

VAUDE Manufacturing Substance List (MRSL)

Version January 2020





MRSL Instructions:

Chapter 1: VAUDE MRSL for Textiles and Coated Fabric Processing

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

Chapter 2: VAUDE MRSL for Natural Leather Processing

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

MRSL Groups:

GROUP A: Raw Material and Finished Product Supplier Guidance

Group A substances are banned from intentional use in facilities that process raw materials and manufacture finished products like fabrics. Please see VAUDE RSL for individual requirements on other substances



Group B: Chemical Supplier Formulation Limit

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



CHAPTER 1: MRSL for Textiles and Synthetic Leather Processing

CAS No.	Śubstance	Group A: Raw Material and Finished Product Supplier Guidance	Group 18: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals			
Alkylphenol (AP) and	Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers							
104-40-5								
11066-49-2	Nonylphenol (NP), mixed isomers		250 ppm					
25154-52-3	tronyipitenoi (ttr), mixed isomers		200 ppm					
84852-15-3				APEOs can be used as or found in:				
240-50-8				Areos can be used as or round in:				
1998 - 56-4	Consistenced (1995, submit however)			rib, setting sparts, converse,	Wanti daramatapangiap			
27253-59-6					na superior a figure a superior de la companya de l			
				and patrix, incompanies operate, de-	A Signed and the second s			
2002-20-2	Belgiylanasi oʻzlanglatan (37793)					and a mail and the static states and states and	sonsapankennedry (2013-	
				Alexandra and and an an and a straight and a straig				
9016-45-9				padding and down/feather fillings.	ľ			
26027-38-3								
37205-87-1	Nonylphenol ethoxylates (NPEO)		500 ppm					
68412-54-4								
127087-87-0					17			
Chlorobenzenes and	Chlorotoluenes				1			
95-50-1	1,2-dichlorobenzene		1000 ppm	Chlorobenzenes and chlorotoluenes	ſ			
	Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- chlorobenzene and mono-, di-, tri-, tetra- and penta- chlorotoluene No intent			(chlorinated aromatic hydrocarbons)				
chlorobenzene and m				can be used as carriers in the dyeing	GC-MS			
			Sum = 200 ppm	process of polyester or wool/polyester	001110			
				fibres. They can also be used as solvents.				



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals
Chlorophenols					
25167-83-3	Tetrachlorophenol (TeCP)		seem = 2.2 pape		
	References (CF)		anazar jagisani		
	<u>4242-tohoridan data</u>				
潮降低影响	3,3,4,94 abaahhaaphanal]			
	a,2,3,6 torred hang head	1			
199-199-19	3-álarssánar	1		Glaborgikowski son polyski kalenten omogenerali sami ze prezervnikan ar posibilite. Nanimilianopicanel (PER) and inimilianopicanel (PER) inne loven sonikalite fan positie posente recubi witen stealegt incorpositieg, can blate	
	2/4-Contemptance)	1			
	2.846666666]			
and the second sec	20. Alexandra and a second				
184854	3454tilterpland	Nebrice Canal and			
32-334A	2,4.5-interrepend]			
221-52-5	<u>S.S. Malanashara</u>]			
]		्रियमा स्थलना सुर्घ त्यस्य स्थलना सुराध स्थलना सिंहा स्थलना सिंहा सिंहा सिंहा सिंहा सिंहा सिंहा सिंहा सिंहा सि	
95-77-2	3,4-dichlorophenol]		and should not be used.	ľ
108-43-0	3-chlorophenol]			
106-48-9	4-chlorophenol]			
15950-66-0	2,3,4-trichlorophenol				
933-78-8	2,3,5-trichlorophenol]			
609-19-8	3,4,5-trichlorophenol				



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals
Dyes – Azo (Forming	Restricted Amines)				
101-14-4	4,4'-methylene-bis-(2-chloro-aniline)		150 ppm		
101-77-9	4,4'-methylenedianiline] [150 ppm]	
101-80-4	4,4'-oxydianiline		150 ppm		
106-47-8	4-chloroaniline		150 ppm		
119-90-4	3,3'-dimethoxylbenzidine		150 ppm		
119-93-7	3,3'-dimethylbenzidine		150 ppm		LC, GC
120-71-8	6-methoxy-m-toluidine] [150 ppm		
137-17-7	2,4,5-trimethylaniline] [150 ppm]	
139-65-1	4,4'-thiodianiline] [150 ppm	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	
60-09-3	4-aminoazobenzene] [150 ppm		
615-05-4	4-methoxy-m-phenylenediamine		150 ppm		
838-88-0	4,4'-methylenedi-o-toluidine	No intentional use	150 ppm		
87-62-7	2,6-xylidine	No Intentional use	150 ppm		
90-04-0	o-anisidine] [150 ppm		
91-59-8	2-naphthylamine	ן ך ו	150 ppm		
92-84-9	9,7-diddorobox24mc]]	1500070	longer be used for dyshy afterables.	
12-27-1	al-ombradiphangl	1	150pp71	 Intelline can arread and addressed as arreadings. 	
12.47-5	Beastiline	ן ו	150 ger		
95-53×4	0-171013778] (1596553		
13-33-1	24-2211076	1	1400000	1	
95-69-2	4-eldars-a toloidhe	1	1500000	1	
98.Q8.7	d-maind-m-phenylmedlamine	1 1	150625	1	
97-56-3	o-aminoazotoluene		150 ppm	1	
99-55-8	5-nitro-o-toluidine	1 1	150 ppm	1	
Dyes - Navy Blue Col	lourant				
118685-33-9	Component 1: C39H23ClCrN7O12S-2Na			Navy Blue colourants are regulated and	
Not Allocated	Component 2: C46H30CrN10O20S2·3Na	No intentional use	250 ppm	should no longer be used for dyeing of textiles.	LC



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals
Dyes – Carcinogenie	c or Equivalent Concern				
1937-37-7	C.I. Direct Black 38	L	250 ppm		
2602-46-2	C.I. Direct Blue 6		250 ppm		
3761-53-3	GJ- Asid Red 26		3.5.0 ₁₉ 2m	J	
2463-61-3				1	
222-22-0	fl. Direct Red 35				
	C.L. Danks Vindet 14			Most of Superconstations are regulated	
2015-45-0	C.L. Represe Show 1.	No brindend we	252 (2011	and along the begins in much for depicting	lC.
2005-05-3	Ci. Digense films 2				
200844344	Cl. Resolution 28 (solid lithforth Doorto + 90.83)			1	
800-69-3	Cl. See Scort 4 indexite grandlatik				
2437-29-8	C.I. Basic Green 4 (malachite green oxalate)		250 ppm		
10309-95-2	C.I. Basic Green 4 (malachite green)		250 ppm		
82-28-0	Disperse Orange 11		250 ppm		
Dyes – Disperse (Se	insitising)	5			
119-15-3	Disperse Yellow 1		250 ppm		
12222-97-8	Disperse Blue 102		250 ppm		
12223-01-7	Disperse Blue 106		250 ppm	1	
12236-29-2	Disperse Yellow 39		250 ppm	1	
19339-49-4	Dispersion Spences Statistics			1	
22223-209-0	<u>Physican</u> Byersen 1.			ම්මානයකක් කොතර ක්රියා රූ සාමාන	
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2002-200-2	Elization Wellings &				
202493	Nigere Ref 14		2539570	Theorem is it is a start of the	
200-12-0	Ebassao Sed 1	the interactional and	2020	fores without for mixed for for the	16
	Expanse Rad 17		250 6542	Essential and a statistic statistic statistics	
9170-59-8	Experse May 7		250 1949	forg, polycela, accents polycedici. Readisted dispersedyne are copyeded	
0464-62-7) filester Rica 26				
14094-37-2	Biserne tellere 40			ne lagar be used for designed and lag	
1928-mat	Nîşanar Mar û l		2000 (2000)	aan anglikan na anana ang pikangikan ang pikang	
AND DESIGN	Observe Use 1928		238636C]	
	Manazine Salitiste D		259624	1	
799-69-5	Gigerre (Brigger B		THE FRAME	ĵ	
1000 - 72-7	Durn-Rings		250 6040	Ĩ	



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals
Flame Retardants					
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)		250 ppm		
1163-19-5	Decabromodiphenyl ether (DecaBDE)		250 ppm]	
12:27	This 2.2, discussion of the photophoto (1989)]	
38999 M	Rentshaan and phanel with an (Pantaelikus)		2.56 (53)]	
10-10-10-10-10-10-10-10-10-10-10-10-10-1	Received and phere of the second			filionus o. m.auseralamete.clin.cantamasmas.ettes	
SALF 22-22	Rinfäglenförsonrage responderbergalander (1912)	1		- Home manistic characteristic maily - And the mail flavous billy	
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52233-473-41	Fairferendagt wayts (FER)	USEA I DORANDER DESTURIT AMERICA		- desputations discussions assume and selfingersiders. They should be house	
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3194-55-6	Hexabromocyclodecane (HBCDD)		250 ppm		
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)		250 ppm		
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCP)		250 ppm		
85535-84-8	Short-chain chlorinated Paraffins (SCCP) (C10-C13)		50 ppm		
Glycols	•			1	
111-96-6	Bis(2-methoxyethyl)-ether		50 ppm		
110-80-5	2-ethoxyethanol		50 ppm	In apparel and footwear, glycols have a	
111-15-9	2-ethoxyethyl acetate		50 ppm	wide range of uses including as solvents	High-performance liquid
110-71-4	Ethylene glycol dimethyl ether	No intentional use	50 ppm	for finishing/cleaning, printing agents,	chromatography (HPLC), LC-
109-86-4	2-methoxyethanol	NO Intentional use	50 ppm	and dissolving and diluting fats, oils and	MS
110-49-6	2-methoxyethylacetate		50 ppm	adhesives (e.g., in degreasing or	1412
70657-70-4	2-methoxypropylacetate		50 ppm	cleaning operations).	
112-49-2	Triethylene glycol dimethyl ether		50 ppm		
Halogenated Solven	ts				
107-06-2	1,2-dichloroethane		5 ppm	In apparel and footwear, solvents are	
75-09-2	Methylene chloride		5 ppm	used as finishing/cleaning and printing	
79-01-6	Trichloroethylene	No intentional use	40 ppm	agents, for dissolving and diluting fats,	GC-M5
127-18-4	Tetrachloroethylene		5 ppm	oils and adhesives (e.g., in degreasing or cleaning operations).	

VAUDE Manufacturing Substance List



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals
Organotin Compour	nds				
Multiple	Dibutyltin (DBT)		20 ppm	Organotins are a class of chemicals	
Multiple	Mono-, di- and tri-methyltin derivatives		5 ppm	combining tin and organics such as butyl	
Multiple	Mono-, di- and tri-butyltin derivatives		5 ppm	and phenyl groups. Organotins are	
Multiple	Mono-, di- and tri-phenyltin derivatives		5 ppm	predominantly found in the environment	
Multiple	Mono-, di- and tri-octyltin derivatives	No intentional use	5 ppm	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.	GC-MS, low resolution mass spectrometry (LRMS)
Polycyclic Aromatic	Hydrocarbons (PAHs)				
50-32-8	Benzo[a]pyrene (BaP)	1	20 ppm		
120-12-7	Anthracene	-		Polycyclic aromatic hydrocarbons (PAHs)	
129-90-0	්දයකාන	1		are natural components of crude oil and	
1994-94-92	banahi (pastan			strand and the many subscription of the second second second	
155-55-8	Bereskipwere			Käiskeens skarrietteeralleinder	
1884-56-56	inisar(), 2,3-45[pparate			to the start of star data are registed. Sti	
	Berea) Diseanthers-	-		nesidaes arriebles PARasmediaed to	
國際手段結果	Converting the second			akin ud pasa manakanya	
	Normaline			exercise and may be fauch in minime.	
207-07-0	Benzalit]	1	phenice, lessons and sandous. Philis are	
208-96-8	Acenaphthylene			often found in the outsoles of footwear	
218-01-9	Chrysene	No intentional use	Sum - 200 anm	and in printing pastes of screen prints. PAHs can be present as impurities in	GC-MS
53-70-3	Dibenz[a,h]anthracene		Sum = 200 ppm	Carbon Black. They also may be formed	
56-55-3	Benzo[a]anthracene			from thermal decomposition of recycled	
83-32-9	Acenaphthene			materials during reprocessing.	
85-01-8	Phenanthrene			materials during reprocessing.	
86-73-7	Fluorene			Naphthalene: Dispersing agents for	
91-20-3	Naphthalene			textile dyes may contain high residual naphthalene concentrations due to the use of low quality naphthalene derivatives (e.g., poor quality naphthalene sulphonate formaldehyde condensation products).	



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals
Perfluorinated and	Polyfluorinated Chemicals (PFCs)				
	nd stain repellent finishes and soil release finishes (f				
	ng to the Organisation for Economic Co-operation a acids (C8 and higher) and on long-chain perfluoroal			pfc/) are based on long-chain	
Perfluoroalkyl sulfor	ints of this technology include: nates (PFSAs) with carbon chain lengths C6 and high acids with carbon chain lengths C8 and higher (e.g.,		-		
Multiple	Perfluorooctane sulfonate (PFOS) and related substances		Sum = 2 ppm	PFOA and PFOS may be present as unintended by-products in long-chain	
Multiple	Perfluorooctanoic acid (PFOA) and related substances	No intentional use	Sum = 2 ppm	commercial water, oil and stain repellent agents. PFOA also may be in use for polymers like polytetrafluoroethylene (PTFE).	LC-MS
Phthalates - includi	ng all other esters of ortho-phthalic acid				
117-81-7	Di(ethylhexyl) phthalate (DEHP)			Esters of ortho-phthalic acid (phthalates) are a class of organic compounds commonly added to plastics	
117-82-8	Bis(2-methoxyethyl) phthalate (DMEP)				
117-84-0	Di-n-octyl phthalate (DNOP)				
26761-40-0	Di-iso-decyl phthalate (DIDP)				
28553-12-0	Di-isononyl phthalate (DINP)			to increase flexibility. They sometimes	
84-75-3	Di-n-hexyl phthalate (DnHP)			are used to facilitate moulding of plastic	
84-74-2	Dibutyl phthalate (DBP)			by decreasing its melting temperature.	
85-68-7	Butyl benzyl phthalate (BBP)			-,	
84-76-4	Dinonyl phthalate (DNP)	No intentional use	Sum of all phthalates	Phthalates can be found in:	GC-MS
84-66-2	Diethyl phthalate (DEP)	the internet of the	= 250 ppm	 Flexible plastic components 	00110
131-16-8	Di-n-propyl phthalate (DPRP)			(e.g., PVC)	
84-69-5	Di-isobutyl phthalate (DIBP)			 Print pastes 	
84-61-7	Di-cyclohexyl phthalate (DCHP)			Adhesives	
27554-26-3	Di-iso-octyl phthalate (DIOP)			Plastic buttons	
68515-42-4	1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)			Plastic sleevings Polymeric coatings	
71888-89-6	1,2-benzenedicarboxylic acid,di-C6-8-branched alkyl esters,C7-rich (DIHP)			i orginerie coatings	

VAUDE Manufacturing Substance List



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Apparel and Footwear Textile Processing	General Techniques for Analysing Chemicals			
Total Heavy Metals		Same and the second			•			
manganese, seleniun	ned from intentional use in textile manufacturing/ n and silver in colourants are expected to comply w (http://www.etad.com/).	•		ganic Pigments Manufacturers (ETAD)				
7440-38-2	Arsenic (As)		50 ppm	Arsenic and its compounds can be used in some preservatives, pesticides and defoliants for cotton. It is also associated with synthetic fibres, paints, inks, trims and plastics.				
7489-42-5	Setuine (M)		is ean ficientia ar ang SG	Cadmium compounds are found in or next as pigments (period), a stabilitor for PAR plastic ordin facilities, bartionand paints (ag., and are priods or pigment and facilities).	ludwityspecceled planne- official antholog			
and the second se	Marrow (432)	Dia Crissefarraliane)	NA CREATAILASE		No Frenetoral use	fini index finitestati A Distan	Nereny emperation barranic pediaterant on to fand or nonembodie because anta pictor. Nereny emperator myterasi to prints je.g., solice palaterantipgen and betamp.	opnical contracts Spectra opnical spectra opnical spectra Spectra opnical spectra
XXXA	Land (Ph)		1996 H.C.	la uppendiant Koshanar, lant map ku Assalatet wila diatika, paina, lala, piyanasi net nether antilogo.				
18540-29-9	Chromium (VI)		10 ppm	Although typically associated with leather tanning, chromium VI also may be used in the dyeing of wool (after the chroming process).				
Volatile Organic Com	npounds (VOC)							
71-43-2	Benzene		50 ppm	These volatile organic compounds	ļ			
1330-20-7	Xylene		500 ppm	should not be used in textile auxiliary				
95-48-7	o-cresol		500 ppm	chemical preparations. They are associated with solvent-based	(
106-44-5 108-39-4	p-cresol m-cresol	No intentional use	500 ppm 500 ppm	processes like solvent- based polyurethane coatings and glues/adhesives. They should not be used for any kind of facility cleaning or spot cleaning.	GC-MS			



Chapter 2: MRSL for Leather Processing

CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Leather Processing for Apparel and Footwear	General Techniques for Analysing Chemicals within commercial formulations
Alkylphenol (AP) and	Alkylphenol Ethoxylates (APEOs): including a	II isomers			
104-40-5 11066-49-2 25154-52-3 84852-15-3	Nonylphenol (NP), mixed isomers		250 ppm	APEOs can be used in leather processing or found in a variety of formulations such as	Liquid chromatography-mass spectrometry (LC-MS), gas chromatography-mass spectrometry (GC-MS) EN ISO 18219 -1 EN ISO 18219 - 2
140-66-9 1806-25-4 27193-28-8	Octylphenol (OP), mixed isomers		250 ppm	detergents, wetting agents, emulsifier/ dispersing agents/dedusting agents for dyes and prints, dyes and pigment preparations, degreasing and fur scouring agents, fat liquors and greases, water borne dispersions and emulsions used in the beamhouse and finishing	
9002-93-1 9036-19-5 68987-90-6	Octylphenol ethoxylates (OPEO)	No intentional use	500 ppm		
9016-45-9 26027-38-3 37205-87-1 68412-54-4 127087-87-0	Nonylphenol ethoxylates (NPEO)	_	500 ppm	agents. NP and OP are not used by the leather industry, but could be present as contaminants.	
Chlorobenzenes and	Chlorotoluenes			-	
95-50-1	1,2-dichlorobenzene		1000 ppm	Chlorobenzenes and chlorotoluenes can be	
	no-, di-, tri-, tetra-, penta- and hexa- nono-, di-, tri-, tetra- and penta-	No intentional use	Sum = 200 ppm	used for degreasing sheep and pig skins. They can also be used as solvents (e.g., in chemical synthesis).	GC-MS



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Leather Processing for Apparel and Footwear	General Techniques for Analysing Chemicals within commercial formulations
Chlorophenols					
25167-83-3	Tetrachlorophenol (TeCP)		Sum = 20 ppm		
87-86-5	Pentachlorophenol (PCP)		Sum = 20 ppm	<u>l</u>	
4901-51-3	2,3,4,5-tetrachlorophenol				
58-90-2	2,3,4,6-tetrachlorophenol				
935-95-5	2,3,5,6-tetrachlorophenol				
95-57-8	2-chlorophenol				
120-83-2	2,4-dichlorophenol		No intentional use	Chlorophenols are polychlorinated compounds used as preservatives or pesticides. Pentachlorophenol (PCP) and tetrachlorophenol (TeCP) have been used in the past to prevent	
583-78-8	2,5-dichlorophenol				
87-65-0	2,6-dichlorophenol				GC-MS
95-95-4	2,4,5-trichlorophenol	No intentional use			EN ISO 17070
88-06-2	2,4,6-trichlorophenol		Sum = 50 ppm	mould when storing/transporting, raw hides	EN 130 17070
591-35-5	3,5-dichlorophenol			and leather. They are now regulated and should not be used.	
576-24-9	2,3-Dichlorophenol				
95-77-2	3,4-Dichlorophenol				
108-43-0	3-Chlorophenol				
106-48-9	4-Chlorophenol				
15950-66-0	2,3,4-Trichlorophenol				
933-78-8	2,3,5-Trichlorophenol				
609-19-8	3,4,5-Trichlorophenol				



CAS No.	Substance	Group A: Raw Material and Finished Product Supplier Guidance	Group B: Chemical Supplier Commercial Formulation Limit	Potential Uses in Leather Processing for Apparel and Footwear	General Techniques for Analysing Chemicals within commercial formulations
Dyes – Azo (Forming	Restricted Amines)				
101-14-4	4,4'-methylene-bis-(2-chloro-aniline)		150 ppm		
101-77-9	4,4'-methylenedianiline]	150 ppm]	}
101-80-4	4,4'-oxydianiline		150 ppm		
106-47-8	4-chloroaniline		150 ppm		
119-90-4	3,3'-dimethoxylbenzidine]	150 ppm		
119-93-7	3,3'-dimethylbenzidine] [150 ppm		
120-71-8	6-methoxy-m-toluidine] [150 ppm	Azo dyes and pigments are colourants that	
137-17-7	2,4,5-trimethylaniline	1 [150 ppm	incorporate one or several azo groups	LC, GC-MS
139-65-1	4,4'-thiodianiline] [150 ppm	(-N=N-) bound with aromatic compounds. Thousands of azo dyes exist, but only those which degrade to form the listed cleavable amines are restricted. Azo dyes that release these amines are regulated and should no longer be used for dyeing of leather. Restricted amineselse may be present on investigating character in the statement of the s	
60-09-3	4-aminoazobenzene] [150 ppm		
615-05-4	4-methoxy-m-phenylenediamine] [150 ppm		LC, GC-MS
838-88-0	4,4'-methylenedi-o-toluidine	No intentional use	150 ppm		EN ISO 17234 – 1
87-62-7	2,6-xylidine	No intentional use	150 ppm		EN ISO 17234 – 1 EN ISO 17234 – 2
90-04-0	o-anisidine] [150 ppm		EN 130 17234 - 2
91-59-8	2-naphthylamine] [150 ppm		
10.494-1	k, iz-dizideen bareakins]	120 656		
使生物学们	A-ominodiskend			basailia la as andala sailia desidi	
のないないのである	1999年後期1991年]		Manager and the second se	
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195-494-21	1.4-4408mm	Ĩ	Ma Com	1	
65-63-2	d-statute a technicites	1	建築 (論約]	
99-68-7	4-กายถึงที่-กา-จภัยการโอกอบโอทกักอ	1	190 ppm	1	1
97-56-3	o-aminoazotoluene]	150 ppm]	
99-55-8	5-nitro-o-toluidine		150 ppm]	
Dyes – Navy Blue Co	lourant				<u></u>
118685-33-9	Component 1: C39H23ClCrN7O12S-2Na			Navy Blue colourants are regulated, were not	LC
Not Allocated	Component 2: C46H30CrN10O20S2·3Na	No intentional use	250 ppm	sold commercially, and should not have been used for dyeing of leather	(No test reference available)



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Dyes – Carcinogenie	or Equivalent Concern			•	
1937-37-7	C.I. Direct Black 38		250 ppm		
2602-46-2	C.I. Direct Blue 6		250 ppm	1	
3761-53-3	C.I. Acid Red 26		250 ppm]	
569-61-9	C.I. Basic Red 9		250 ppm		
573-58-0	C.I. Direct Red 28		250 ppm		
632-99-5	C.I. Basic Violet 14	-	250 ppm	1	
2475-45-8	C.I. Disperse Blue 1		250 ppm	Most of these substances are regulated in many	LC
2475-46-9	C.I. Disperse Blue 3	No intentional use	250 ppm	countries. All should no longer be used for dyeing of leather.	
2580-56-5	C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)		250 ppm		
569-64-2	C.I. Basic Green 4 (malachite green chloride)		250 ppm		
2437-29-8	C.I. Basic Green 4 (malachite green oxalate)		250 ppm		
10309-95-2	C.I. Basic Green 4 (malachite green)	1	250 ppm		
82-28-0	Disperse Orange 11		250 ppm		
Dyes – Disperse (Se	nsitizing)				
		Disperse dyes have r	no applicability to leather pr	ocessing.	
Fat liquoring agents					
85535-84-8	Short-chain chlorinated paraffin ($C_{10} - C_{13}$)	No intentional use	250 ppm	Short-chain chlorinated paraffins can be found as contaminants within long-chain chlorinated paraffins and sulfo-chlorinated paraffin's, used as fat liquoring agents.	Gas chromatography/ electron capture negative ion-mass spectrometry (GC/ECNI-MS) EN ISO 18219



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Flame Retardants	•			•	•
115-96-8	Tris(2-chloroethyl)phosphate (TCEP)	-	250 ppm	Flame retardant chemicals are rarely used to meet flammability requirements in children's clothing and adult products, but they could be used in processing leather for technical/ industrial purposes (e.g., drive belts) and upholstery leather for trains and planes. The mentioned substances should no longer be used in apparel and footwear.	
1163-19-5	Decabromodiphenyl ether (DecaBDE)		250 ppm		
126-72-7	Tris(2,3,-dibromopropyl)-phosphate (TRIS)		250 ppm		
32534-81-9	Pentabromodiphenyl ether (PentaBDE)		250 ppm		
32536-52-0	Octabromodiphenyl ether (OctaBDE)		250 ppm		
5412-25-9	Bis(2,3-dibromopropyl)phosphate (BIS)		250 ppm		
545-55-1	Tris(1-aziridinyl)phosphine oxide) (TEPA)		250 ppm		
59536-65-1	Polybromobiphenyls (PBB)	No intentional use	250 ppm		GC-MS
79-94-7	Tetrabromobisphenol A (TBBPA)		250 ppm		
3194-55-6	Hexabromocyclodecane (HBCDD)		250 ppm		
3296-90-0	2,2-bis(bromomethyl)-1,3-propanediol (BBMP)		250 ppm		
13674-87-8	Tris(1,3-dichloro-isopropyl) phosphate (TDCP)		250 ppm		
Glycol Ethers				•	
111-96-6	Bis(2-methoxyethyl)-ether		50 ppm	In apparel and footwear, glycol ethers have a	
110-80-5	2-ethoxyethanol		50 ppm	wide range of uses including as solvents for	
111-15-9	2-ethoxyethyl acetate		50 ppm	finishing/cleaning, printing agents and	1
2013.2.4	Riktene siyasi simaku ether] <i>denkingant di ding inte, site and et heine</i>	
202.564	2 Althebiltergeblachel		and the second	fergala depressing or sleaning operations).	6.57-94 mm Farmer & Free 2.3
Baile and Control of C	2-metrangetiglanetete	Berry Barren and Barren and Internet	is prim	6 Serie salaradizeria (kijesi zibezelenz	filgh-performance liquid
		- Na hitaniharal asa	avernary for the use of water-based leader finibling systems. The methods of glocal efficience destination construction and should not be used in processing leather.	shearraidy uping (HPPO), Lis- NES	
	Thisinglonagiyeel dimethyl allow			electron under and entropy of the second	
70657-70-4	2-methoxypropylacetate		1000 ppm]
Halogenated Solven	ts				·
107-06-2	1,2-dichloroethane		5 ppm	In apparel and footwear, solvents are used as	
75-09-2	Methylene chloride	No internal and and	5 ppm	finishing/cleaning and printing agents, for	66.146
79-01-6	Trichloroethylene	No intentional use	40 ppm	dissolving and diluting fats, oils and adhesives	GC-MS
127-18-4	Tetrachloroethylene		5 ppm	(e.g., in degreasing or cleaning operations).	



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Organotin Compoun	ds				
Multiple	Dibutyltin (DBT)	No intentional use	20 ppm (*EXCEPTION* 100 ppm for polyurethane based thickeners used at <20% loading)	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 productions and heat stabilizers in plastics/rubber. Polyurethane thickeners, which could contain traces of DBT, are commonly used for viscosity adjustments of leather chemicals formulations.	GC-MS, low resolution mass spectrometry (LRMS)
Multiple	Mono-, di- and tri-methyltin derivatives		5 ppm		
Multiple	Mono-, di- and tri-butyltin derivatives		5 ppm		
Multiple	Mono-, di- and tri-phenyltin derivatives]	5 ppm		
Multiple	Mono-, di- and tri-octyltin derivatives		5 ppm		
Polycyclic Aromatic	Hydrocarbons (PAHs)				
50-32-8	Benzo[a]pyrene (BaP)		20 ppm	1	
120-12-7	Anthracene	1		1	
129-00-0	Pyrene	1			
191-24-2	Benzo[ghi]perylene				
192-97-2	Benzo[e]pyrene				
193-39-5	Indeno[1,2,3-cd]pyrene		Polycyclic aromatic hydrocarbons (PAHs) are		
205-82-3	Benzo[j]fluoranthene			ſ	
205-99-2	Benzo[b]fluoranthene			natural components of crude oil and are a common residue from oil refining. PAHs are	GC-MS
206-44-0	Fluoranthene	1	C		
207-08-9	Benzo[k]fluoranthene	1	Sum = 200 ppm typically found as contaminants within leather formulations.		
208-96-8	Acenaphthylene	No intentional use		Tormulations.	
218-01-9	Chrysene	No intentional use			
53-70-3	Dibenz[a,h]anthracene	1			
56-55-3	Benzo[a]anthracene	1			
83-82-0	从来会们简直的能力还用出				
SI-01-8	Flienanthrense				
\$6-51-7	Financese				
後後世界	Napitheloso		2009 gap na	In the leather chemical Inductory, anglithalene is usedles a new concreation provided on a si spokectic terming agents fromtanch and for manufacture af active substances in disposing genericscool cluring leather processing.	strikk, Lä



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	Polyfluorinated Chemicals (PFCs)		•		
				gy are banned from intentional use. Long-chain	
	ng to the Organisation for Economic Co-operation acids (C8 and higher) and on long-chain perfluor			<pre>cd.org/ehs/pfc/) are based on long-chain</pre>	
		oakyi suitonates (co and n	igner).		
	nts of this technology include:				
	ates (PFSAs) with carbon chain lengths C6 and h				
Perfluorocarboxylic	acids with carbon chain lengths C8 and higher (e	e.g., PFOA, perfluorooctano	ic acid)	DEGA and DEGE may be present as uninter dad	
Multiple	Perfluorooctane sulfonate (PFOS) and		Sum = 2 ppm	PFOA and PFOS may be present as unintended	
	related substances	No intentional use		by-products in long-chain commercial water, oil and stain repellent agents. PFOA also may be in	LC-MS
	Perfluorooctanoic acid (PFOA) and related	No internorial use	Sum = 2 ppm	use for polymers like polytetrafluoroethylene	LC-IVIS
Multiple	substances			(PTFE).	
Phthalates – includi	ng all other esters of ortho-phthalic acid				
117-81-7	Di(ethylhexyl) phthalate (DEHP)				
117-82-8	Bis(2-methoxyethyl) phthalate (DMEP)				
117-84-0	Di-n-octyl phthalate (DNOP)				
26761-40-0	Di-iso-decyl phthalate (DIDP)				
28553-02-0	101-isononaliphonatateuphop			Esters of ortho-phthalicasid (phthalatos) are a	
84-75-3	Divertiessel phyticalates (Divide);	1		elass of organic-compounds commonly added to	
\$4.7 4.2	Diburg pirchalate (DBR)			plastics to increase deviaility. They are	
· 编造-编稿-7	Bugilbangi phikalake (BBP)]		sentellines used to facilitate moulding of plastic	
84.76.4	Binary phikalete (DBP)	No intentional use	Sum of all phthalates by decreasing its multing temperature.	SS-MS	
84-56-2	Riethyl phthalate (DER)	TRANSF UCTREETIN RUCHTARD I SARANSI.	= 250 ppm		201 Sec. 194 2
131-16-5	Ni-n-arapyi physiata (0.PRP)	= = - -		Polymetic coatingsfor leather finisting,	
84-69-5	Di-isobutyl phthalate (DIBP)			dedusting agents in colourants, fat liquors and	1
84-61-7	Di-cyclohexyl phthalate (DCHP)			greases could be a source for phthalates in	
27554-26-3	Di-iso-octyl phthalate (DIOP)			formulations for leather processing.	
68515-42-4	1,2-benzenedicarboxylic acid, di-C7-11-				
	branched and linearalkyl esters (DHNUP)				
71888-89-6	1,2-benzenedicarboxylic acid,di-C6-8-				
	branched alkyl esters,C7-rich (DIHP)				



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Total Heavy Metals	Total Heavy Metals							
Listed metals are ban manganese, selenium concentration limits (
7440-38-2	Arsenic (As)		50 ppm	Arsenic and its compounds can be used in some preservatives, pesticides and defoliants for cotton. It is also associated with synthetic fibres, paints, inks, trims and plastics. Arsenic is not a typical residue in leather chemicals.				
74943.8	Gréssen (92)		ferina dia Manada Manada dia Manada Manada dia Manada	Cadmium compounds are found in or used an pigneric femiliality web, compa palae and generic a debiliant for PfS plants and by facilities, identifies and palate jusy, workers printered steparoused balances.	lainikaipampini pienar apinianany jiri-diny, apenanany jiri-diny,			
		technical com	arssa faratessig afracts Eig	Menery supportion to provide the particular and any by heard on statemeters for he article and fileffit. Menery contraction by he much hepotetic (e.g., carlies paints or signer and backard). Menery is not a typical radiabusia insferr	a the contraction of the contrac			
¥\$8424.	Land (1946)		 119 py m	<u>sizasinis</u> In approximat factorize, local maples considered with picture, politic, loca, pigmente and emilians employe.	nanianudian cząci HIII III IIII IIII HIIIIII IIIIIIII Automatulian HIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII			
12200-52-0	filmenedium, fishij		10 gan	The two-limit granus for taxaing using potentian disformance (d) to an larger model by destantion disformance (d) and other standitum (d) analyzende out branchard describes (d) activities in describes (0) taxaing species are predicted.				



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Volatile Organic Com	Volatile Organic Compounds (VOC)						
71-43-2	Benzene	No intentional use	50 ppm	These volatile organic compounds should not			
95-48-7	o-cresol		500 ppm	be used in textile and leather auxiliary chemical			
106-44-5	p-cresol		500 ppm	preparations. They are associated with solvent-			
108-39-4	m-cresol		500 ppm	based processes like solvent-based polyurethane coatings and glues/adhesives. They should not be used for any kind of facility cleaning or spot cleaning.	GC-MS		