trace amounts of phenol can be found in many chemical formulations.
POTASSIUM PERMANGANATE		
Potassium permanganate	7722-64-7	Potassium permangante must never be used without appropriate engineering controls (such as water curtains and localised extraction) and workers must always use appropriate personal protective equipment. Suppliers are strongly encouraged to evaluate alternatives to manual spraying of potassium permanganate - such as lasers, robotised spraying or safer chemical alternatives.
SOLVENTS		
2-methoxypropanol	1589-47-5	It is intended to introduce a limit for leather formulations in the STUDIO ANNELOES MRSL version 4.
Methanol	67-56-1	Methanol is a concern because of its toxicity and in STUDIO ANNELOES MRSL version 4.0 it is intended to introduce maximum allowable limits and encourage substitution by safer solvents, which in many cases will be ethanol.
TOTAL HEAVY METALS		
Metals (Non -dye /pigment)	Multiple	Studies on usage patterns of metal-containing chemicals and formulations and the potential effect of restrictions will be monitored on an on-going basis and additions made to the main list as appropriate. Besides in dyes and pigments, metals are used as raw material for trims and other components.

MRSL Version 3.1 Chapter 3 Archived Substances		
SUBSTANCE	**CAS NUMBER**	**POTENTIAL USES IN APPAREL AND FOOTWEAR TEXTILE PROCESSING**
DYES-CARCINOGENIC OR EQUIVALENT CONCERN		
C I Solvent yellow 2	60-11-7	Most of these substances are regulated and should no longer be used for the dyeing of textiles.
D&C Red No. 19	81-88-9	
C.I. Solvent yellow 14	842-07-9	
DYES - NAVY BLUE COLOURANT		
Component 1: C39H23ClCrN7O12S.2Na	118685-33-9	Navy Blue Colourant is regulated and should no longer be used for the dyeing of textiles.
Component 2: C46H30CrN10O20S2.3Na	Not allocated	
OTHER /MISCELLANEOUS CHEMICALS		
Auramine hydrochloride	2465-27-2	Dye
SOLVENTS		
Bis(chloromethyl) ether	542-88-1	In the past, it was used to make several types of polymers, resins, and textiles, but its use is now highly restricted.