

Restricted Substances List (RSL) for textiles and their Components

Version 5.0, September 2017

Substance	Threshold	Test method
Azodyes with carcinogenic Amines according annex A	20 mg/kg	Leather: DIN EN ISO 17-234-1 Textiles: DIN EN 14362-1 4-Amino-azobenzene: leather DIN EN ISO 17234-2 Textiles DIN EN 14362-3
Allergic Disperse dyes according annex B	nd, detection limit 20 mg/kg	DIN 54231 (GC-MSD after extraction with Methanol)
Carcinogenic dyes according annex C	nd, detection limit 20 mg/kg	DIN 54231 (GC-MSD after extraction with Methanol)
Leadpigments: C.I. Pigment Yellow 34 C.I. Pigment Red 104 alternative: Lead	nd, detection limit 20 mg/kg 3mg/kg	DIN 54231 (GC-MSD after extraction with Methanol)
Navy Blue, Blue Azodye CAS-No.: 118685-33-9	nd, no use	DIN 54231
Chrom VI, also after aging	3 mg/kg	DIN EN ISO 17075
Releasable Nickel	0,5 micro g/cm ² /week	DIN EN 1811
PAH acc. annex D1 (8 PAH restricted by law) and D2 (in addition, from other RSLs and for CE)	In sum 1 mg/kg for PAH acc. D1 and in sum 10 mg/kg for PAH acc. annex D1 and D2	DIN ISO 18287
Cadmium	100 mg/kg	DIN EN 62321, DIN EN ISO 17294-2
Tin organic components acc. annex E	2 mg/kg for each di-, 1mg/kg for each tri-substituted substance	ISO 17353 2004-09
Phthalate acc. annex F	each 0,1 %	ISO 17353 2004-09
Spinning solvent DMF (Dimethylformamide) CAS-No.: 68-12-2 DMAC (Dimethylacetamide) CAS-No.: 127-19-5 NMP (N-Methylpyrrolidone) CAS-No.: 872-50-4	each 0,1 %	headspace GC-MS

Alkylphenole Ethoxylates: NP, OP, NPE, OPE and related substances	100 ppm in sum	GC-MS or LC-MS
PFOA and PFOS	each 1 micro g/m ²	extraction with solvent, LC-MS
Formaldehyde	75 ppm	ISO 14184-1:2011
Flame retardants acc. annex G	nd, detection limit 50 mg/kg	solvent extraction, GC- MS or LC-MS
Biocides: Dimethylfumarate CAS-No.: 624-49-7	0,1 mg/kg	extraction with organic solvent, GC-MS or LC-MS
Triclosan CAS-NR.: 3380-34-5	nd, detection limit 0,5 mg/kg	
Monomeric Vinylchlorid	1 mg/kg	headspace GC-MS
Chlorinated benzenes and toluenes acc. annex H	1 mg/kg	DIN 54232
Chlorinated phenols acc. annex I	nd, detection limit 0,5 mg/kg each (sehr schwierig!)	Extraction / Derivation followed by GC-MS analysis

Annex A: List of carcinogenic Amines

Substances	CAS-No
Biphenyl-4-ylamin, 4-aminobiphenyl xenylamine	92-67-1
Benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphtylamine	91-59-8
o-aminoazotoluene, 4-amino-2',3-dimethylazobenzene 4-o- tolylazo otoluidine	97-56-3
5-nitro-o-toluidine	99-55-8
4-chloroaniline	106-47-8
4-methoxy-m-phenylenediamine	615-05-4
4,4'-methylenedianiline 4,4'- diaminodiphenylmethane	101-77-9
3,3'-dichlorobenzidine 3,3'-dichlorobiphenyl-4,4'-ylenediamine	91-94-1
3,3-dimethoxybenzidine o-dianisidine	119-90-4
3,3-dimethylbenzidine, 4,4'-bi-o-toluidine	119-93-7
4,4'-methylenedi-o-toluidine	838-88-0

6-methoxy-m-toluidine p-cresidine	120-71-8
4,4'-methylene-bis-(2-chloro-aniline) 2,2'-dichloro-4,4'-ethylenedianiline	101-14-4
4,4'-oxydianiline	101-80-4
4,4'-thiodianiline	139-65-1
o-toluidine, 2-aminotoluene	95-53-4
4-methyl-m-phenylenediamine	95-80-7
2,4,5-trimethylaniline	137-17-7
o-anisidine (2-methoxyanilin)	90-04-0
4-amino azobenzene	60-09-3
2,4-xylydine	95-68-1
2,6-xylydine	87-62-7

Annex B: List of sensitive disperse dyes

Substances	CAS-No
C.I. Disperse Blue 1	2475-45-8
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 11	82-28-0
C.I. Disperse Orange 37/59/76	12223-33-5 / 13301-61-6
C.I. Disperse Orange 149	85136-74-9
C.I. Disperse Red 1	2872-52-8
C.I. Disperse Red 11	2872-48-2
C.I. Disperse Red 17	3179-89-3
C.I. Disperse Yellow 1	119-15-3
C.I. Disperse Yellow 3	2832-40-8
C.I. Disperse Yellow 9	6373-73-5
C.I. Disperse Yellow 23	6250-23-3
C.I. Disperse Yellow 39	12236-29-2
C.I. Disperse Yellow 49	54824-37-2

Annex C: List of carcinogenic dyes

Substances	CAS-No
C.I. Acid Red 26	3761-53-3
C.I. Basic Red 9	569-61-9
C.I. Direct Black 38	1937-37-7
C.I. Direct Blue 6	2602-46-2
C.I. Direct Red 28	573-58-0
C.I. Basic Violet 14	632-99-5
C.I. Pigment Red 104	12656-85-8
C.I. Pigment Yellow 34	1344-37-2

Annex D1: List of the PAH regulated by law (REACH annex XVII)

Substances	CAS-No
Benzo[a]pyren	50-32-8
Benzo[e]pyren	192-97-2
Benzo[a]anthracen	56-55-3
Chrysen	218-01-9
Benzo[b]fluoranthen	205-99-2
Benzo[j]fluoranthen	205-82-3
Benzo[k]fluoranthen	207-08-9
Dibenzo[a,h]anthracen	53-70-3

Annex D2: List additional restricted PAH

Substances	CAS-No
Anthracene	120-12-7
Pyrene	129-00-0
Benzo[ghi]perylene	191-24-2
Ideno[1,2,3-cd]pyrene	193-39-5
Fluoranthene	206-44-0
Acenaphthylene	208-96-8
Acenaphthene	83-32-9
Phenanthrene	85-01-8
Fluorene	86-73-7
Naphthalene	91-20-3

Annex E: List of tin organic components

Substances	CAS-No
Dibutylzinn	14488-53-0
Diocetylzinn	15231-44-4
Tributylzinn	56573-85-4
Triphenylzinn	668-34-8

Annex F: List of the Phthalates

Substances	CAS-No
1,2-Benzenedicarboxylic acid - dihexylester branched & linear	68515-50-4
1,2-Benzenedicarboxylic acid,	68515-51-5
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
Bis-(2-methoxy-ethyl) phthalate (BMEP)	117-82-8
Butyl-benzyl phthalate (BBP)	85-68-7
Di (C7-C11 alkyl) phthalate Linear and branched (DHNUP)	68515-42-4
Di-(2-ethyl-hexyl) phthalate (DEHP)	117-81-7
Di-(C6-C8 alkyl) phthalate Branched (DIHP)	71888-89-6
Di-butyl phthalate (DBP)	84-74-2
Di-C6-C10 alkyl ester, 1,2-Benzenedicarboxylic acid, mixed decyl-,	68648-93-1
Di-cyclohexyl phthalate (DCHP)	84-61-7
Diethyl phthalate (DEP)	84-66-2
Di-iso-butyl phthalate (DIBP)	84-69-5
Di-iso-decyl phthalate (DIDP)	26761-40-0
Di-Iso-Decyl Phthalate (DIDP)	26761-40-0, 68515-49-1
Di-iso-hexylphthalate	71850-09-4
Di-iso-nonyl phthalate (DINP)	28553-12-0
Di-iso-octyl phthalate (DIOP)	27554-26-3
Di-iso-pentyl phthalate (DIPP)	605-50-5
Dimethyl phthalate (DMP)	131-11-3
Di-n-hexyl phthalate (DHP)	84-75-3
Di-n-octyl phthalate (DNOP)	117-84-0
Dinonyl phthalate (DNP)	84-76-4
Di-n-propyl phthalate (DPRP)	131-16-8
Di-pentyl phthalate (DPP)	131-18-0
N-pentyl-iso-pentyl phthalate (PIPP)	776297-69-9

Annex G: List of flame retardants

Substances	CAS-No
Tris-(2,3-dibromopropyl)-phosphate	126-72-7
Tris(aziridinyl)-phosphineoxide	545-55-1
Polybromobiphenyls	59536-65-1
Bis(2,3-dibromopropylether) of tetrabrombisphenol	21850-44-2
Bis(2,3-dibromopropyl)phosphate	5412-25-9
Octabromdiphenyl Ether	32536-52-0
Pentabromdiphenyl Ether	32534-81-9
Decabromdiphenyl Ether	1163-19-5
Hexabromocyclododecane	25637-99-4

Tris-(2-chloroethyl)-phosphate	115-96-8
Boric Acid	10043-35-3 11113-50-1
short chain chlorinated paraffins	85535-84-8

Annex H: List of chlorinated Benzenes and Toluenes

Substances	CAS-No
alfa, 2,4-trichlorotoluene	94-99-5
alfa, 2,6-trichlorotoluene	2014-83-7
alfa, 3,4-trichlorotoluene	102-47-6
alpha, alpha, 2,6-tetrachlorotoluene	81-19-6
alpha, alpha, alpha, 2,-tetrachlorotoluene	2136-89-2
alpha, alpha, alpha, 4-tetrachlorotoluene	5216-25-1
Benzotrichloride	98-07-7
Chlorobenzene	108-90-7
2-chlorotoluene	95-49-8
3-chlorotoluene	108-41-8
4-chlorotoluene	106-43-4
1,2-Dichlorobenzene	95-50-1
1,3-Dichlorobenzene	541-73-1
1,4-Dichlorobenzene	106-46-7
2,3-dichlorotoluene	32768-54-0
2,4-dichlorotoluene	95-73-8
2,5-dichlorotoluene	19398-61-9
2,7-dichlorotoluene	118-69-4
3,4-dichlorotoluene	95-75-0
3,5-dichlorotoluene	25186-47-4
Heptachlorepoxyd	1024-57-3
Hexachlorobenzene	118-74-1
Pentachlorobenzene	608-93-5
2,3,4,5,6-pentachlorotoluene	877-11-2
Tetrachlorobenzene	12408-10-5
1,2,3,4-tetrachlorobenzene	634-66-2
1,2,3,5-tetrachlorobenzene	634-90-2
1,2,4,5-tetrachlorobenzene	95-94-3
1,2,3-Trichlorobenzene	87-61-6
1,2,4-trichlorobenzene	120-82-1
1,3,5-Trichlorobenzene	108-70-3
2,3,6-trichlorotoluene	2077-46-5
2,4,5-trichlorotoluene	6639-30-1



Annex I: List of Chlorinated phenols

Substances	CAS-No
2-chlorophenol	95-57-8
3-chlorophenol	108-43-0
4-chlorophenol	106-48-9
2,3-dichlorophenol	576-24-9
2,4-dichlorophenol	120-83-2
2,5-dichlorophenol	583-78-8
2,6-dichlorophenol	87-65-0
3,4-dichlorophenol	95-77-2
3,5-dichlorophenol	591-35-5
Dichlorophenols (DiCP)	25167-81-1
Pentachlorophenol (PCP)	87-86-5
2,3,4,5-tetrachlorophenol	4901-51-3
2,3,4,6-tetrachlorophenol	58-90-2
2,3,4,6-tetrachlorophenol	935-95-5
Tetrachlorophenol (TeCP)	25167-83-3
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
2,4,6-trichlorophenol	88-06-2
3,4,5-trichlorophenol	609-19-8
Trichlorophenol (TriCP)	25167-82-2
2-chlorophenol	95-57-8