

CHEMICAL NAME	CAS Number	Regulation	REACH SVHC list	Test method	Ground	Relevance	Limit
ALKYLPHENOLS (AP) AND ALKYLPHENOL ETHOXYLATES (APEO) NP (NonylPhenols) OP (OctylPhenols) NPEO (NonylPhenolEthoxylates) OPEO (octylphenolethoxylates)	25154-52-3 27193-28-8 3016-45-9 9063-89-2	Regulation 552/2009 amending European Regulation 1907/2006 REACH Annex XVII		NP and OP: Extraction, GC-MS NPEO and OPEO: Extraction, LS-MS	APEO's can easily degrade in AP's. AP's are considered to be toxic, persistent to the environment, and bioaccumulative NP is an impurity of stabilisers used in polymers	APEO's are used widely in detergents, scouring agents, weeting agents, softeners, leather finishing, degumming silk, polyester padding. NP is only relevant for polymers	NP and OP: 10 mg/kg NPEO and OPEO: 100 mg/kg
ALLERGENIC DISPERSE DYES	See Annex 1	Strong advice by German Federal Institute for Risk Assessment (BfR) not to use		DIN 54231	allergic (sensitizing) reaction to human skin	water-insoluble colorants for colouring polyester, nylon and cellulose acetate fibres	75 mg/kg Testing not required for white/ecru fabrics and non-dyed fabrics
AZO DYES	See Annex 2	Regulation 552/2009 amending European Regulation 1907/2006 REACH Annex XVII REACH SVHC list	X	textiles general EN 14362-1 (2012) Leather ISO 17234-1 (2015) To test 4-Aminoazobenzene (4AAB): Textiles EN 14362-3 (2012) Leather ISO 17234-2 (2011)	azo dyes can, posed under chemical environment and enzyme condition (by reductive cleavage possible release of one or more aromatic arylamines), release harmful aromatic amines that can be carcinogenic	used as colorant in textiles, apparels and leather plastics and hardener in adhesives used as dispersant in plastic & rubber	May not be used Testing not required for white/ecru fabrics and non-dyed fabrics
BIOCIDES DMFu (DiMethyl Fumarate)	624-49-7	Regulation 552/2009 amending EU regulation 1907/2006 REACH Annex XVII		HPLC Extraction, GC-MS	can cause skin reactions and skin damage	used as anti-fungus for leather storage and transport (replaces silica gel in little bags). To be tested upon arrival of goods in DC.	0.1 mg/kg
CARCONIGENIC DYES C.I. Basic Violet 3 C.I. Basic Blue 26	548-62-9 2580-56-5	European Regulation 1907/2006 REACH SVHC list	X	REACH SVHC screening	Carcinogenic	May be used as dye colour of silk and leather	max 1000 mg/kg by mass of the complete article
CARCONIGENIC DYES	See Annex 3	European Regulation 1907/2006 REACH Annex XVII		DIN 54231	these dyes can be carcinogenic, mutagenic and genotoxic	used as colorant in textiles and apparels	n.d.
CHLORINATED ORGANIC CARRIERS chlorinated benzenes and toluenes	See Annex 4	EU Regulation 757/2010 Switzerland ORRChem for textiles and leather		DIN 54232 GC-MS	toxic to humans and aquatic organisms, and sometimes carcinogenic	used to improve absorption and diffusion of disperse dyes for dyeing synthetic fibres (PE) and blends of PE and wool	total 1 mg/kg
CHLORINATED PARAFFINS SCCP (Short-Chain Chlorinated Paraffins)	85535-84-8	European Regulation 519/2012 amending POP regulation 850/2004 REACH SVHC list	X	Solvent Extraction, GC-ECD / GC-MS analysis	PBT and vPvB very toxic to aquatic organisms; carcinogenic	could be used as impregnation agent in textile; as plasticizer in paints and adhesives; as fatting / softening agent in leather	max 1000 mg/kg by mass of the complete article
CHLORINATED PHENOLS PCP (PentaChloroPhenol) TeCP (TetraChloroPhenol) TrCP (TriChloroPhenol)	87-86-5 935-95-5, 58-90-2, 4901-59-3 15950-66-0, 933-78-8, 933-75-5, 95-95-4, 88-06-2, 609-19-8	European Regulation 1907/2006 German Chemical law Switzerland ORRChem for textiles and leather		Textile / Leather: LFGB § 64 BVL B82.02.8, GC-ECD; Leather: ISO 17070, GC-ECD; Polyester / polyester-blend / printed fabric: § 64 LFGB BVL B82.02.8 with alkaline digestion, GC-ECD	allergic (sensitizing) reaction to human skin and can cause harmful effects to the liver, kidneys, blood and lungs	fungicide (sea shipment of raw materials), insecticide, disinfectant; impregnation ingredient for textiles, used as bactericide in tanning products.	n.d.

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FLAME RETARDENTS OctaBDE (OctaBromoDiphenylEther) BBP (Bis(2,3-diBromopropyl) Phosphate) PBB (PolyBromoBiphenyls) TEPA (Tris-(Aziridiny)-Phosphineoxide) TRIS (Tris-(2,3-Dibromopropyl)-Phosphate)	32536-52-0 5412-25-9 59536-65-1 545-55-1 126-72-7	Regulation 552/2009 amending European Regulation 1907/2006		Extraction with GC-MS or LS-MS	Carcinogenic; persistent in and likely to pass up in food chain	in working clothes, in childrens night wear	n.d.
FLAME RETARDENTS HBCDD HEXABROMOCYCLODODECANE	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	European Regulation 1907/2006 REACH SVHC list	X	Extraction with GC-MS or LS-MS REACH SVHC screening	Carcinogenic; persistent in and likely to pass up in food chain	flame retardant used in working clothes, in childrens night wear, polystyrene in packaging	n.d.
FLAME RETARDENTS Tris (2-chlorethyl) phosphate (TCEP)	115-96-8	European Regulation 1907/2006 REACH SVHC list	X	Extraction with GC-MS or LS-MS REACH SVHC screening	toxic for reproduction Carcinogenic; persistent in and likely to pass up in food chain	flame retardant, plasticizer, foams, resins, pvc, adhesive, elastomer, cellulose acetate, nitrocellulose, epoxy resins. (f.i. foam inside bags, shoulderpads)	n.d.
FORMALDEHYDE	50-00-0	Netherlands require warning "wash before use" when level is >120mg/kg		ISO 27587 (raw materials - prints / adhesives) ISO 14184-1 (textiles) ISO 17226-2 (leather)	toxic, can induce irritation to mucous membrane; carcinogenic. Can also cross-contaminate to other materials	used as anti-creasing, anti-shrinkage agent and water-repellence finishing solvents in raw materials (prints/adhesives)	< 3yrs: n.d. direct skin contact: 75 mg/kg rest: 300 mg/kg
HEAVY METALS EXTRACTABLE ANTIMONY (Sb) ARSENIC (As) CADMIUM (Cd) CHROMIUM (Cr) COBALT (Co) COPPER (Cu) LEAD (Pb) NICKEL (Ni)	7440-36-0 7440-38-2 7440-43-9 7440-47-3 7440-48-8 7440-50-8 7439-92-1 7440-02-0			Extraction with acid perspiration according to EN ISO 105-E04 packaging material:total digestion method for Cd, Pb, Hg and Cr(VI) according to TPCH, and the requirement is 100 mg/kg (total of 4 heavy metals).	bio accumulative when absorbed by the human body through perspiration, possible concerns such as chronic toxicity, allergenic reactions and cancers	found in dyestuffs and as dye-fixing agents cadmium can be found as stabilizer in plastic (PVC) and rubber	30 mg/kg < 3yrs: 0.2 mg/kg > 3 yrs: 1.0 mg/kg 0.1 mg/kg < 3yrs: 1.0 mg/kg > 3 yrs: 4.0 mg/kg < 3yrs: 1.0 mg/kg > 3 yrs: 4.0 mg/kg < 3yrs: 25 mg/kg > 3 yrs: 50 mg/kg < 3yrs: 0.2 mg/kg > 3 yrs: 1.0 mg/kg < 3yrs: 1.0 mg/kg > 3 yrs: 4.0 mg/kg packaging; 100 mg/kg (total of 4 heavy metals).
HEAVY METALS EXTRACTABLE CHROMIUM VI (Cr VI)	7440-47-3 18540-29-9	German eighteenth Regulation on the Amendement of the German Ordinance on Commodities (August 2010) REACH Annex XVII entry 47, §5 and 6		Extraction with acid perspiration according to EN ISO 105-E04 ("with aging")	bio accumulative when absorbed by the human body through perspiration, possible concerns such as chronic toxicity, allergenic reactions and cancers	found in dyestuffs and as dye-fixing agents	Chromium VI: n.d.

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HEAVY METALS TOTAL CONTENT CADMIUM and its compounds LEAD and its compounds	7440-43-9 7439-92-1	Commission Regulation (EU) 2015/628 cadmium: REACH Annex XVII entry 23 lead; REACH Annex XVII entry 63, §5 and 6		EN 1122 Total content: microwave digestion, applicable for textiles, leather, plastic Extractable content: Extraction with gastric solution according to EN 71-3, applicable for toys Lead content to be tested by total digestion	carcinogenic to humans suspected to be carcinogenic to humans, can affect human central nervous system, kidney and immune system	CADMIUM: used in plastics, dyes and as surface layer for metal jewelry. Stabilizer for PVC LEAD: dyes, paints trimmings, jewelry, glass beads, metal compounds etc	total 100 mg/kg 500 mg/kg
HEAVY METALS, RELEASABLE NICKEL (Ni)	7440-02-0	European Regulation 552/2009 amending EU Regulation 1907/2006 REACH Annex XVII entry 27		EN 1811: 2011 Nickel release prEN 12471 Nickel induction by rubbing test CR EN 12472 Abrasion of coated items EN 16128: 2011 frames of sunglasses	Nickel can cause extreme allergic reactions	used in metal (accessories)	0.5 µg per cm2 per week Earpiercings: 0.2 µg per cm2 per week
ORGANOTIN COMPOUNDS DBT (DiButylTin) DOT (DiOctylTin) MBT (MonobutylTin) TBT (TriButylTin) TPhT (TriPhenylTin)	1002-53-5 15231-44-4 78763-54-9 56573-85-4 668-34-8	European Regulation 1907/2006 REACH Annex XVII		ISO 17353	toxic to humans and aquatic organisms, possible gender modification	plastic stabilisers, catalytic agent, pesticides, industrial biocides. Also used in heat transfers, silicon tapes and footwear	TBT, TPhT, MBT : children: < 0.5 mg/kg others: < 1.0 mg/kg DBT and DOT: children: < 1.0 mg/kg others: < 2.0 mg/kg
PERFLUORINATED CHEMICALS AND HER COMPOUNDS PFOS PFOA	2795-39-3 335-67-1	European Regulation 757/2010 amending POP Regulation 850/2004 Switzerland ORRChem annex 1.1	X	solvent extraction, LC-MS	carcinogenic to humans, harmful for the environment	used to make fabrics water resistant can be used as wet factor for finishes used as binder in non-woven fabrics to enhance dyeing	≤ 1 µg/m2
PESTICIDES	See Annex 5	Europe: POP Regulation 850/2004 Switzerland ChemRRV Art 3, appendix 1.1 REACH SVHC list	X	U.S. EPA method 8081A/8151A	toxic to humans and animals	found in natural fibres, primarily cotton.	n.d.

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PHthalates	See Annex 6	European Regulation 1907/2006 REACH Annex XVII REACH SVHC list	X	ISO 14389 (coated textiles + plastic)	toxic for reproduction also carcinogenic	Used as plasticiser in PVC, used in coated articles, plastisol prints, plastic accessories, and in soft plastic toys and childcare articles	childcare articles, toys: 0,1% for sum of DEHP, DBP, BBP 0,1% for sum of DINP, DIDP, DNOP
POLYCYCLIC AROMATIC HYDROCARBONS (PAH's) Benzo(a)pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Dibenzo(k)fluoranthene Benzo(e)pyrene Benzo(i)fluoranthene	50-32-8 56-55-3 218-01-9 205-99-2 207-08-9 53-70-3 192-97-2 205-82-3	European Regulation 552/2009 amending EU Regulation 1907/2006 REACH Annex XVII		IAfPS GS 2014:01 PAK	carcinogenic to humans	used for singeing of cotton and wool. Very often found in softened and/or black rubbers, in footwear etc, mostly related to bad smell of the products	baby <0.2 mg/kg total sum PAH toys and all childcare articles < 0,5mg/kg each direct skin contact 1.0 mg/kg each
Poly Vinyl Chloride (PVC)	9002-86-2			Beilstein test for screening only. FTIR test to confirm the presence of PVC.	dioxins are produced as a byproduct of vinyl chloride manufacture and from producing and burning waste of PVC under illegal conditions	Used in badges, sequins, coatings for rainwear, prints, synthetic leather, footwear and accessoires	may not be used
VOLATILE ORGANIC COMPOUNDS (VOC's)	see Annex 7	several EU regulations	X	Head space GC-MS	toxic for reproduction	VOC's are organic chemical compounds that vaporize under normal conditions and enter the atmosphere. Common artificial VOC's include thinners and dry cleaning solvents. DMFa (di Methyl Formamide) to make fake leather, Formamide; to give more volume to flipflops and neopreen.	Acetophenone - 20 mg/kg Benzene - 1mg/kg Benzaldehyde - 100 mg/kg Bis(2-methoxyethyl)ether -1000mg/kg Cyclohexanone - 100 mg/kg Dimethylformamide (DMFa) - 30mg/kg 1,2-Dichloroethane - 1000mg/kg DMAC [N,N-dimethylacetamide]-1000mg/kg Ethybenzene - 20mg/kg 2-Ethoxyethylacetate - 1000mg/kg Methyl-Ethyl-Ketone (MEK) - 100mg/kg 1-Methyl-2-pyrrolidone - 1000mg/kg Metoxylene - 20mg/kg Naphtalene - 10mg/kg Orthoxylene - 20mg/kg Paraxylene - 20mg/kg Styrene - 10mg/kg Toluene - 100mg/kg Trichloroethylene - 50mg/kg Tetrachloroethylene - 20mg/kg 1,2,3-Trichloropropane - 1000mg/kg Xylene - 50mg/kg 2-Phenyl-2-Propanol - 10 mg/kg

Definition of baby: person younger than 36 months or 3 years or size 98 and smaller

ANNEX 1 LIST OF ALLERGENIC DISPERSE DYES

NAME	CAS NUMBER
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 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 37/59/76	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 2 LIST OF AZO DYES

NAME	CAS NUMBER
Biphenyl-4-ylamin, 4-aminobiphenyl xenylamine	92-67-1
Benzidine	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphthylamine	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'-ylenedia-mine	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'-metylene-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-xylidine	95-68-1
2,6-xylidine	87-62-7
2,4-dinitrotoluene	121-14-2

ANNEX 3 LIST OF CARCINOGENIC DYES

NAME	CAS NUMBER
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. Disperse Blue 1	2475-45-8
C.I. Disperse Yellow 3	2832-40-8
C.I. Basic Violet 14	632-99-5
C.I. Disperse orange 11	82-28-0

ANNEX 4 LIST OF CHLORINATED ORGANIC CARRIERS

NAME	CAS NUMBER
Dichlorobenzenes	95-50-1, 541-73-1, 106-47-7
Trichlorobenzenes	87-61-6, 120-82-1, 108-70-3
Tetrachlorobenzenes	17700-09-3
Pentachlorobenzenes	608-93-5
Hexachlorobenzene	118-74-1
Chlorotoluenes	95-49-8
Dichlorotoluenes	95-73-8, 118-69-4, 95-75-0
Trichlorotoluenes	98-07-7, 2077-46-5, 6639-30-1
Tetrachlorotoluenes	5216-25-1, 81-19-6, 134-25-8
Pentachlorotoluenes	877-11-2, 13014-24-9

ANNEX 6 LIST OF PHTHALATES

NAME	CAS NUMBER
DINP Di- IsoNonyl Phthalates	28553-12-0, 249-079-5
DIDP Di-Iso-Decyl Phthalates	26761-40-0, 68515-49-1
DNOP Di-N-Octyl Phthalates	117-84-0
DEHP Bis (2-EthylHexyl) Phthalates	117-81-7
BBP ButylBenzyl Phthalates	85-68-7
DBP Dibutyl Phthalates	84-74-2
DIBP Di-Iso-Butyl Phthalates	84-69-5
DIHP Di-Iso-Hexyl Phthalates	71888-89-6

ANNEX 7 LIST OF VOLATILE ORGANIC COMPOUNDS

NAME	CAS NUMBER
Pentachloroethane	76-01-7
1,1,2,2-Tetrachlorethan	79-34-5
1,1,1,2-Tetrachloroethane	630-20-6
Carbon Tetra Chloride	56-23-5
1,1,1-Trichloroethane	71-55-6
Chloroform	67-66-3
Trichloroethane	79-00-5
Tetrachloroethylene	127-18-4
1,1-Dichloroethylene	75-35-4
Trichloroethylene	79-01-6
2-Ethoxyethylacetate	111-15-9
1-Methyl--2pyrrolidone	872-50-4
DMAC (N,N--dimethylacetamide)	127-19-5
DMFa (N,N Dimethylformamide)	68-12-2
1,2,3-Trichloropropane	96-18-4
1,2-Dichloroethane	107-06-2
Bis-(2-methoxyethyl) ether	111-96-6
Formamide	75-12-7
Benzene	71-43-2
Toluene	108-88-3
Xylene	1330-20-7
Cyclohexanone	108-94-1
MEK (Methyl-Ethyl-Ketone)	78-93-3
Styrene	100-42-5
Naphthalene	91-20-3
Ethylbenzene	100-41-4
Orthoxylene	95-47-6
Metaxylene	108-38-3
Paraxylene	106-42-3
Acetophenone	98-86-2
2-Phenyl-2-propanol	617-94

ANNEX 5 LIST OF PESTICIDES

NAME	CAS NUMBER
2,4,5-T	93-76-5
2,4-D	94-75-7
Azinophosmethyl	86-50-0
Azinophosethyl	2642-71-9
Aldrine	309-00-2
Bromophos-ethyl	4824-78-6
Captafol	1-6-2425
Carbaryl	63-25-2
Chlordane	57-74-9
Chlordimeform	1970-95-9
Chlorfenvinphos	470-90-6
Coumaphos	56-72-4
Cyfluthrin	68359-37-5
Cyhalothrin	91465-08-6
Cypermethrin	52315-07-8
DEF	78-48-8
Deltamethrin	52918-63-5
DDD	53-19-0, 72-54-8
DDE	3424-82-6, 72-55-9
DDT	50-29-3, 789-02-6
Diarsenic trioxide	1327-53-3
Diarsenic pentaoxide	1303-28-2
Diazinon	333-41-5
Dichlorprop	120-36-2
Dicrotophos	141-66-2
Dieldrine	60-57-1
Dimethoate	60-51-5
Dinoseb and salts	88-85-7
Endosulfan, -	115-29-7
Endosulfan, -	33213-65-9
Endrine	72-20-8
Esfenvalerate	66230-04-4
Fenvalerate	51630-58-1
Heptachlor	76-44-8
Heptachloroepoxide	1024-57-3
Hexachlorobenzene	118-74-1
Hexachlorcyclohexane,	319-84-6
Hexachlorcyclohexane,	319-85-7
Hexachlorcyclohexane,	319-86-8
Isodrine	465-73-6
Kelevane	4234-79-1
Kepone	143-50-0
Lindane	58-89-9
Malathion	121-75-5
MCPA	94-74-6
MCPB	94-81-5
Mecoprop	93-65-2
Metamidophos	10265-92-6
Methoxychlor	72-43-5
Mirex	2385-85-5
Monocrotophos	6923-22-4
Monomethyl-dibromo- diphenyl methane	99688-47 -8
Monomethyl-dichloro- diphenyl methane	81161-70 -8
Monomethyl-tetrachloro- diphenyl methane	76253-60 -6
Parathion	56-38-2
Parathion-methyl	298-00-0
Perthane	72-56-0
Phosdrin/Mevinphos	7786-34-7
Propethamphos	31218-83-4
Profenophos	41198-08-7
Quinalphos	13593-03-8
Strobane	8001-50-1
Telodrine	297-78-9
Toxaphen	8001-35-2
Trifluralin	1582-09-8