

## Appendix 1 Restricted Substances Level 1 (prohibited substances) r7

No.	material	Reporting Subject	Threshold	Applicable laws and regulations	Usage Example
1	Cadmium/Cadmium Compounds	Everything except the battery	100 ppm	Restricted substances of REACH Regulation No1907/2006 (Annex 17) RoHS Directive 2011/65/EU (including 2015/863); China RoHS; Korea RoHS; Japan J-MOSS; USA/California SB-20/50	Pigments, anti-corrosion surface treatment, electrical and electronic materials, optical materials, stabilizers, plating, pigments for resins, fluorescent lamps, electrodes, solder, electrical contacts, contacts, zinc plating, stabilizers for PVC
		Packaging materials	100 ppm (※1)	EU Packaging Directive 94/62/EC US Packaging Heavy Metal Regulations	
		battery	10 ppm	Swiss Ordinance on Reduction of Risks from Chemical Products; <u>Battery Regulation EU 2023/1542</u>	NiCad battery
2	Hexavalent chromium compounds	all	1000ppm	RoHS Directive 2011/65/EU (including 2015/863); REACH Regulation No1907/2006: Restricted substances (Annex 17); Authorization substances (Annex 14); Candidate list for authorization (Annex 14) China RoHS Korea RoHS; Japan J-MOSS; US/CA SB-20/50	Pigments, paints, inks, catalysts, plating, anti-corrosion surface treatment, dyes, paint drying, paint adhesion enhancement
		Packaging materials	100 ppm (※1)	EU Packaging Directive 94/62/EC US Packaging Heavy Metal Regulations	
3	Lead/Lead Compounds	All except those listed below	1000ppm	RoHS Directive 2011/65/EU (including 2015/863); REACH Regulation No1907/2006: Restricted substances (Annex 17); Authorization substances (Annex 14); Candidate substances for authorization (Annex 14) China RoHS; Korea RoHS; Japan J-MOSS; USA/California SB-20/50	Rubber hardeners, pigments, paints, lubricants, plastic stabilizers, battery materials, free-cutting alloys, free-cutting steels, optical materials, X-ray shielding for CRT glass, electric solder materials, mechanical solder materials, hardeners, vulcanizing agents, ferroelectric materials, resin stabilizers, plating, alloys, resin additives
		Packaging materials	100 ppm (※1)	EU Packaging Directive 94/62/EC US Packaging Heavy Metal Regulations	
		battery	40 ppm	<u>Battery Regulation EU 2023/1542</u>	battery
		Electric wires, cables or cords covered with thermosetting or thermoplastic	300 ppm (※2)	USA/California Proposition 65 Case Law	Covered Wire/Cord

4	Mercury/Mercury Compounds	Everything except the battery	1000ppm	Vermont Law on Comprehensive Management of Mercury Exposure; Rhode Island General Laws 23-24.9 and 2007 Amendments; Louisiana Mercury Risk Reduction Act; Restricted Substances (Annex 17) of REACH Regulation No 1907/2006; RoHS Directive 2011/65/EU (including 2015/863); China RoHS; Korea RoHS; Japan J-MOSS; US/CA SB-20/50	Fluorescent lamps, electrical contact materials, pigments, anti-corrosive agents, switches, highly efficient illuminants, antibacterial treatment
		Packaging materials	100 ppm (※1)	EU Packaging Directive 94/62/EC US Packaging Heavy Metal Regulations	
		battery	1 ppm	New York State: Battery Reduction and Removal New York State Environmental Conservation Law § 27-0719; Taiwan Regulations on the Manufacture, Import, and Sale of Dry Cell Batteries; China QZHG 1997 No. 4: Regulations on Limiting Mercury Content in Batteries; South Korea: Act on Quality Control and Safety Management of Industrial Products: Battery Regulation	Batteries (button batteries: 2% or less)
5	nickel	For all prolonged skin contact	Intentionally added	Restricted substances of REACH Regulation No1907/2006 (Annex 17)	Stainless steel, plated; prolonged skin contact applications: headphones
6	Tributyltin oxide (TBTO)	all	Intentionally added and 1000 ppm	Chemical Substances Control Law (Chemical Substances Control Law), REACH Regulation No1907/2006 - Candidate substances for authorization (Annex 14)	Preservatives, antifungal agents, paints, pigments, anti-staining agents, refrigerants, foaming agents, fire extinguishing agents, cleaning agents
7	Beryllium oxide (BeO)	all	(Monitoring)	DIGITALEUROPE3/CECED/Ae A4/EERA Guidance	Ceramics
8	Dibutyltin compounds (DBT)	all	Less than 1000ppm (tin equivalent)	Restricted substances of REACH Regulation No1907/2006 (Annex 17)	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
9	Diocetyl tin compounds (DOT)	(a) Textile and leather articles intended to come into contact with the skin; (b) Childcare articles; (c) Two-component room temperature	Less than 1000ppm (tin equivalent)	Restricted substances of REACH Regulation No1907/2006 (Annex 17)	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
10	Tri-substituted organotin compounds	all	Intentionally added and 1000 ppm	Chemical Substances Control Law (Chemical Substances Control Law) REACH Regulation No1907/2006 - Restricted substances (Annex 17)	Stabilizers, antioxidants, antibacterial and antifungal agents, antifouling agents, preservatives, antifungal agents, paints, pigments, anti-
11	Polybrominated biphenyls (PBBs)	all	1000ppm	RoHS Directive 2011/65/EU (including 2015/863); China RoHS; Korea RoHS; Japan J-MOSS REACH Regulation No1907/2006 - Restricted substances (Annex 17)	Flame retardants
12	Polybrominated diphenyl ethers (PBDEs)	all	1000ppm	RoHS Directive 2011/65/EU (including 2015/863); China RoHS; Korea RoHS; Japan J-MOSS	Flame retardants

13	Polychlorinated biphenyls (PCBs) and specific substitutes	all	Intentionally added	Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (KASHO); Annex 17 of REACH Regulation; US TSCA.	Insulating oils, lubricants, electrical insulation, solvents, electrolytes; plasticizers, fire retardants, coatings for wire and cable, dielectric sealants
14	Polychlorinated naphthalenes (3 or more chlorine atoms)	all	Intentionally added	Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (Chemical Substances Control Law)	Lubricants, paints, stabilizers (electrical properties, flame resistance, water resistance), insulating materials, flame retardants
15	Polyvinyl chloride (PVC)	all	(Monitoring)	IEEE1680 (EPEAT: Electronic Product Environmental Assessment Tool)	Insulation material, chemical resistance, transparency, sheath material
16	Brominated flame retardants (excluding PBBs, PBDEs, and HBCDD)	Plastic parts weighing more than 25 grams, except those contained in a printed wiring	(Monitoring)	DIGITALEUROPE(3)/CECED/AeA(4)/EERA Guidance	Flame retardants, housings, connectors, package molding sealing
17	Brominated flame retardants (excluding PBBs, PBDEs, and HBCDD)	Laminated printed wiring board	(Monitoring)	IPC-4101 and IEC 61249-2-21	Laminated printed wiring board
18	Short Chain Chlorinated Paraffins (C10 – C13)	all	Intentionally added and 1000 ppm	Norwegian Product Regulation FOR-2004-06-01-922; Swiss Ordinance on Reduction of Risk from Chemical Products REACH Regulation No1907/2006: Restricted substances (Annex 17) Candidate substances for authorization (Annex 16)	PVC plasticizers, flame retardants
19	Fluorinated greenhouse gases (PFC, SF6, HFC)	all	Intentionally added	EU Regulation No 517/2014;	Refrigerants, spraying agents, fire extinguishing agents, cleaning agents, insulating materials, caustic gases
20	Hexabromocyclododecane (HBCDD) and all major diastereoisomers	all	Intentionally added	REACH Regulation No1907/2006: Substances subject to authorization (Annex 14) Candidate substances for authorization (Annex 14)	A flame retardant used primarily in expanded polystyrene and some textiles
21	Perchlorate	all	0.006 ppm	California DTSC Rule Setting	Coin Cell Batteries
22	Perfluorooctane sulfonates (PFOS)	all	Intentionally added and 1000 ppm	REACH Regulation No1907/2006 Restricted Substances (Annex 17) of No1907/2006 and European Commission Regulation (EC) No552/2009; Canadian Environmental Protection Act SOR/SOR/2008-178 POPs Treaty Act on the Examination and	Antistatic agent for films and plastics
23	Perfluorooctanoic acid (PFOA) and its salts and PFOA-related substances	all	Intentionally added	Norway Regulation POPs Treaty (COP9) Act on the Examination and Regulation of Manufacture, etc. of Chemical Substances (Chemical Substances Control Law)	Surfactants
24	Perfluorohexane sulfonic acid (PFHxS) and its salts and related substances	all	Intentionally added	POPs Treaty (COP10) Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (Chemical Substances Control Law)	Foam fire extinguishing agents, metal plating, textiles, leather products and interior decorations, abrasives and cleaning agents, coatings, impregnation/reinforcing agents, electronic equipment and semiconductor manufacturing, etc.

25	Polychlorinated terphenyls (PCTs)	all	50 ppm	Chemical Substances Control Law (KAGAKUHO); Restricted substances (Annex 17) of REACH Regulation No1907/2006; US TSCA.	Insulating oils, lubricants, electrical insulation materials, solvents, electrolytes; plasticizers, fire retardants, <del>coatings for wire and cable</del>
26	Asbestos	all	Intentionally added	REACH Regulation No1907/2006 - Restricted substances (Annex 17) US TSCA; Swiss Ordinance on Reduction of Risks from Chemical Products	Brake lining pads, insulators, fillers, abrasives, pigments, paints, talc, heat insulation materials
27	Azo dyes and pigments which form certain aromatic amines	Textiles and Leather	30 ppm	REACH Regulation No1907/2006: Restricted substances (Annex 17) Authorization substances (Annex 14) Candidate substances for authorization (Annex 14)	Pigments, dyes, colorants
28	Ozone-depleting substances	all	Intentionally added	Montreal Protocol, EC 1005/2009, US Clean Air Act	Refrigerants, foaming agents, fire extinguishing agents, cleaning agents
29	Radioactive materials	all	Intentionally added	EU-D 96/29/Euratom; Japan Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors, 1986; US NRC	Optical properties (thorium), measuring equipment, gauges, detectors
30	Formaldehyde	Composite wood products (plywood, particle board, MDF) or parts	Intentionally added	USA/California CARB Regulations	Stereo cabinets, kiosk enclosures
31	2-(2H-1,2,3-benzotriazol-2-yl)-4,6-di-tert-butylphenol (UV-320)	all	Intentionally added	Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (Chemical Substances Control Law)	Adhesives, paints, printing inks, plastics, ink ribbons, putty, caulking or sealing fillers
32	Dimethyl fumarate 1	all	0.1 ppm	Restricted substances of REACH Regulation No1907/2006 (Annex 17)	Anti-mold treatment for electronic leather seats including insecticides, recliners <del>and massage chairs</del>
33	Bis(2-ethylhexyl) phthalate (DEHP)	all	1000ppm	Candidate substances for authorization under REACH Regulation No1907/2006 (Annex 14)	Plasticizers, dyes, pigments, paints, inks, adhesives, lubricants
34	Dibutyl phthalate (DBP)	all	1000ppm	Candidate substances for authorization under REACH Regulation No1907/2006 (Annex 14)	Plasticizers, dyes, pigments, paints, inks, adhesives, lubricants
35	Butyl benzyl phthalate (BBP)	all	1000ppm	Candidate substances for authorization under REACH Regulation No1907/2006 (Annex 14)	Plasticizers for polysulfide resins, sealing agents, caulking agents, sealants, etc.
36	Diisobutyl phthalate (DIBP)	all	1000ppm	Candidate substances for authorization under REACH Regulation No1907/2006 (Annex 14)	Brominated flame retardants
37	Tris(isopropylphenyl)phosphate (PIP) (3:1)	all	Intentionally added	USA TSCA.(PBT substance) GADSL D	Flame retardant plasticizers for PVC products, adhesives, <del>paints, inks, etc.</del>
38	Pentachlorothiophenol: PCTP	all	Intentionally added	US TSCA. (PBT substances)	Organic rubber chemicals (meptizers)
39	Decabromodiphenyl ether: DecaBDE	all	Intentionally added	US TSCA (PBT substances) Law concerning the examination and regulation of the manufacture, etc.	Resin-based flame retardant additive
40	2,4,6-Tri-tert-butylphenol: 2,4,6-TTBP	all	Intentionally added	US TSCA (PBT substances) Law concerning the examination and regulation of the manufacture, etc. of chemical substances (Chemical	Antioxidants
41	Hexachlorobuta-1,3-diene: HCBd	all	Intentionally added	US TSCA (PBT substances) Law concerning the examination and regulation of the manufacture, etc.	solvent

42	Dechlorane Plus	all	Intentionally added	POPs Treaty (COP11) Law Concerning the Examination and Regulation of Manufacture, etc. of	Silicone rubber, lubricants, adhesives, tapes, flame retardants for cables, etc.
43	UV-328	all	Intentionally added	POPs Treaty (COP11) Law Concerning the Examination and Regulation of Manufacture, etc. of	Paints and varnishes, lubricants, adhesives, fillers for tapes and sealants, UV absorbers for
44	Methoxychlor	all	Intentionally added	POPs Treaty (COP11) Law Concerning the Examination and Regulation of Manufacture, etc. of	Insecticides

Note:

\*1: According to the EU Packaging Directive 94/62/EC, the total weight of the four target substance groups must not exceed 100 ppm.

\*2: In accordance with Proposition 65, the content of electrical wires, cables, or cords coated with thermosetting or thermoplastic resins must not exceed 300 ppm in the surface coating.

\*3: Azo dyes and pigments that form specific amines, and are limited to applications that come into direct and prolonged contact with the skin. Specific amines are the following 22 aromatic amine compounds.

No.	Specific amines	CAS Number
1	4,4'-Methylenedianiline	101-77-9
2	4,4'-Diaminodiphenyl ether	101-80-4
3	Benzidine	92-87-5
4	4,4'-Diamino-3,3'-dimethyldiphenylmethane	838-88-0
5	2,4-Toluenediamine	95-80-7
6	2,4-Diaminoanisole	615-05-4
7	4,4'-Diaminodiphenyl sulfide	139-65-1
8	3,3'-Dimethylbenzidine	119-93-7
9	3,3'-Dimethoxybenzidine	119-90-4
10	o-Toluidine	95-53-4
11	o-Anisidine	90-04-0
12	p-Chloroaniline	106-47-8
13	2-Methoxy-5-methylaniline	120-71-8
14	2-Naphthylamine	91-59-8

15	2,4,5-Trimethylaniline	137-17-7
16	4-Chloro-2-methylaniline	95-69-2
17	3,3'-Dichloro-4,4'-diaminodiphenylmethane	101-14-4
18	4-Aminoazobenzene	22162
19	3,3'-Dichlorobenzidine	91-94-1
20	o-Aminoazotoluene	97-56-3
21	5-Nitro-o-toluidine	99-55-8
22	4-Aminobiphenyl	92-67-1

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