

CTO List of Prohibited Hazardous Substances (LPHS)

Summary of bans or restrictions on the distribution of hazardous substances, valid in the EC, in Switzerland and some other countries. Basis: Legal regulations, industry standards (electronics & automotive) and others

Status: January 2024

(major changes to previous version highlighted in **yellow**)

Note:

1) Reporting threshold for suppliers corresponds to the value given in column "limit value (%wt)".
 2) Hazardous operating & auxiliary substances used in component manufacturing plants (KWs) and third party manufacturing plants are excluded from the scope of WI 0-09350-2 and this list.
 3) As regards questions of detail regarding elementary substance / substance group (compounds), affected application, exemptions, reference of limit value (i.e. substance, mixture, special mixture, homogenous material, material, application, or article/product) or transitional arrangements, refer to the complete text of the legislation referenced in the last column.

Disclaimer: This list of prohibited hazardous substances is a selection of relevant substances for CTO and is not exhaustive.

Note: Following the approach of the Joint Industry Guide (JIG), limit values for batteries & accumulators are based on the strictest known legal requirement. However, for simplification, the same limit value level is set for all kind of batteries / accumulators, even if the underlying legal requirement is only applicable for one specific battery / accumulator type. For details and exemptions check the specific legal regulation referenced in the second to last column.

Index	Substance / substance group	CAS No.	Affected Application	Limit value %wt (weight percentage)	Exemptions	Legal Regulations ²⁾	Typically found in: * see footer
1	Lead/lead compounds	7439-92-1 Several	Electrical and electronic equipment incl. cables and spare parts	0.1	yes	EU: RoHS PSC: April 2005 CH: ChemRRV, Ann.2.18	1
			Lead in steel alloys	0.35			1
			Lead in aluminium alloys	0.4			
			Lead in copper alloys	4.0			
			⁶⁾ EIP-A and EIP-C EIP-B	0.1 i.a.		CN: SJ/T 11363-2006	1
			Electrical and electronic products (EEPs)	0.1		CN: GB/T 26572-2011	1
			Batteries & accumulators	0.004	yes	CN: GB 24427-2009	2
Paints and varnishes or of so treated articles	0.01	yes	CH: ChemRRV Ann.2.8	2,4			
	Articles produced from polymers or copolymers of vinyl chloride ('PVC')	0.1	yes	EU: REACH, Ann. XVII: 63	3		
2	Cadmium and its compounds	7440-43-9	Electrical and electronic equipment incl. cables and spare parts	0.01	yes	EU: RoHS PSC: April 2005 CH: ChemRRV, Ann.2.18	1
			⁶⁾ EIP-A and EIP-C EIP-B	0.01 i.a.		CN: SJ/T 11363-2006	1
			Electrical and electronic products (EEPs)	0.01		CN: GB/T 26572-2011	1
			'cadmium plating' (any deposit or coating of metallic cadmium on a metallic surface)	n.d. n.d. 0.0075	yes yes yes	CH: ChemRRV Ann.2.16(2) EU: REACH, Ann.XVII: 23 DK: Statutory Order No. 1199	1
			Batteries & accumulators	0.001		CN: GB 24427-2009 EU: 2006/66/EC CH: ChemRRV, Ann.2.15 DE: BattG	2

*Typically Found In: 1: Electrical and electronic, metal alloys, glass/ceramic parts, brake/friction linings

2: Batteries, accumulators

3: Plastics and additives, rubber parts, insulating materials

4: Varnishes, coats, paints, lacquers, adhesives, resins, solvents, cleaning agents, lubricants, sealants

5: Wood, packaging

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7: Other applications

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			Brazing fillers / hard solders	0.01		EU: REACH, Ann.XVII: 23. CH: ChemRRV, Ann.2.16(3)	1
			Zinc layers	0.025	yes	CH: ChemRRV, Ann.2.16(3)	1
			Mixtures and articles produced from plastic materials (PVC, PUR, LDPE, CA, CAB, epoxy resins, MF resins, UF resins, UP, PET, PBT, transparent / general-purpose PS, AMMA, VPE, high-impact PS, PP)	0.01	yes	EU: REACH, Ann.XVII: 23	3,4,7
			Plastics and additives	0.01	yes	CH: ChemRRV, Ann.2.9	3
			Colour pigment or plastic stabilizer	0.0075	yes	DK: Statutory Order No.1199	3,4
			Paints with codes [3208] [3209]	<0.01%	yes	EU: REACH, Ann.XVII: 23.	4
			Paints with codes [3208] [3209] with zinc >10%	<0.1%			
			Painted articles with Cd metal	<0.1%			
			Paints and varnishes	0.01	yes	CH: ChemRRV, Ann.2.8	4
			Paints and varnishes with zinc content ≥ 10%	0.1		CH: ChemRRV, Ann.2.8	4
3	Mercury and its compounds	7439-97-6	Electrical and electronic equipment incl. cables and spare parts	0.01	yes	EU: RoHS PSC: April 2005 CH: ChemRRV, Ann.2.18	1
			⁶⁾ EIP-A and EIP-C EIP-B	0.1 i.a.		CN: SJ/T 11363-2006	1
			Electrical and electronic products (EEPs)	0.1		CN: GB/T 26572-2011	1
			Compact fluorescent lamps < 150 W	5 mg		EU: RoHS PSC: April 2005	1
			Compact fluorescent lamps τ 150 W	15 mg		(¹⁾ tri-band phosphor w. normal lifetime	1
			Linear fluorescent lamps	5 mg(¹⁾ 8 mg(²⁾ 10 mg(³⁾)		(²⁾ tri-band phosphor w. long lifetime (³⁾ halophosphor	1
			Batteries & accumulators	0.0001		CN: GB 24427-2009 EU: 2006/66/EC CH: ChemRRV, Ann.2.15 DE: BattG	2
			Button cell batteries	0.0005 (1/10/15)		CN: GB 24428-2009 EU: 2006/66/EC CH: ChemRRV, Ann.2.15 DE: BattG	2
			Button batteries "mercury-free"	0.0005		CN GB 24428-2009	2

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			Mercury-containing measuring devices intended for industrial and professional uses	n.d.	yes	EU: REACH, Ann.XVII: 18a. CH: ChemRRV, Ann.1.7	7	
			Wood, cement (concrete counterweight fillings) and other materials	0.0025	yes		5,7	
			Several	All applications	n.d.	yes	NL: Decree 9 Sept. 1998 SE: SFS 1998:944	1-7
			Several	Paints & varnishes			CH: ChemRRV Ann.1.7	4
4	Chromium (VI) trioxide	EC: 215-607-8 CAS: 1333-82-0	Electrical and electronic equipment incl. cables and spare parts	0.1	yes	EU: RoHS EU: REACH Ann.XIV: 16 PSC: April 2005 CH: ChemRRV, Ann.2.18	1	
			⁶⁾ EIP-A and EIP-C EIP-B	0.1 i.a.		CN: SJ/T 11363-2006	1	
			Electrical and electronic products (EEPs)	0.1		CN: GB/T 26572-2011	1	
			Metallic surface coatings and zinc layers	0.1	yes	PSC: February 2008	1,4	
5	Acids generated from chromium trioxide and their oligomers. Group containing: - Chromic acid - Dichromic acid	EC 231-801-5 CAS 7738-94-5 EC 236-881-5 CAS 13530-68-2	Metal finishing, conversion coatings and brightening, fixing agent			EU: REACH, Ann.XIV:17	1,4	
6	Polybrominated bi-phenyls (PBBs)	several	Electrical and electronic equipment incl. cables and spare parts	0.1	yes	EU: RoHS PSC: April 2005 CH: ChemRRV, Ann.2.18	1	
			⁶⁾ EIP-A and EIP-C EIP-B	0.1 i.a.		CN: SJ/T 11363-2006	1	
			Electrical and electronic products (EEPs)	0.1		CN: GB/T 26572-2011	1	
7	Polybrominated diphenyl ethers (PBDEs)	several	Electrical and electronic equipment incl. cables and spare parts	0.1	yes	EU: RoHS PSC: April 2005 CH: ChemRRV, Ann.2.18	1	
			ref. list excl. DecaBDEs	⁶⁾ EIP-A and EIP-C EIP-B	0.1 i.a.		CN: SJ/T 11363-2006	1
			Electrical and electronic products (EEPs)	0.1		CN: GB/T 26572-2011	1	
8	Tetrabromodiphenylethers C ₁₂ H ₆ Br ₄ O	several	All applications (substance, preparations, articles)	0.001		CH: ChemRRV, Ann.1.1	1-7	
9	Pentabromodiphenyl-ethers (PentaBDE) C ₁₂ H ₅ Br ₅ O	32534-81-9	All applications (substance, preparations, articles)	0.001 0.1	yes	CH: ChemRRV, Ann.1.1 DE: ChemVerbotsV	1-7	
10	Hexabromodiphenylethers C ₁₂ H ₄ Br ₆ O	several	All applications (substance, preparations, articles)	0.001		CH: ChemRRV Ann.1.1	1-7	
11	Heptabromodiphenylethers C ₁₂ H ₃ Br ₇ O	several	All applications (substance, preparations, articles)	0.001		CH: ChemRRV, Ann.1.1	1-7	
12	Octabromodiphenyl-ether (OctaBDE)	32536-52-0	All applications (substance, constituent of other substances, articles)	0.1	yes	CH: ChemRRV, Ann.1.2, 2.18 EU: REACH, Ann.XVII: 45. DE: ChemVerbotsV	1-7	

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13	Decabromodiphenyl-ether (DecaBDE), or Bis(pentabromophenyl) ether	EC 214-604-9 CAS 1163-19-5	Electrical and electronic equipment	0.1	yes	CH: ChemRRV, Ann.2.18	1
			Adhesives and sealants, coatings, fillers, putties, plasters, modelling clay, inks, toners, leather treatment products, greases, polishes, waxes, polymers, washing & cleaning products			EU: REACH, Ann.XVII: 67	4,7
14	Dibutyl phthalate (DBP)	84-74-2	Electrical and electronic equipment	0.1	yes	EU: RoHS (2015/863)	1
			Plasticized plastics, particularly PVC	0.1	yes	EU: REACH, Ann.XIV: 6. (21/2/15) ⁴⁾ CH: ChemRRV, Ann.1.17 EU: RoHS, (2015/863)	3
15	Diisobutyl phthalate (DIBP)	84-69-5	Electrical and electronic equipment	0.1	yes	EU: RoHS, (2015/863)	1
			Plasticized plastics, particularly PVC	0.1	yes	EU: REACH, Ann.XIV: 7. (21/2/15) ⁴⁾ CH: ChemRRV, Ann.1.17 EU: RoHS, (2015/863)	3
16	Bis(2-ethylhexyl)phthalate (Diethylhexylphthalate, DEHP)	117-81-7	Electrical and electronic equipment	0.1	yes	EU: RoHS (2015/863) EU: REACH, Ann.XIV:04	1
			Plasticized plastics, particularly PVC, pigments, rubber, glue, filling medium and raw materials for paints.	0.1	yes	EU: REACH, Ann.XIV: 4. (21/2/15) ⁴⁾ CH: ChemRRV Ann.1.17 EU: RoHS (2015/863)	3,4,7
17	Benzyl butyl phthalate (BBP)	85-68-7	Electrical and electronic equipment	0.1	yes	EU: RoHS, (2015/863)	1
			Plasticized plastics, particularly PVC	0.1	yes	EU: REACH, Ann.XIV: 5. (21/2/15) ⁴⁾ CH: ChemRRV Ann.1.17 EU: RoHS (2015/863)	3
18	Radioactive substances		All practices such as production, processing, handling, use, holding, storage, transport, import/export to/from the EC and disposal of radioactive substances, which involve a risk from ionizing radiation emanating from an artificial source or from a natural radiation source	depending on nuclide (requirement for reporting & authorization)	yes	EU: 6/29/EURATOM Art. 3, and Ann.I, Table A, Column 3	1-7
	Relevant known examples: Cobalt -60 (scrap metal contaminant)	10198-40-0		10 kBq/kg			1
19	Arsenic acid	7778-39-4	In glass in lamps	0.1%w/w		EU: REACH, Ann.XIV:24	1
20	Bis(2-methoxyethyl) ether (diglyme)	111-96-6	Any articles	0.1%		EU: REACH Ann.XIV: 25	1-7
21	2,2'-dichloro-4,4'-methylenedianiline or 4,4'-Methylenebis(2-chloroaniline)	EC 202-918-9 CAS 101-14-4	Any articles	0.1%		EU: REACH Ann.XIV: 27	1-7
			Curing agent for liquid polyurethane elastomers			EU: REACH, Ann.XIV: 27	3

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22	Short-chain chlorinated paraffins (C ₁₀ -C ₁₃) (SCCPs)	several	Substances on their own, in preparations or as constituents of articles	1	yes	CH: ChemRRV Ann.1.1 EU: 2004/850/EC	2,4
23	Lead carbonates Lead sulphates	several	Paints	n.d.	yes	EU: REACH Ann.XVII: 16 and 17 US: 40 CFR Part 745	2,4
24	2-Naphtylamine and its salts	several	All applications as substances or in mixtures (e.g. antioxidants in rubber / latex, plastics)	0.1		EU: REACH Ann.XVII: 12.	2,3,4
25	Benzidine and its salts	several	All applications as substances or in mixtures (e.g. antioxidants in rubber / latex, plastics)	0.1 i.a.		EU: REACH Ann.XVII: 13. CH: ChemRRV. Ann.1.13(2) CA: SOR/2005-41	2,3,4
26	4-Nitrobiphenyl	92-93-3	All applications as substances or in mixtures (e.g. antioxidants in rubber / latex, plastics)	0.1		EU: REACH Ann.XVII: 14. CH: ChemRRV. Ann.1.13(2)	2,3,4
27	4-Aminobiphenyl and its salts	several	All applications as substances or in mixtures (e.g. antioxidants in rubber / latex, plastics, lubricants)	0.1		EU: REACH Ann.XVII: 15. CH: ChemRRV. Ann.1.13(2)	2,3,4
28	N-Nitrosodimethylamine (NDMA)	62-75-9	All applications (e.g. Polyurethane foams, corrosion inhibitors, oils, preservative in friction linings, vulcanizer in rubber products)	i.a.		CA: SOR/2012-285	1-7
29	Chlorinated or brominated Dibenzo-p-dioxins or Dibenzofurans	several	All applications	Group depending limit values 1.0E-7, 5.0E-7, 100E-7	yes	DE: ChemVerbotsV	1-7
30	Bis(chloromethyl) ether (BCME)	542-88-1	All applications (e.g. surface treatment of vulcanized rubber to increase adhesion)	i.a.	yes	CA: SOR/2005-41	1-7
31	Chloromethyl methyl ether (CMME)	107-30-2	All applications (e.g. surface treatment of vulcanized rubber to increase adhesion)	i.a.	yes	CA: SOR/2005-41	1-7
32	Dodecachloropentacyclo 1, 3, 4-Metheno-1H-cyclobuta(cd) pentalene (Mirex, Dechlorane, Kepone)	2385-85-5	All applications (e.g. flame retardant in plastics, rubber, paint and electrical goods)	i.a.	yes	CA: SOR/2005-41	1-7
33	Hexachloro-1,3-butadiene (HCBd)	87-68-3	All applications (e.g. intermediate in rubber and lubricant production)	i.a.	yes	CA: SOR/2005-41 CH: ChemRRV Ann.1.1	1-7
34	Pentachlorobenzene	608-93-5	All applications (e.g. flame retardant)	i.a.	yes	CA: SOR/2005-41	1-7
35	Tetrachlorobenzenes	several	All applications	i.a.	yes	CA: SOR/2005-41	1-7
36	Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)-	3846-71-7	Decorative laminate, adhesives, paints, lighting covers, buttons, moulded plastic products	n.d.	yes	JP: CSCL	3,4

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37	Ozone layer depleting substances	several	foamed / expanded plastics	n.d.	yes	CH: ChemRRV Ann.2.9	3
38	Soluble lead Soluble cadmium Soluble chromium Soluble mercury	(7439-92-1) (7440-43-9) (1333-82-0) (7439-97-6)	Polyurethane-, nitrocellulose-, alkyd-based coloured paints & putties applied to indoor woodenware	0.009 0.0075 0.006 0.006		CN: GB18581-2009	4,7
39	Dichloromethane 1,1-dichloroethane 1,2-dichloroethane 1,1,1-trichloromethane 1,1,2-trichloromethane Trichloroethane Carbon tetrachloride Benzene		Polyurethane-, nitrocellulose-, alkyd-based coatings and solvent-based putties applied to indoor woodenware	0.1 0.3		CN: GB18581-2009 EU: REACH Ann.XVII	4,5
40	Methanol		Nitrocellulose coating and putty applied to indoor woodenware	0.3		CN: GB18581-2009	4,5
41	Total free diisocyanate (TDI+HDI)		Polyurethane coatings applied to indoor wood ware	0.4		CN: GB18581-2009	4,5
42	Total of Methylbenzene, Xylene and Ethylbenzene		Polyurethane-, nitrocellulose -based coatings and solvent-based putties applied to indoor woodenware	30		CN: GB18581-2009	4,5
			Alkyd coatings applied to indoor woodenware	5			4,5
43	Volatile organic compounds (VOC)	Any organic compound with initial boiling point equal or below 250°C under standard pressure of 101.3 kPa	Polyurethane coatings, top coat, Gloss (60°) τ 80	580 g/L		CN: GB18581-2009	4
			Polyurethane coatings, top coat, Gloss (60°) < 80	670 g/L			4
			Polyurethane coatings, base coat	670 g/L			4
			Nitrocellulose coatings	720 g/L			4
			Alkyd coatings	500 g/L			4
			Putty	550 g/L			4
44	Vinyl chloride monomer		PVC flooring	5 mg / kg		CN: GB 18586-2001	3,7
45	Soluble lead Soluble cadmium		PVC flooring	20 mg / m ²			3,7
46	Volatiles substances		PVC foam-type sheet flooring fibreglass substrate	75 g / m ²			3,7
			PVC foam-type sheet flooring other substrate	35 g / m ²			3,7
			PVC non-foam-type sheet flooring fibreglass substrate	40 g / m ²			3,7
			PVC non-foam-type sheet flooring other substrate	10 g / m ²			3,7
47	Toluene	108-88-3	Substance or mixtures used in adhesives and spray paints	0.1		CH: ChemRRV Ann.1.12 EU: REACH Ann.XVII: 48.	4

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48	2-(2-methoxyethoxy)-ethanol (DEGME)	111-77-3	Constituent in paints, paint strippers, cleaning agents, self-shining emulsions, floor sealants	0.1		EU: REACH Ann.XVII: 54. CH: ChemRRV Ann.2.3	4
49	2-(2-butoxyethoxy) ethanol (DEGBE)	112-34-5	Constituent in spray paints, spray cleaners in aerosol dispensers	3		EU: REACH Ann.XVII: 55. CH: ChemRRV Ann.2.3	4,7
50	Methylenediphenyl diisocyanate (MDI) 4,4'-MDI 2,4'-MDI 2,2'-MDI	26447-40-5 101-68-8 5873-54-1 2536-05-2	All applications as a constituent in mixtures (e.g. adhesives except hot melt adhesives)	0.1	yes	EU: REACH Ann.XVII: 56.	4
51	Dichloromethane	75-09-2	Paint strippers	0.1	yes	EU: REACH Ann.XVII: 59. CH: ChemRRV Ann.2.3	4,7
52	Dimethylfumarate (DMF)	624-49-7	In articles or part of the articles e. g. mould protection, polymers, aqueous-based products	0.00001		EU: REACH Ann.XVII: 61. EU: 2009/251/EC	3,4
53	Phenylmercury acetate Phenylmercury propionate Phenylmercury 2-ethylhexanoate Phenylmercury octanoate Phenylmercury neodecanoate	62-38-4 103-27-5 13302-00-6 13864-38-5 26545-49-3	As substances in mixtures, articles or any parts thereof (e.g. catalysts used, incorporated and remaining in polyurethane systems used for coatings, adhesives, sealants and elastomer applications)	0.01 Hg (10/10/17)		EU: REACH Ann.XVII: 62. CH: ChemRRV Ann.1.7	3,4
54	Polycyclic aromatic hydrocarbons (PAKs) Benzo[def]chrysene (Benzo[a]pyrene) Benzo[e]pyrene Benzo[a]anthracene Chrysene Benzo[b]fluoranthene Benzo[j]fluoranthene Benzo[k]fluoranthene Dibenzo[a,h]anthracene	50-32-8 192-97-2 56-55-3 218-01-9 205-99-2 205-82-3 207-08-9 53-70-3	Rubber or plastic parts (e.g. car floor or car interior walls) that come into direct as well as prolonged or short-term repetitive (i.e. during lift trip) contact with the human skin or the oral cavity, under normal or reasonably foreseeable (e.g. short-sleeved clothing in summer or tropical climates) conditions of use	0.0001 (27/12/15)		EU: REACH Ann.XVII: 50.	3
55	Hexabromocyclododecane (HBCDD) including all major diastereoisomers: - Alpha-HBCDD - Beta-HBCDD - Gamma-HBCDD	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	E.g. flame-protected plastics Substances on their own, in preparations or in articles	0.1 n.d.	yes	EU: REACH Ann.XIV: 3. (21/8/15)4 CH: ChemRRV Ann.1.1	3

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56	Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	E.g. flame retardant in plastics (additive used in flexible and rigid polyurethane and Polyiso-cyanurate foam, unsaturated polyester resins, PVC, adhesives, elastomers, cellulose acetate, nitrocellulose, epoxy resins and others)	0.1	yes	EU: REACH Ann.XIV: 13. (21/8/15) ⁴⁾ CH: ChemRRV Ann.1.17	3,4,7
57	4,4'-Diaminodiphenyl methane (MDA)	101-77-9	E.g. vulcanizer for rubbers, hardener (e.g. Sika Biresin® U1303 Hardener (B)) for plastics, epoxy resins, adhesives	0.1	yes	EU: REACH Ann.XIV: 2. (21/8/14) ⁴⁾ CH: ChemRRV Ann.1.17	3,4
58	Lead chromate	7758-97-6	E.g. pigmented paints and varnishes, anti-corrosion coatings	0.1	yes	EU: REACH Ann.XIV: 10. (21/5/15) ⁴⁾ CH: ChemRRV Ann.1.17	4
59	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8	E.g. pigmented plastics and paints	0.1	yes	EU: REACH : Ann.XIV: 12. (21/5/15) ⁴⁾ CH: ChemRRV Ann.1.17	3,4
60	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	E.g. pigmented plastics and paints	0.1	yes	EU: REACH : Ann.XIV: 11. (21/5/15) ⁴⁾ CH: ChemRRV Ann.1.17	3,4
61	4,4'-isopropylidenedi phenol (bisphenol A; BPA)	EC 201-245-8 CAS 80-05-7	Manufacture of polycarbonate, as a hardener for epoxy resins, as an anti-oxidant for processing PVC and in thermal paper production.	0.1 0.02% after Jan 2020		EU: REACH Ann.XVII: 66	3,7
62	1-methyl-2-pyrrolidone	EC 212-828-1, CAS 872-50-4	Solvent for surface treatment of textiles, resins, and metal coated plastics or as a paint stripper			EU: REACH Ann.XVII: 71	3,4
63	2,4-dinitrotoluene (2,4-DNT)	EC 204-450-0 CAS 121-14-2	Used in the production of toluene diisocyanate, which is used to produce flexible polyurethane foams. Used as a plasticizer, deterrent coating, and burn rate modifier in propellants			EU: REACH Ann.XIV: 14	3,4,7
64	Strontium Chromate	EC 232-142-6 CAS 7789-06-2	Used as a colorant in polyvinyl chloride, in pyrotechnics, in chrome plating, in aluminium flake coatings, and as a corrosion inhibitor and metal conditioner			EU: REACH Ann.XIV: 29	3,4,7
65	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	EC 276-158-1 CAS 71888-89-6	Used mainly in the form of the anhydride to produce other chemicals such as dyes, perfumes, saccharin, phthalates			EU: REACH Ann.XIV: 34	4,7
66	1,2-benzenedicarboxylic acid, dipentyl ester, branched and linear	EC 284-032-2 CAS 84777-06-0				EU: REACH Ann.XIV: 36	3,4

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67	Diisopentyl phthalate	EC 210-088-4 CAS 605-50-5	Plasticizer for nitrocellulose and resin lacquers; preventing foam in manufacture of glue; rubber cements			EU : REACH Ann.XIV: 33	3,4,7
68	Dipentyl phthalate	EC 205-017-9 CAS 131-18-0				EU: REACH Ann.XIV: 38	3,4,7
69	N-pentyl-isopentylphthalate	CAS 776297-69-9				EU: REACH Ann.XIV: 39	3,4,7
70	Anthracene oil	EC 292-602-7 CAS 90640-80-5	Wood preservatives, insecticides, coating materials			EU: REACH Ann.XIV: 40	4,5,7
71	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	Paints and coatings products, emulsion polymerisation			EU: REACH Ann.IV: 42	4,7
72	Ammonium nitrate	EC 229-347-8 CAS 6484-52-2	Adhesives and sealants			EU: REACH Ann.XVII: 58	4
73	Diisocyanates O = C=N-R-N = C=O, with R an aliphatic or aromatic hydrocarbon unit of unspecified length	CAS 26471-62-5 91-08-7 91-97-4 101-68-8 822-06-0 584-84-9 4098-71-9 5873-54-1 2162-73-42536-05- 22778-42-93173-72- 63634-83-1 5124-30-1	Foams, sealants and coatings			EU: REACH Ann.XVII: 74	4
74	PCTP (pentachlorothio phenol)	133-49-3	Used in rubber products	>1		Code 40 CFR Part 700 (Toxic Substance Control Act)	3
75	Asbestos (incl. brown, blue and white asbestos, Tremolite)	several	All applications of fibres and articles containing these fibres Elevator components	i.a.	5)	EU: REACH Ann.XVII: 6.	1,3
				n.d.		CH: ChemRRV Ann.1.6	1,3
				n.d.		EU: EN 81-20:2014 EU: EN 81-50:2014	1,3
76	Man-made vitreous (silicate) fibres with random orientation with oxide of sodium, potassium, calcium, magnesium and barium content > 18% by mass		Articles for heat and noise reduction in building construction including technical insulation and for ventilation systems	0.1 (total)	yes	DE: ChemVerbotsV	1,3

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77	Substances classified as carcinogen, mutagen or toxic to reproduction (CMR) as specified in REACH Ann. XVII: 28.-30. Ann. 1 to 6 and 11, and listed in tables 3.1 and 3.2 of part 3 of Ann. VI of CLP Relevant known examples: Lead – brass alloys		All applications as substances, constituents of other substances, mixtures, and special mixtures such as metals incorporated in alloys (REACH (31))	as specified in (*) or (**)		EU: REACH Ann.XVII: 28.-30 Ann.1 to 6 & 11 EU: CLP Ann. VI part 3 (*) EU: 1999/45/EC (**) if not specified in (*)	1,3
			Brass swarf in brake linings	0.1 (0.3: 1/7/15)			1
78	Inorganic ammonium salts		Cellulose insulation articles	Emission from ammonia <3ppm by volume (2,12 mg/m3)		EU: REACH Ann.XVII: 65	1
79	Arsenic and its compounds	several	Preservation of wood, wood treated with copper, chromium, arsenic (CCA) in residential or domestic constructions	n.d.	yes	EU: REACH Ann.XVII: 19. CH: ChemRRV Ann.2.4	5,7
80	Pentachlorophenol (PCP) and its salts and esters	several	All applications	n.d. 0.1(*)		EU : Regulation (EU) 2019/1021 on persistent organic pollutants	1-7
81	Mercury compounds	several	Substances and mixtures for preservation of wood	n.d.		EU: REACH Ann.XVII: 18.	5
82	Acrylamide	79-06-1	Grouting applications (banned since 5/11/12)	0.1		EU: REACH Ann.XVII: 60.	7
83	Tris (2,3 dibromopropyl) phosphate	126-72-7	Flame retardants in textiles for interior furnishing, e.g. carpets used for car interior decoration and on car floor	n.d.		CH: ChemRRV Ann.1.9	6,7
84	Tris(aziridinyl)phosphin oxide	545-55-1		n.d.		CH: ChemRRV Ann.1.9	6,7
85	Arsenic	7440-38-2	Wooden materials (chip and fibre board)	0.0025	yes	CH: ChemRRV, Ann.2.17	5
86	Lead	7439-92-1		0.009	yes		
87	Cadmium	7440-43-9		0.005	yes		
88	Benzo[def]chrysen (benzo[a]pyren)	50-32-8		0.000005	yes		
89	Pentachlorophenol	87-86-5		0.0005	yes		
90	Formaldehyde	50-00-0	Coated and uncoated wooden materials (chip, fibre and veneer boards)	0.1 ml/m ³ (special testing procedure)	yes	DE : ChemVerbotsV AT : BGBl. 194/1990 SE : KIFS 1998:8 (Chapter9, 20-27 §§)	5
			Medium/High density fibreboard and particleboard directly used for indoor application	9 mg / 100g		CN: GB18580-2001	5
			Plywood and blockboard directly used for indoor application	1.5 mg / L			5

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			Veneer plywood (solid wood flooring, bamboo flooring) directly used for indoor application	0.12 mg / m ³ or 1.5 mg / L (depending on testing method)			5
			Composite wood products made with no-added formaldehyde based resin (*) or ultra-low-emitting formaldehyde resin (**)	4E-6 for 90% of 3 months of routine testing	yes	US: TSCA Title IV - Formaldehyde standards for composite wood products (*) no-added formaldehyde based resin may include any resin made from Soy, Polyvinyl acetate, Methylene diisocyanate. (**) ultra-low-emitting formaldehyde resin may include: Melamine-urea formaldehyde resin; Phenol formaldehyde resin; Resorcinol formaldehyde resin.	4,5
			Hardwood plywood made with no-added formaldehyde based resin (*) or ultra-low-emitting formaldehyde resin (**)	5E-6			4,5
			Particleboard, medium-density fibreboard, and thin medium-density fibreboard made with no-added formaldehyde based resin (*) or ultra-low-emitting formaldehyde resin (**)	6E-6			4,5
			Hardwood plywood with a veneer or a composite core	5E-6			5
			Medium-density fibreboard	11E-6			5
			Thin medium-density fibreboard	13E-6			5
			Particleboard	9E-6			5
			Cleaning agents (except for industrial cleaning)	0.2	yes	DE: ChemVerbotsV AT: BGBl.194/1990	4
91	Tar oils	several	Treatment of wood, treated wood used inside buildings	n.d.	yes	EU: REACH Ann.XVII: 31. CH: ChemRRV Ann. 2.4	5
92	Organostannic compounds		Biocide in free association paints Antifouling biocide for ships and partly submerged appliance or equipment	n.d.		EU: REACH Ann. XVII: 20.	3,5
93	Dibutyltin (DBT) compounds	several	Mixtures and articles supplied to general public	0.1	yes	EU: REACH Ann.XVII: 20.	1-7
94	Tri-substituted organostannic compounds such as tributyltin (TBT) compounds and triphenyltin (TPT) compounds	several	All articles	0.1		EU: REACH Ann.XVII: 20. JP: CSCL	1-7
95	Trialkyle- and triaryle-tin compounds		Coating protection films Antifouling paints	n.d.	yes	CH: ChemRRV Ann.2.4	3,4
96	Diocetyl tin (DOT) compounds	several	Wall and floor coverings, two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)	0.1		EU: REACH Ann.XVII: 20.	4,7

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97	Dibutyltin hydrogen borate (DBB)	75113-37-0	Substance or in mixtures	0.1	yes	EU: REACH Ann.XVII: 21. CH: ChemRRV Ann.1.14	4
98	Chromium (VI) and its compounds	several	Cement and cement containing mixtures (e.g. concrete counterweight fillings)	0.0002 (as soluble Cr(VI))	yes	EU: REACH Ann.XVII: 47. EU: EN 196-10:2006 CH: ChemRRV Ann.2.16(1)	4,7
99	Azocolourants and Azodyes which form certain aromatic amines	several	Textiles (e.g. carpets used for car interior decoration and on car floor) and leather articles which may come into direct and prolonged contact with the human skin or oral cavity	0.003		EU: REACH Ann.XVII: 43. CH: ChemRRV Ann.1.13	7
100	Diarsenic pentoxide (arsenic pentoxide)	1303-28-2	Metallurgy (harden copper, lead, gold), special glasses, metal adhesives, wood preservative	0.1	yes	EU: REACH Ann.XIV: 9. (21/5/15 ⁴⁾ CH: ChemRRV Ann.1.17	1,3,5
101	Diarsenic trioxide (arsenic trioxide)	1327-53-3	Decolorizing agent for glass and enamels, application in glass and lead glass industry, wood preservation	0.1	yes	EU: REACH Ann.XIV: 8. (21/5/15 ⁴⁾ CH: ChemRRV Ann.1.17	1,5
102	Nonylphenol ethoxylates		Textiles	<0.1%		EU: REACH Ann.XVII: 46a	7
103	Potassium dichromate	EC 231-906-6 CAS 7778-50-9	Ingredient in cement which retard the setting of the mixture and improve its density and texture			EU: REACH Ann.XIV: 19	7
104	Sodium chromate	EC 231-889-5 CAS 7775-11-3	Dyeing auxiliary in the textile industry and a wood preservative			EU: REACH Ann.XIV: 22	5,7
105	Sodium dichromate	EC: 234-190-3 CAS: 10588-01-9, 7789-12-0	Metal treatments, wood preservatives, production of dyes and organic chemicals and as a corrosion inhibitor			EU: REACH Ann.XIV: 18	1,4,5,7
106	Pitch, coal tar, high-temp. (CTPHT)	EC: 266-028-2 CAS: 65996-93-2	Production of refractories and electrode binders for the aluminium and steel industry			EU: REACH Ann.XIV: 41	1,2,7
107	1,4 dichlorobenzene	EC 203-400-5 CAS 106-46-7	Polymers and air care products	1%		EU: REACH Ann.XVII: 64	3,7
108	CFCs and halons	several	All applications	n.d.	yes	EU : 1005/2009 US : 40 CFR 82 CH: ChemRRV Ann.1.4	1-7
109	HCFCs ₁ to (C)	several	All applications	n.d.	yes	EU: 1005/2009 US : 40 CFR 82 CH: ChemRRV Ann.1.4	1-7
110	HBFCs ₁ to (C)	several	All applications	n.d.	yes	EU: 1005/2009 US : 40 CFR 82 CH: ChemRRV Ann.1.4	1-7
111	Tetrachloromethane (carbon tetrachloride)	56-23-5	All applications	n.d.	yes	EU: 1005/2009 US : 40 CFR 82 CH: ChemRRV Ann.1.4	1-7
112	1,1,1 Trichloroethane	71-55-6	All applications	n.d.	yes	EU: 1005/2009 CH: ChemRRV Ann.1.4	1-7
		71-55-6 56-23-5	Solvent, cleaning agent	n.d.	yes	CH: ChemRRV Ann.1.3 US : 40 CFR 82	4
113	Methyl bromide	74-83-9	All applications	n.d.	yes	EU: 1005/2009 CH: ChemRRV Ann.1.4	1-7

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114	Perfluorocarbons (PFC's) Hydrofluorocarbons (HFCs) Sulfur hexafluoride (SF ₆)	several 2551-62-4	Non-refillable containers One component foams	n.d.	yes	EU 517/2014	7
115	Perfluorocarbons (PFC's) Hydrofluorocarbons (HFCs)	several	Non-confined direct-evaporation systems containing refrigerants				6,7
116	Perfluorocarbons (PFC's)	several	Fire protection systems and fire extinguishers				6,7
117	Hydrofluorocarbons (HFCs)	several	Novelty aerosols				6,7
118	Perfluorocarbons (PFC's) Hydrofluorocarbons (HFCs) Sulfur hexafluoride (SF ₆)	several 2551-62-4	Joining foams Spray cans	n.d.		DK: Statutory Order No.552 of 2 July 2002	4,7
119	Perfluorocarbons (PFC's), such as Methane, tetrafluoro-	several 75-73-0	All products, such as e.g. pressure accumulators Refrigerant mixtures in which PFC's constitute less than 10% of the mixture				1-7
120	Sulfur hexafluoride (SF ₆)	2551-62-4	Panes of glass, Tracer gas Low voltage plants (≤ 1 kV)				1,7
121	Hydrofluorocarbons (HFCs)	several	Production of flexible polyurethane foams Cooling plants, heat pumps, air conditioning plants (comfort cooling) and dehumidifiers with charges ≥ 10 kg				3,4,6,7
122	Perfluorocarbons (PFC's) Hydrofluorocarbons (HFCs)	several	Cooling and air conditioning equipment	n.d.	yes	AT: BGBl. Nr.447/2002	6,7
123	Sulfur hexafluoride (SF ₆)	2551-62-4	Insulating and quenching gas in electro technical systems and appliances up to 1 kV	n.d.		AT: BGBl. Nr.447/2002	1,3,7
124	Sulfur hexafluoride (SF ₆) Nitrogen trifluoride (NF ₃) Organic compounds containing fluorine with a vapour pressure of at least 0.1 mbar at 20°C or a boiling point of max. 240°C at 1013.25 mbar, with an average stability in air of at least 2 years	2551-62-4 7783-54-2 several	All applications (over 1 kg SF ₆ obligation to report in cases of exceptions)	n.d.	yes	CH: ChemRRV Ann.1.5	1-7

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125	Polychlorinated terphenyls (PCTs)	(61788-33-8)	All applications	0.005 (total)		EU: REACH Ann.XVII: 1.	1-7
126	Monomethyltetrachlorodiphenylmethane (Ugilec 141) Monomethyldichlorodiphenylmethane (Ugilec 121 or 21) Monomethyldibromodiphenylmethane (DBBT)	76253-60-6 8116 -70-8 9968 -47-8	All applications	n.d.		EU: REACH Ann.XVII: 24., 25., and 26.	1-7
127	Polychlorinated biphenyls (PCBs)	several	PCB and PCB containing items not totally enclosed	0.005	yes	US: TSCA (15 USC 2605) + 40 CFR 761	1,3
128	Halogenated organic compounds	several	Substances and mixtures, textiles and leather, and halogenated diarylalkanes and OctaBDE in articles	n.d.	yes	CH: ChemRRV Ann.1.2	3,4,6,7
129	Persistent organic pollutants	several	All applications (substances on their own, in preparations or in articles)	n.d.	yes	CH: ChemRRV Ann.1.1	1-7
130	Halogenated aromatic compounds such as polychlorinated biphenyls (PCB's), halogenated diarylealkanes or halogenated benzenes		Capacitors and transformers	0.05/0.005 (mono-/polyhalogenated)		CH: ChemRRV Ann. 2.14	1,2
131	Perfluorooctane sulfonic acid and its metal salts, halides, amides, and other derivatives including polymers (PFOS)	several	All applications	0.005 0.1 (in articles or parts thereof)	yes	DE: ChemVerbotsV CH: ChemRRV Ann.1.16	1-7
132	Perfluorooctanoic acid (PFOA)	EC 206-397-9 CAS 335-67-1		25 ppb, 1000 ppb (PFOA related substances)		EU : Regulation (EU) 2019/1021 on persistent organic pollutants	1-7
133	Benzene	71-43-2	In Natural Gas for use by consumer	<0.1%		EU: REACH Ann.XVII: 05	7
			All application (e.g. cleaning agent or metal working agent)	0.1		CH: ChemRRV Ann.1.12 EU: REACH Ann.XVII: 5.	4
134	PIP (3:1) (phenol, isopropylated phosphate (3:1))	68937-41-7	as flame retardant and as additive in hydraulic oils	Prohibited in any concentration		Code 40 CFR Part 700 (Toxic Substance Control Act)	6,7
135	Methanol	EC 200-659-6, CAS 67-56-1	Defrosting fluids	0.6%		EU: REACH Ann.XVII: 69	5,7

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136	Polychlorinated biphenyls (PCBs) Halogenated Biphenyls $C_{12}H_nX_{10-n}$; X = Halogen, $0 \leq n \leq 9$;	several	Lubricating oils and greases manufactured from waste oils	0.0001		CH: ChemRRV Ann.1.1, 1.2	4
137	4-Nonylphenol, branched and linear, ethoxylated	-	Manufacturing of antioxidants, lubricating oil additives, laundry and dish detergents, emulsifiers, solubilizers			EU: REACH Ann.XIV: 43	4
138	2,4,6-TTBP (2,4,6-tris(tert-butyl)phenol)	732-26-3	Additive in lubricants / oils	> 0.3		Code 40 CFR Part 700 (Toxic Substance Control Act)	4
139	Aliphatic CHCs	several	As substances, constituents of other substances, mixtures for diffuse applications such as cleaning	0.1	yes	CH: ChemRRV Ann.1.3 EU: REACH Ann.XVII: 32.-38.	4,7
140	Hexachloroethane	67-72-1	Processing of non-ferrous metals	n.d.		CH: ChemRRV Ann.1.3 EU: REACH Ann.XVII: 41.	7
141	1,2-Dichloroethane (EDC)	107-06-2	Solvent	0.1	yes	EU: REACH Ann.XVII: 28. EU: REACH Ann.XIV:26. (22/11/17) ⁴⁾	4
142	Trichloroethylene	79-01-6	Cleaning agents (e.g. metal cleaners, degreasing agents or rust removers)	n.d.	yes	CH: ChemRRV Ann.2.2 EU: REACH Ann.XIV: 15	4
143	Tetrachloroethylene (perchloroethylene)	127-18-4	Cleaning agents (e.g. metal cleaners, degreasing agents or rust removers)	n.d.	yes	CH: ChemRRV Ann.2.2	4
144	Trichlorobenzene	120-82-1	Solvent	0.1	yes	EU: REACH Ann.XVII: 49.	4
145	Nonylphenol $C_6H_4(OH)C_9H_{19}$	25154-52-3	Cleaning and metal working agents	0.1	yes	CH: ChemRRV Ann.1.8 EU: REACH Ann.XVII: 46.	4,7
146	Ethoxylated Nonylphenols $(C_2H_4O)_nC_{15}H_{24}O$	several	Cleaning and metal working agents	0.1	yes	CH: ChemRRV Ann.1.8 EU: REACH Ann.XVII: 46.	4,7
147	Octylphenol	27193-28-8	Cleaning agent Metal working agent	0.1	yes	CH: ChemRRV Ann.1.8	4,7
148	Ethoxylated Octylphenols	9063-89-2 9036-19-5	Cleaning agent Metal working agent	0.1	yes	CH: ChemRRV Ann.1.8	4,7
149	Ethylenediamine tetraacetic acid (EDTA) compounds 1,3-propylene diaminetetraacetic acid (PDTA) compounds	60-00-4 1939-36-2	Cleaning agents (e.g. metal cleaners, degreasing agents or rust removers)	1 (total)	yes	CH: ChemRRV Ann.2.2	4
150	Anionic, cationic, nonionic or amphoteric tensides		Cleaning agents (e.g. metal cleaners, degreasing agents or rust removers)	primary biodegradation < 80%	yes	CH: ChemRRV Ann.2.2	4
151	Tensides		Cleaning agents (e.g. metal cleaners, degreasing agents or rust removers)	final biodegradability less than 60% or 70%	yes	CH: ChemRRV Ann.2.2	4
152	Tensides listed in Ann. VI of EC 648/2004		Cleaning agents (e.g. metal cleaners, degreasing agents or rust removers)		yes	CH: ChemRRV Ann.2.2	4

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153	2-Ethoxyethanol	110-80-5	Substance, constituents of other substances, or in mixtures, e.g. solvents			EU: REACH Ann.XVII: 30. (Ann. 6)	4
154	2-Ethoxyethanol acetate	111-15-9	Substance, constituents of other substances, or in mixtures, e.g. solvents			EU: REACH Ann.XVII: 30. (Ann. 6)	4
155	2-Methoxyethanol	109-86-4	Substance, constituents of other substances, or in mixtures, e.g. solvents			EU: REACH Ann.XVII: 30. (Ann. 6)	4
			As substances for mixture in diethylene glycol methyl ether	0.5	yes	CA: SOR/2012-285.	4
156	2-Methoxyethanol acetate	110-49-6	Substance, constituents of other substances, or in mixtures, e.g. additives in metal cutting fluids			EU: REACH Ann.XVII: 30. (Ann. 6)	4
157	N-Nitrosoamines classified as carcinogen categories 1 and 2 according to TRGS 552	several	Critical work environments: - Cooling lubricants mixed with water used for metal processing - Corrosion protection agents incl. volatile corrosion inhibitors (VCI's) - Installation, maintenance, dismantling and demolition works	0.1 µg / m ³		DE: TRGS 552	4,7
158	Chloroethene (vinyl chloride)	75-01-4	Propellant in aerosols Aerosols dispensers	n.d.		EU: REACH Ann.XVII: 2.	
159	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	Rinsing agents, detergents, metal polish	0.1	yes	EU: REACH Ann.XIV: 1. (21/08/14) ⁴⁾	4
160	Potassium chromate	EC 232-140-5 CAS 7789-00-6	Mainly used for laboratory work in situations where an anhydrous salt is required			EU: REACH Ann.XIV: 21	7
161	Dichromium tris(chromate)	EC 246-356-2 CAS 24613-89-6				EU: REACH Ann.XIV: 28	
162	Potassium hydroxyoctaoxodizincatedichromate	EC 234-329-8 CAS 11103-86-9	Pigment			EU: REACH Ann.XIV: 30	7
163	1-bromopropane	EC 203-445-0 CAS 106-94-5	Washing & cleaning products			EU: REACH Ann.XIV: 32	4
164	N,N-dimethylformamide	68-12-2	Adhesives, sealants, coatings		yes	EU: REACH Ann XVII: 76	4

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7: Other applications

Index	Substance / substance group	CAS No.	Affected Application	Limit value %wt (weight percentage)	Exemptions	Legal Regulations ²⁾	Typically found in: * see footer
165	C9-C14 linear and/or branched perfluorocarboxylic acids (C9-C14 PFCAs), their salts and C9-C14 PFCAs-related substances, perfluorononanoic acid (PFNA); nonadecafluorodecanoic acid (PFDA); heneicosafluorodecanoic acid (PFUnDA); tricosafluorodecanoic acid (PFDoDA); pentacosafluorotridecanoic acid (PFTrDA); heptacosafluorotetradecanoic acid (PFTDA); including their salts and precursors	72629-94-8 307-55-1 2058-94-8 375-95-1 376-06-7 335-76-2	Semiconductors, coatings, firer-retardant foams		yes	EU: REACH Ann. XII	1,4,6
166	4,4'-bis(dimethylamino)-4''-(methylieren)trityl alcohol	561-41-1	All applications			EU: REACH Ann XIV	4
167	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	All applications			EU: REACH Ann XIV	3,4,5,7
168	Silicon carbide fibres (with diameter < 3 µm, length > 5 µm and aspect ratio ≥ 3:1)	409-21-2 308076-74-6	All applications			EU: REACH Ann XVII, Appendix 2	1
169	Tetrafluoroethylene	116-14-3	All applications			EU: REACH Ann XVII, Appendix 2	3
170	1,4-dioxane	123-91-1	All applications			EU: REACH Ann XVII, Appendix 2	4
171	m-bis(2,3-epoxypropoxy)benzene	101-90-6	All applications			EU: REACH Ann XVII, Appendix 2	4
172	2,2-bis(bromomethyl)propane-1,3-diol	3296-90-0	All applications			EU: REACH Ann XVII, Appendix 2 and 4	6
173	Butanone oxime	96-29-7	All applications			EU: REACH Ann XVII, Appendix 2	4
174	Methylolacrylamide	924-42-5	All applications			EU: REACH Ann XVII, Appendix 2 and 4	4,7
175	Mancozeb	8018-01-7	All applications			EU: REACH Ann XVII, Appendix 6	5,7

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176	tris(2-methoxyethoxy)vinylsilane; 6-(2-methoxyethoxy)-6-vinyl-2,5,7,10-tetraoxa-6-silaundecane	1067-53-4	All applications			EU: REACH Ann XVII, Appendix 6	4
177	Dichlorodioctylstannane	3542-36-7	All applications			EU: REACH Ann XVII, Appendix 6	3
178	Ipraconazole	125225-28-7 115850-69-6 115937-89-8	All applications			EU: REACH Ann XVII, Appendix 6	5,7
179	Tetraglyme	143-24-8	All applications			EU: REACH Ann XVII, Appendix 6	2,4
180	Diisooctyl phthalate	27554-26-3	All applications			EU: REACH Ann XVII, Appendix 6	4
181	Formaldehyde and formaldehyde releasers	50-00-0	All applications	0,062 mg/m ³ for furniture and wood-based articles 0,080 mg/m ³ for articles other than furniture and wood-based articles	yes	EU: REACH Ann XVII Appendix 14	4-5
182	Synthetic polymer microparticles	-	All applications	0,01 % by weight	yes	EU: REACH Ann XVII Appendix 15, 16	3,4,6,7
183	Divanadium pentaoxide; vanadium pentoxide	1314-62-1	All applications	n.d.		EU: REACH Ann XVII Appendix 2	1
184	Cumene	98-82-8	All applications	n.d.		EU: REACH Ann XVII Appendix 2	4
185	3-bromo-2,2-bis(bromomethyl)propan-1-ol	36483-57-5; 1522-92-5	All applications	n.d.		EU: REACH Ann XVII Appendix 2	6
186	Benzophenone	119-61-9	All applications	n.d.		EU: REACH Ann XVII Appendix 2	3,4
187	Ammonium bromide	12124-97-9	All applications	n.d.		EU: REACH Ann XVII Appendix 6	5
188	Dibutyltin bis(2-ethylhexanoate)	2781-10-4	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4
189	Dibutyltin di(acetate)	1067-33-0	All applications	n.d.		EU: REACH Ann XVII Appendix 6	3
190	Tellurium	13494-80-9	All applications	n.d.		EU: REACH Ann XVII Appendix 6	1,3
191	Tellurium dioxide	7446-07-3	All applications	n.d.		EU: REACH Ann XVII Appendix 6	1,3
192	Barium diboron tetraoxide	13701-59-2	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4,6
193	2-(2-methoxyethoxy)ethanol; Diethylene glycol monomethyl ether	111-77-3	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4
194	2,4,6-tri-tert-butylphenol	732-26-3	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4
195	4,4'-sulphonyldiphenol	80-09-1	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4

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196	2-ethylhexanoic acid and its salts, with the exception of those specified elsewhere in Annex VI to Regulation (EC) No 1272/2008	-	All applications	n.d.		EU: REACH Ann XVII Appendix 6	3,4
197	Pentapotassium 2,2',2'',2''',2''''-(ethane-1,2-diylnitrilo)pentacetate	7216-95-7	All applications	n.d.		EU: REACH Ann XVII Appendix 6	5,7
198	N-carboxymethyliminobis(ethylenenitrilo)tetra (acetic acid)	67-43-6	All applications	n.d.		EU: REACH Ann XVII Appendix 6	3
199	Pentasodium(carboxylatomethyl)iminobis (ethylenenitrilo)tetraacetate	140-01-2	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4
200	Perfluoroheptanoic acid; tridecafluoroheptanoic acid	375-85-9	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4
201	6-[C12-18-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid, sodium and tris(2-hydroxyethyl)ammonium salts	-	All applications	n.d.		EU: REACH Ann XVII Appendix 6	4,6
202	6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	2156592-54-8	All applications	n.d.		EU: REACH Ann XVII Appendix 6	3
203	6-[C12-18-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	-	All applications	n.d.		EU: REACH Ann XVII Appendix 6	3

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204	Reaction mass of 3-(difluoromethyl)-1-methyl-N-[(1RS,4SR,9RS)-1,2,3,4-tetrahydro-9-isopropyl-1,4-methanonaphthalen-5-yl]pyrazole-4-carboxamide and 3-(difluoromethyl)-1-methyl-N-[(1RS,4SR,9SR)-1,2,3,4-tetrahydro-9-isopropyl-1,4-methanonaphthalen-5-yl]pyrazole-4-carboxamide [> 78 % syn isomers < 15 % anti isomers relative content]; isopyrazam	881685-58-1	All applications	n.d.		EU: REACH Ann XVII Appendix 6	5
205	Pentachlorophenol, its salts and esters	201-778-6	All applications	n.d.		EU: POP	5
206	Dicofol	204-082-0	All applications	n.d.		EU: POP	5
207	Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds, as set out in Annex I	206-397-9 and others	All applications	n.d.		EU: POP	3,4
208	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds	355-46-4 and others	All applications	n.d.		EU: POP	4,6

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Notes to the list

- 1) "n.d." means that no limit value is defined in the legislation = **no content permitted!**
 "i.a." means any intentional added content is prohibited.
- 2) Country codes according to ISO 3166
- 3) 2006/66/EC, BattG & ChemRRV Ann. 2.15: Prohibition not applicable to portable batteries (German: "Gerätebattrien") and accumulators intended for use in emergency and alarm systems, including emergency lighting, **and in cordless power tools (exemption valid until 31/12/16)**. 'Portable battery or accumulator' means any battery, button cell, battery pack or accumulator that: (a) is sealed, (b) can be hand-carried; and (c) is neither an industrial battery or accumulator nor an automotive battery or accumulator (2006/66/EC Art. 3(3)).
- 4) "Sunset date" since substance (group) use (substance on its own, in mixtures or in articles) is banned, unless authorized or exempted from authorization requirement by ECHA referring to REACH Regulation (EC) No 1907/2006 Ann. XIV "Authorization List" (31 substances, last accessed 21-Sept-2015) and Article 56 ff..
- 5) All applications of asbestos in new and existing installations are banned within Schindler Group with no exceptions.
- 6) SJ/T 11363-2006: Classification of materials (Unit is mass fraction) in Electronic Information Products (EIPs)

<u>Classification of Materials (Unit)</u>	<u>Definition of Materials (Unit)</u>
EIP-A	Each homogeneous material composing EIP
EIP-B	Metallic coating of each part in EIP
EIP-C	Small components or materials that cannot be further disassembled under existing conditions in EIP. They generally refer to the products of equal to or less than 4 mm ³ in size.

There is no broad definition of what encompasses an EIP but over 30 pages of specifically listed products that qualify have been posted by the Ministry of Industry and Information Technology in the "EIP Classifications and Explanations explanatory note" containing more than 1800 products, including amongst others the following categories potentially relevant for the lift industry:

- ξ Communication equipment products (e.g. transmitters, navigation, telephones, base stations)
- ξ Computer products (all types of computers, network equipment, printers, power supplies, CDs, toner cartridges, etc.)
- ξ Electronic measurement instrument products (test equipment, meters, etc.)
- ξ Electronic products for professional use (soldering tools, electric and air tools)
- ξ Electronic components (passives, PCBs, sensors, connectors, switches, loudspeakers, electronic devices (vacuum tubes, diodes, semiconductors, ICs, electronic circuits, wire and cables, lamps and batteries)

BattG	German "Gesetz über das Inverkehrbringen, die Rücknahme und die umweltverträgliche Entsorgung von Batterien und Akkumulatoren"
CAA	U.S. Clean Air Act
ChemRRV	Swiss ordinance on chemical risk reduction (Chemikalienrisikoreduktions-Verordnung)
ChemVerbotsV	German chemicals prohibition ordinance (Chemikalienverbotsverordnung)
China RoHS	China Government Regulation on "Administrative Measures for the Restriction of the Use of Hazardous Substances in Electronic Information Products (EIP)". Note, that China RoHS does not allow any technology exemptions unlike EU RoHS2 Directive!
CLP	Regulation No. 1272/2008 of the European Parliament and the Council on the classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
CSCL	Japanese Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law) and corresponding Cabinet Order for its enforcement
EN 81-20:2014	European Standard on Safety rules for the construction and installation of lifts

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EN 81-50:2014	
GB 18580-2001	National Standard of the People's Republic of China on "Indoor decorating and refurbishing materials – limit of formaldehyde emission of wood based panels and finishing products"
GB 18581-2009	National Standard of the People's Republic of China on "Indoor decorating and refurbishing materials – limit of harmful substances of solvent coatings for woodenware"
GB 18586-2001	National Standard of the People's Republic of China on "The hazardous substance limitation of PVC floor for interior decoration"
GB 24427-2009	lead contents for alkaline and non-alkaline zinc manganese dioxide batteries"
GB 24428-2009	lead contents for zinc silver oxide, zinc oxygen and zinc manganese dioxide button batteries"
GB/T 26572-2011	National Standard of the People's Republic of China on the "Requirements of concentration limits for certain restricted substances in electrical and electronic products"
KIFS	Swedish National Chemicals Inspectorate's Regulations (Kemikalieninspektionensföreskrifter)
PSC	Schindler Product Steering Committee (PSC) decisions from <i>April 2005</i> (gradually phase-in EU-RoHS compliant supply for new product with experienced suppliers in order to avoid quality problems) and from <i>February 2008</i> (ban of Cr-VI for surface treatments and norm parts in new product developments. For existing products Cr-VI shall be phased-out within major product changes).
REACH	Regulation 1907/2006 of the European Parliament and the Council concerning the Regulation, Evaluation, Authorisation and Restriction of Chemicals
RoHS	Directive of the European Parliament and the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS2" Directive 2011/65/EC).
SFS	Swedish Code of Statutes (Svensk författningssamling)
SJ/T 11363-2006	Concentration Limits for Certain Hazardous Substances in Electronic Information Products"
SOR/2012-285	Canadian Prohibition of Certain Toxic Substances Regulations, 2012
TRGS	German technical rules for hazardous substances (Technische Regeln für Gefahrstoffe)
TSCA	U.S. Toxic Substances Control Act

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