

Group / Substance	CAS-Number	Input water /output (wastewater) (µg/l)	Testing methods	sludge mg/kg	Testing methods	Finished Articles / Textiles mg/kg	Finished Articles / Shoes mg/kg	Testing methods	Status Banned / Phased out
<b>1. Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs)</b>									
4-(1,1,3,3 Tetramethylbutyl)-phenol	140-66-9	1 (for each)	DIN EN ISO 18857 followed by Liquid Chromatography Mass Spectrometry (LC-MS) Analysis NPEO <sub>(1+2)</sub> : GC-MS	1 (for each)	DIN EN ISO 18857 followed by Liquid Chromatography Mass Spectrometry (LC-MS) Analysis NPEO <sub>(1+2)</sub> : GC-MS	10 -100	100	Solvent extraction// GC-MS (Aps) LC-MS (APEOs)	Usage Ban
Oxtylphenol	27193-28-8								
4-Pctylphenol	1806-26-4								
4-Nonylphenol (branched)	25154-52-3								
Nonylphenol	104-40-5								
Nonylphenol (mixed isomers)	90481-04-2								
Nonylphenol Ethoxylates NPEO (1-2) various									
Nonylphenol Ethoxylates NPEO (3-18) various									
Nonylphenol ethoxylated	9016-45-9,68412-54-4,127087-0, 37205-87-1,26027-38-3								
4-Nonylphenol, ethoxylated									
Octylphenol Ethoxylates OPEO (1-2) various									
Octylphenol Ethoxylates OPEO (3-18) various									
4-tert-Octylphenoethoxylate	9036-19-5,68987-90-								
<b>2. Chlorobenzene and Chlorotoluens</b>									
Dichlorobenzene		Chlorobenzenes: 0.02 / Chlorotoluens: 1 for some substances	Liquid Extraction GC-MS	Chlorobenzenes: 0.5 / Chlorotoluens: 1 for some substances	Liquid Extraction GC-MS	Chlorobenzenes: 1 / Chlorotoluens: 1 Sum all < 5 mg/kg	Chlorobenzenes: 1 / Chlorotoluens: 1 Sum all < 5 mg/kg	DIN54232-201 or Solvent Extraction //GC-MS	
1,2-Dichlorobenzene	95-50-1								
1,3-Dichlorobenzene	541-73-1								
1,4-Dichlorobenzene	106-46-7								
Trichlorobenzene									
1,2,3-Trichlorobenzene	87-61-6								
1,2,4-Trichlorobenzene	120-82-1								
1,3,5-Trichlorobenzene	108-70-3								
Tetrachlorobenzene	12408-10-5								
1,2,3,4-Tetrachlorbenzene	634-66-2								
1,2,3,5-Tetrachlorbenzene	634-90-2								
1,2,4,5-Tetrachlorbenzene	95-94-3								
Pentachlorbenzene	608-93-5								
Xexachlorbenzene	118-7-1								
<b>3. Chlorinated Solvents</b>									
Dichloromethane	75-09-2								
Chloroform	67-66-3								
Tetrachlormethane	56-23-5								
1,1,2-Trichloroethane	79-00-5			0,5 (each)					

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1,1-Dichloroethane	75-34-3	1 (each)	HS-GC/MS Analysis	10	HS-GC/MS Analysis	Usage Ban	Usage Ban	Solvent Extraction // GC-MS	Usage Ban
1,2-Dichloroethane	107-06-2								
Trichloroethylene	79-01-6								
Perchloroethane	127-18-4								
1,1,1-Trichloroethane	71-55-6								
1,1,1,2-Tetrachloroethane	630-20-6								
1,1,2,2-Tetrachloroethane	79-34-5								
Pentachlorbenzene	76-01-7								
1,1-Dichloroethylene	75-35-4								
<b>4. Chlorophenols</b>									
Pentachlorophenols (PCP)	87-86-5	0.5 (each)	Liquid Extraction / derivation // GC-MS	0.05 (each)	Liquid Extraction / derivation // GC-MS	usage ban traces sum 0.1	usage ban sum 0.5	BVL 82.02-8:2001 Leather: ISO 17070:2012 (Draft)	Usage Ban
Tetrachlorophenol (TeCP)	25167-83-3								
2,3,4,5-Tetrachlorophenol	4901-51-3								
2,3,4,6-Tetrachlorophenol	58-90-2								
2,3,5,6-Tetrachlorophenol	935-95-5								
Trichlorophenol (TriCP)	25167-82-2								
2,4,6-Trichlorophenol	88-06-2								
2,3,4-Trichlorophenol	15950-66-0								
2,3,5-Trichlorophenol	933-78-8								
2,3,6-Trichlorophenol	933-75-5								
2,4,5-Trichlorophenol	95-95-4								
3,4,5-Trichlorophenol	609-19-8								
Dichlorophenols (DiCP)	25167-81-1								
2,3-Dichlorophenol	576-24-9								
2,4-Dichlorophenol	120-83-2								
2,5-Dichlorophenol	583-78-8								
3,4-Dichlorophenol	95-77-2								
3,5-Dichlorophenol	591-35-5								
Mono Chlorophenol	various								
<b>5. SCCP</b>	85535-84-8	0,5 (sum)	Extraction with Toluene // GC-MS resp. LC/MS	1 (sum)	Extraction with Toluene // GC-MS resp. LC/MS	no data yet, has to be fixed until mid 2017	no data yet, has to be fixed until mid 2017	no data yet, has to be fixed until mid 2017	
<b>6. Amines (associated with Azo dyes)</b>									
4-Aminodiphenyl	92-67-1		With reference to EN 14362:1+3 // GC-MS and HPLC	1	With reference to EN 14362:1+3 // GC-MS and HPLC	Usage Ban traces < 30	Usage Ban traces < 30	With reference to EN 14362:1+3 // GC-MS and HPLC Leather: EN ISO	Usage Ban
Benzidine	92-87-5								
4-Chloro-o-Toluidine	95-69-2								
2-Naphthylamine	91-59-8								
o-Aminoazotoluene	97-56-3								
2-Amino-4-Nitrotoluene	99-55-8								
p-Chloroaniline	106-47-8								
2,4-Diaminoanisole	615-05-4								
4,4'-Diaminodiphenylmethane	101-77-9								
3,3'-Dichlorobenzine	91-94-1								
3,3'-Dimethoxybenzidine	119-90-4								
3,3'-Dimethylbenzidine	119-93-7								
3,3'-Dimethyl-4,4'-Diaminodiphenylmethane	838-88-0								

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p-Cresidine	120-71-8							17234: 1+2	
4,4´Methylene-Bis(2-Chloroaniline)	101-14-4								
4,4´-Oxydianiline	101-80-4								
4,4´-Thiodianiline	139-65-1								
o-Toluidine	95-33-4								
2,4-Toluylenediamine	95-80-7								
2,4,5-Trimetylaniline	137-17-7								
o-Anisidine	90-04-0								
p-Aminoazobenzene	60-09-3								
2,4-Xylidine	95-68-1								
2,6-Xylidine	87-62-7								
<b>Subgroup: Dyes – Carcinogenic</b>									
C.I. Acid Red 26	376-53-3		1 Best current testing technology		5 Best current testing technology	Usage Ban Traces:20	Usage Ban Traces:20	DIN 54231	Usage Ban
C.I. Basic Red 9	569-61-9								
C.I. Basic Violet 14	632-99-5								
C.I. Direct Blue 6	2602-46-2								
C.I. Direct red 38	573-58-0								
C.I. Direct Black 38	1937-37-7								
C.I. Disperse Blue 1	2475-45-8								
C.I. Disperse Yellow 3	2832-40-8								
C.I. Disperse Orange 11	82-28-0								
C.I. Disperse Xellow 23	6250-23-3								
C.I. Disperse Orange 149	85136-74-9								
C.I. Solvent Yellow 1	60-09-3								
C.I. Solvent Yellow 2	60-11-7								
C.I. Solvent Yellow 3	97-56,3								
C.I. Solvent Yellow 14	842-07-9								
C.I. Basis Blue 26	2580-56-5								
C.I. Basic Violet 14	8004-87-3								
C.I. Direct Brown 95	16071-86-6								
C.I. Direct Blue 15	2429-74-5								
C.I. Direct Blue 218	28407-37-6								
C.I. Acid red 114	6459-94-5								
C.I. Acid Violet 49	1694-09-3								
<b>Subgroup: Dyes – Disperse</b>									
C.I. Disperse Blue 1	2475-45-8	1: for each of C.I. Disperse Yellow 3 and C.I. Disperse Blue 1	Best current testing technology		5 Best current testing	Usage Ban	Usage Ban	DIN 54231	Usage Ban
C.I. Disperse Blue 3	2475-46-9								
C.I. Disperse Blue 7	3179-90-6								
C.I. Disperse Blue 26	3860-63,7								
C.I. Disperse Blue 35	12222-75-2								
C.I. Disperse Blue 102	12222-97-8								
C.I. Disperse Blue 106	12223-01-7								
C.I. Disperse Blue 124	61951-51-7								
C.I. Disperse Brown 1	23355-64-8								
C.I. Disperse Orange 1	2581-69-3								
C.I. Disperse Orange 3	730-40-5								
C.I. Disperse Orange 37/76	13301-61-6								



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Nonabromo diphenylethers (NonaDBE)	63936-56-1								
Decabromo diphenylethers (DecaDBE)	1163-19-5								
Tris(2,3-Dibromopropyl)-Phosphate	126-72-7								
Tris(2-Chloroethyl)Phosphate (TCEP)	115-96-8								
Hexabromocyclododecane (HBCDD)	134237-50-6,134237-51-7,134237-52-8,25637-99-4,3194-55-6								
Tetrabromo-bisphenol A (TBBPA)	79-94-7								
<b>Subgroup: other flame retardants</b>									
TEPA	5455-55-1	5 for each	Solvent extraction GC-MS/LC-MS	5 for each	Solvent extraction GC-MS/LC-MS	usage Ban DL: 5	usage Ban DL: 5	Solvent extraction GC-MS/LC-MS	Usage Ban
TRIS	5412-25-9								
Sodium tetraborate	1303-96-4,1303-43-4,12179-04-3,215-540-4								
Boron trioxide	1303-86-2								
Boric acid	10043-35-3,11113-50								
Antimony trioxide	1309-64-4								
Tri-o-cresyl phosphate	78-30-8								
Tris(1,3-dichloro-2-propyl)phosphate (TDCPP)	13674-87-8								
<b>8. Glycols</b>	111-96-6, 110-80-5, 111-15-9, 10-7-4, 109-86-4, 110-49-6, 1589-47-5, 70657-70-4, 112-49-2	10 for each except for 2-methoxypropylacetate: 5		10 for each except for 2-methoxypropylacetate 1		Both: 1000	2-ethoxyethylacetate: 500 Bis-(2-methoxyethyl) ether: 1000		
<b>9. Solvents</b>									
Benzene	71-43-2	no data yet, has to be fixed until mid 2017		no data yet, has to be fixed until mid 2017		Usage ban	Usage ban	Solvent extraction GC-MS	partly Usage B
1,2 Dichloroethane	107-06-2								
Dichloromethane	75-09-2								
N,N-Dimethylacetamide (DMAc)	127-19-5								
N,N-Dimethylformamide (DMF)	68-12-2								
N-Ethyl-2-pyrrolidone (NEP)	2687-91-4								
N-Methylpyrrolidone (NMP)	872-50-4								
Tetrachloroethylene (Perchloroethylene)	127-18-4								
Toluene	108-88-3								
Trichloroethylene	79-01-6								
						Usage ban 50 for solvent coated articles 10	Usage ban 50 for solvent coated articles 100 100		
						usage ban	usage ban		
						usage ban	usage ban		
						usage ban	usage ban		
						usage ban	usage ban		

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Xylene, all isomers	1330-20-7					usage bam	usage ban		
<b>10. Organotin Compounds</b>									
MBT	1118-46-3	0.1 (each) or best current technology	DIN EN 17353 // GC-MS	1 (each) or best current technology	DIN EN 17353 // GC-MS	range from 0.5 to 2 (MBT 1, MOT 2, DOT 1)	range from 0.5 to 2 (MBT 1, MOT 2, DOT 1)	Solvent Extraction // GC-MS or LC-MS or Multiple Headspace GC-MS	
DBT	1002-53-5								
TBT	56573-85-4								
TPHT	892-20-6								
DOT	94410-05-6								
MOT	15231-44-4								
DphT	1011-95-6								
TeBT	1461-25-2								
TCyT	-								
TPT	-								
TeET	597-64-8								
TBTO	56-35-9								
DBTC	683-18-1								
TPT	668-34-8								
DBB	75113-37-0								
<b>11. Polycyclic Aromatic Hydrocarbons (PAHs)</b>									
Benzo- [a]-pyrene (BaP)	50-32-8	0.5 (each), Naphthalene: 2	Best current testing technology	0.5 (each), Naphthalene: 1	Best current testing technology	range 0.5-1 Naphthalene: 50	sum all 10 Naphthalene: 500	Solvent Extraction /GC-MS	
Benzo- [e]-pyrene (BeP)	192-97-2								
Benzo- [a]-anthracene (BaA)	56-55-3								
Chrysene (CHR)	218-01-9								
Benzo- [b]-fluoranthene (BbFA)	205-99-2								
Benzo- [j]-fluoranthene (BjFA)	205-82-3								
Benzo- [k]-fluoranthene (BkFA)	207-08-9								
Dibenzo-[a,h]-anthracene (DBAhA)	53-70-3								
<b>12. Perfluorinated and Polyfluorinated Chemicals (PFCs)</b>									
PFOA	335-67-1	between 0.01 , FTOH 0.1 each	CEN/TS 15968:2010 GC/MS	between 0.01 , FTOH 0.1 each	Solvent Extraction EN/TS 15968:2010	Usage Ban Wi 18 collection apparell, tents, shoes,	Usage Ban Wi 18 collection apparell, tents, shoes,	Solvent Extraction EN/TS 15968:2010	Usage Ban Wi 18 collection apparell, tents shoes
PFNA	375-95-1								
PFBS	375-73-5 or 59933-66-3								
PFOS	1763-23-1								
4:2 FTOH	2043-47-2								
6:2 FTOH	647-42-7								
8:2 FTOH	678-39-7								
10:2 FTOH	865-86-1								
POSF	307-35-7								
PFHxS	355-46-4								
PFHxA	307-24-4								
PFOSA	754-91-6								
PFHpA	375-85-9								
PFDA	335-76-2								



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Hexamethylene diisocyanate (HMDI)	822-06-0	no data yet, has to be fixed until mid 2017	Best current testing technology	no data yet, has to be fixed until mid 2017	Best current testing technology	summ of all 1.0	summ of all 1.0	EN 13130-8:2001 (plastics) Extraction // Derivation//LC	
Isophorone diisocyanate (IPDI)	4098-71-9								
Tetramethylxylene diisocyanate	2778-42-9								
Toluene-2,4-diisocyanate (2,4-TDI)	584-84-9								
Toluene-2,6-diisocyanate (2,6-TDI)	91-08-7								
<b>16. Volatile Organic Compounds (VOCs)</b>									
Xylene						50	500		
o-cresol						10			
p-cresol						10			
m-cresol						10			
<b>17. others</b>									
Cyanide									
Formaldehyde	50-00-0	no data yet, has to be fixed until mis 2017		no data yet, has to be fixed until mis 2017		15	300	ISO 148184-1 Leather ISO 17226-1	

#### MRSL Review Process:

The process will be clearly framed with the intention to derive a (shared or individual) MRSL with a broad list of chemicals based on the hazard based screening methodology an principles outlined in the VAUDE Detox commitment. The MRSL covers incoming water, waste water, sludge and finished articles to support disclosure and inform the "clean factory" approach. Any collaborative work should have a clear understanding of progressively lowering contaminations in input through leverage and engagement (see VAUDE Detox commitment).