

List of hazardous substances to be avoided or declared

(as of: July 2013 – status: frozen; for current company policy refer to page 6)

Code	Substance/substance group	CAS No.	Typical applications	Limit value (% w/w)	Reference of the limit value
Electrical and electronic components; metal, glass and ceramic parts					
100	Arsenic Arsenic compounds	7440-38-2	Lead and copper alloys, metal adhesives, soft solders, glasses, semi-conductors	0.1	Application
200	Beryllium Beryllium compounds	7440-41-7	Contact and spring materials, copper alloys, high-temperature materials, ceramics, glasses	0.1	Application
300	Lead Lead compounds	7439-92-1	Solders, hybrid circuits, ceramics, glasses	0.1	Homogeneous material
400	Cadmium Cadmium compounds	7440-43-9	Contact coatings, hard and soft solders, glasses	0.01	Homogeneous material
450	Cadmium oxide	1306-19-0	Power switching contacts and relays, photoelectric components	0.1	Article
500	Chromium (VI) compounds		Anti-corrosion coatings	0.1	Homogeneous material
600	Mercury Mercury compounds	7439-97-6	Discharge lamps, relays, switches	0.1	Homogeneous material
700	Polybrominated biphenyls (PBBs)		Flame-protected plastics in components and printed circuit boards	0.1	Homogeneous material
800	Polybrominated diphenylethers (PBDEs), in particular - Pentabromodiphenylether (PentaBDE) - Octabromodiphenylether (OctaBDE) - Decabromodiphenylether (DecaBDE)	32534-81-9 32536-52-0 1163-19-5	Flame-protected plastics in components and printed circuit boards	0.1	Homogeneous material
810	N,N-dimethylformamide	68-12-2	Electrolytic capacitors	0.1	Article
820	Lead titanium trioxide	12060-00-3	Ultrasound transducers, ceramic capacitors, actuators	0.1	Article
830	Lead titanium zirconium oxide	12626-81-2	Ultrasound transducers, ceramic capacitors, actuators	0.1	Article
840	Silicic acid (H ₂ SiO ₅), barium salt (1:1), lead-doped	68784-75-8	Incandescent UV lamps (black light lamps)	0.1	Article
900	Radioactive substances		Measuring devices, dischargers	Intentionally added	Application
Plastics and rubber parts, wire insulation, coats of lacquer					
700	Polybrominated biphenyls (PBBs)		Flame-protected plastics	0.1	Homogeneous material
800	Polybrominated diphenylethers (PBDEs), in particular - Pentabromodiphenylether (PentaBDE) - Octabromodiphenylether (OctaBDE) - Decabromodiphenylether (DecaBDE)	32534-81-9 32536-52-0 1163-19-5	Flame-protected plastics	0.1	Homogeneous material
1000	Hexabromocyclododecane (HBCCD), including all major diastereoisomers: - Alpha-HBCCD - Beta-HBCCD - Gamma-HBCCD	25637-99-4 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)	Flame-protected plastics	0.1	Article

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1100	Other brominated flame retardants than PBBs, PBDEs and HBCCD		Flame-protected plastics	0.1	Application
1200	Antimony trioxide	1309-64-4	Flame-protected plastics containing brominated flame retardants, laser-writable plastics	0.1	Application
1300	Dibutyl phthalate (DBP)	84-74-2	Plasticized plastics, particularly PVC	0.1	Article
1400	Diisobutyl phthalate (DIBP)	84-69-5	Plasticized plastics, particularly PVC	0.1	Article
1410	Diisopentyl phthalate	605-50-5	Plasticized plastics, particularly PVC	0.1	Article
1420	N-pentyl-isopentylphthalate	776297-69-9	Plasticized plastics, particularly PVC	0.1	Article
1430	Dipentyl phthalate (DPP)	131-18-0	Plasticized plastics, particularly PVC	0.1	Article
1500	Bis(2-ethylhexyl)phthalate (diethylhexylphthalate, DEHP)	117-81-7	Plasticized plastics, particularly PVC	0.1	Article
1600	Benzyl butyl phthalate (BBP)	85-68-7	Plasticized plastics, particularly PVC	0.1	Article
1610	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (di[heptyl, nonyl, undecyl] phthalate, DHNUP)	68515-42-4	Plasticized plastics, particularly PVC	0.1	Article
1620	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (diisoheptyl phthalate, DIHP)	71888-89-6	Plasticized plastics, particularly PVC	0.1	Article
1630	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Plasticized plastics, particularly PVC	0.1	Article
1650	Bis(2-methoxyethyl)phthalate	117-82-8	Plasticized plastics, particularly PVC	0.1	Article
1700	Short-chain chlorinated paraffins (C ₁₀ -C ₁₃) Other chlorinated paraffins		Plasticized and flame-protected plastics, rubber and sealing compounds	0.1	Article
1800	Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	Plasticized and flame-protected plastics, flame-protected paints and varnishes	0.1	Article
1900	Polycyclic aromatic hydrocarbons (PAHs, creosote)		Plasticized or dyed plastics, rubber-like materials	0.02	Application
1910	Pentadecafluorooctanoic acid (PFOA)	335-67-1	Fluoropolymers such as PVDF and fluorinated rubbers	0.1	Article
1920	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	Fluoropolymers such as PVDF and fluorinated rubbers	0.1	Article
1930	4-Nonylphenol, branched and linear, ethoxylated		Specialist coatings based on acrylic esters and specialist paints based on polyvinyl acetates (PVA)	0.1	Article
Dyed or stabilized plastics, coats of lacquer, enamels and related materials					
2000	Lead chromate	7758-97-6	Pigmented paints and varnishes, anti-corrosion coatings	0.1	Article
2100	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8	Pigmented plastics and paints	0.1	Article

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2200	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Pigmented plastics and paints	0.1	Article
2205	Lead tetroxide (orange lead)	1314-41-6	Pigmented anti-corrosion paints	0.1	Article
2210	Lead cyanamidate	20837-86-9	Pigmented anti-corrosion paints	0.1	Article
2215	Pyrochlore, antimony lead yellow	8012-00-8	Pigmented plastics and paints	0.1	Article
2220	Lead oxide sulfate	12036-76-9	Stabilized plastics (in particular PVC)	0.1	Article
2225	Tetralead trioxide sulfate	12202-17-4	Stabilized plastics (in particular PVC)	0.1	Article
2230	Pentalead tetraoxide sulfate	12065-90-6	Stabilized plastics (in particular PVC)	0.1	Article
2235	Sulfurous acid, lead salt, dibasic	62229-08-7	Stabilized plastics (in particular PVC)	0.1	Article
2240	Lead dinitrate	10099-74-8	Stabilized plastics (in particular polyamide and polyesters)	0.1	Article
2245	Trilead dioxide phosphonate	12141-20-7	Stabilized plastics (in particular PVC)	0.1	Article
2250	[Phthalato(2-)]dioxotrilead	69011-06-9	Stabilized plastics (in particular PVC)	0.1	Article
2255	Dioxobis(stearato)trilead	12578-12-0	Stabilized plastics (in particular PVC)	0.1	Article
2260	Fatty acids, C16-18, lead salts	91031-62-8	Stabilized plastics (in particular PVC)	0.1	Article
300	Other Lead compounds		Pigmented plastics and other materials, stabilized plastics (in particular PVC)	0.1	Homogeneous material
400	Cadmium compounds		Pigmented plastics and other materials, stabilized plastics (in particular PVC)	0.01	Homogeneous material
500	Chromium (VI) compounds		Pigmented plastics and other materials	0.1	Homogeneous material
2300	Azo colourants and azo dyes which can form carcinogenic aromatic amines		Dyed plastics, textiles and leather articles	0.1	Application
2310	4-Aminoazobenzene (aniline yellow)	60-09-3	Dyed lacquers, varnishes and styrene resins	0.1	Article
2340	Dibutyltin dichloride (DBTC)	683-18-1	Stabilized plastics (in particular PVC)	0.1	Article
2350	Bis(tributyltin)oxide	56-35-9	Antifouling paints for ships and cooling towers	0.1	Article
Insulating materials					
2400	Asbestos	1332-21-4	Insulating materials in buildings, industrial systems and appliances	0.1	Application
2500 *)	Man-made vitreous (silicate) fibres with random orientation with oxides of sodium, potassium, calcium, magnesium and barium content > 18 % by mass		Insulating materials in buildings, industrial systems and appliances	0.1	Application
2600	Aluminosilicate, refractory ceramic fibres		High-temperature insulating materials in buildings, industrial systems and appliances	0.1	Article
2700	Zirconia aluminosilicate, refractory ceramic fibres		High-temperature insulating materials in buildings, industrial systems and appliances	0.1	Article

Code	Substance/substance group	CAS No.	Typical applications	Limit value (% w/w)	Reference of the limit value
Other materials (e.g. wood)					
2750	Acrylamide	79-06-1	Grouting	0.1	Application
100	Arsenic compounds		Biocide-treated wood	0.1	Application
2800	Formaldehyde	50-00-0	Wooden materials	0.1 ml/m ³	Application
2900	Pentachlorophenol (PCP) Pentachlorophenol, sodium salt Other PCP salts and compounds	87-86-5 131-52-2	Fungicide-treated wood, textiles and leather articles	0.0005	Application
2350	Bis(tributyltin)oxide	56-35-9	Fungicide-treated wood, textiles and leather articles	0.1	Article
Batteries					
2920	Cadmium	7440-43-9		0.0005	Battery
2930	Mercury	7439-97-6		0.0001	Battery
2940	Lead	7439-92-1		0.004	Battery
2950	Bis(2methoxyethyl)ether	111-96-6	Elektrolytes in lithium batteries, solvent in printing inks and sealants	0.1	Article
2960	1,2-Dimethoxyethane (ethylene glycol dimethyl ether, EGDME)	110-71-4	Electrolytes in lithium batteries, solvent in printing inks and sealants	0.1	Article
2970	1,2-Bis(2-methoxyethoxy)ethane (TEGDME, triglyme)	112-49-2	Electrolytes in lithium batteries, solvent in printing inks and sealants	0.1	Article
2980	1,2-Diethoxyethane	629-14-1	Electrolytes in lithium batteries	0.1	Article
Coolants, insulating gases and liquids, fire extinguishing agents					
3000	CFCs and halons		Aerosols, coolants, fire extinguishing agents, insulating foams	1.0	Application
3100	HCFCs		Coolants	1.0	Application
3200	FCs		Coolants, fire extinguishing agents	1.0	Application
3300	HFCs		Coolants, insulating foams	1.0	Application
3400	HBrFCs (C ₁ bis C ₃)		Fire extinguishing agents	1.0	Application
3500	Sulfur hexafluoride (SF ₆)	2551-62-4	Insulating and quenching gas in electrotechnical systems, appliances and components	0.1	Application
3600	Polychlorinated biphenyls (PCBs) Polychlorinated terphenyls (PCTs) Polychlorinated naphthalenes (PCNs)		Insulating agents in transformers, hydraulic fluids, heat transmission fluids	0.005	Application
3700	Perfluorooctane sulfonic acid and its metal salts, halides, amides, and other derivatives including polymers (perfluorooctane sulfonates, PFOS)		Fire-fighting foams	0.1	Application

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Packaging					
3800	Cobalt(II) chloride	7646-79-9	Blue silica gel in desiccant bags (package insert)	0.1	Article
3900	Boric acid	10043-35-3 11113-50-1	Flame retardant in wood, paper, cotton and other plant-derived materials	0.1	Article
3950	Diboron trioxide	1303-86-2	Flame retardant in wood, paper, cotton and other plant-derived materials	0.1	Article
4000	Disodium tetraborate, anhydrous	1330-43-4	Flame retardant in wood, paper, cotton and other plant-derived materials	0.1	Article
4100	Tetraboron disodium heptaoxide, hydrate	12267-73-1	Flame retardant in wood, paper, cotton and other plant-derived materials	0.1	Article
4200	Lead, cadmium, hexavalent chromium, mercury		Packaging and packaging components	0.01 (total)	Application

*) This substance group comprises fibrous substances that are carcinogenic due to their fibre dimensions and biological persistency. In this group are rock wools, ceramic fibres and polycrystalline fibres made of aluminum oxide, silicon carbide or potassium titanates. Fibre glasses (e.g. in glass-fibre reinforced plastics) are not in this group.

Explanatory notes:

Reference of the limit value:

- “Application” means that the limit value of the substance refers to the material or part where this substance is contained to achieve an intended functionality, as exemplarily given by the typical applications.
- “Article” means that the limit value refers to the supplied article (device, component or product part) as a whole.
- “Homogeneous material” is defined as material that cannot be mechanically disjointed into different materials. The term "homogeneous" means "of uniform composition throughout". Examples of homogeneous materials are individual types of plastics, ceramics, glass, metals, alloys, resins and coatings.

Compared to the last edition of the declaration list (December 2012) the following substances from the REACH Candidate List are added:

450	Cadmium oxide
1430	Dipentyl phthalate (DPP)
1910	Pentadecafluorooctanoic acid (PFOA)
1920	Ammonium pentadecafluorooctanate (APFO)
1930	4-Nonylphenol, branched and linear, ethoxylated

Additionally, the world-wide lowest reporting thresholds for cadmium, mercury and lead in batteries were included.

List of Declarable Substances (LDS)

For Unify the List of Declarable Substances (LDS) is defined in the current

[BOMcheck List of Restricted and Declarable Substances for Electrical and Mechanical Products](#)

as defined by BOMCheck (<https://www.bomcheck.net/en>) and accessible under:
<https://www.bomcheck.net/en/suppliers/restricted-and-declarable-substances-list>

Note: triggered by the publishing of the REACH candidate list the LDS will receive an actualization two times a year.