

ABB List of Prohibited and Restricted Substances, ver. 1.5.

This document is valid as of 2015-01-05

The objective with ABB List of Prohibited and Restricted Substances is to achieve compliance with legislation. This document provides information of “Prohibited substances” – substances which must no longer be used; “Restricted substances” - substances which use should be limited within ABB. The scope for this list is goods supplied to ABB, product development, production processes, products, packaging materials, service activities and construction sites.

Principles

The purpose of this list is to comply with legislation to avoid chemicals, materials and substances that: may represent hazards to the environment or the health of workers, customers, consumers and other stakeholders or could negatively influence end-of-life properties, or might cause other concerns.

How to read this list

Substance name

Name of chemical elements, chemical compounds, substance or materials may be commercial or chemical.

CAS-no.

CAS Registry Numbers are unique numerical identifiers assigned by the Chemical Abstracts Service to every chemical described in the open scientific literature (currently including those described from at least 1957 through the present) and including elements, isotopes, organic and inorganic compounds, ions, organometallics, metals, non-structural materials.

Risk

The reason for a chemical, substance or material to be on this list, is its inherent properties that makes it hazardous for humans or for the environment.

ABB classification

Classification of chemical if P – Prohibited or R-Restricted regarding limitation of use. Note that a chemical may be Restricted in certain applications and Prohibited in others.

Threshold value

If nothing else stated a threshold value of 0.1% w/w (weight/weight) applies. Sunset date corresponds to a date after which use of that substance in the EU must stop i.e. the chemical is prohibited.

For suppliers: If products brought in to ABB include any of these substances, regardless of concentration, this shall be declared to ABB, following the procedure described in “Guide for Suppliers to the ABB List of Prohibited and Restricted Substance”.

Legislation

Reference to legislation gives further information on the substance, regulated applications, exceptions and threshold values. Full list of references are found after the table.

Example of applications

Example of applications where a specific chemical, substance or material is used.

This document contains substances relevant to ABB. The document is reviewed and updated twice per year, in January and August mainly based on the update of REACH Candidate list in December and June. Legislation changed after publication shall always be considered.

Prohibited substances must not be used as described by legislation within ABB nor in products manufactured or sold by ABB. Restricted substances are in general allowed in concentrations below 0.1% w/w, exceptions to this rule are listed below. Active work should be performed to find less hazardous alternatives which could be introduced as soon as it is technically and economically possible.

The concentration of a chemical, substance or material shall be calculated for the product, or assembled products also for all subcomponents that might be sold as spare parts.

Comments

Additional comments regarding the substance, i.e. if covered by REACH, RoHS or IEC list.

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
1-methyl-2-pyrrolidone	872-50-4	Toxic for reproduction		R		EC 1907/2006/C CAN NPRI 2010 US 40 CFR Ch	Solvent in paint, varnish, cleaning agents, pesticides etc.	REACH
1,1,1-trichloroethane	71-55-6	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN Tox. Subs US 40 CFR Ch	E.g. degreasing	IEC62474
1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113)	76-13-1	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN Tox. Subs. US 40 CFR Ch	E.g. cooling agent	IEC62474
1,1,2-trichloroethene (Trichloroethylene)	79-01-6	Carcinogenic	P		EU: sunset date 21/04/2016	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	Solvent, cleaning agent	REACH
1,1-dichloro-1-fluoroethane (HCFC-141b)	1717-00-6	Substance that deplete the ozone layer		R		CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN Tox. Subs. US 40 CFR Ch	Cooling agents, blowing agent PUR foam	IEC62474
1,2,3,4,5,6-hexachlorocyclohexane (lindane)	58-89-9	Acute toxicity; Hazardous to the environment; Serious health hazard	P		P in all applications. CH: P in all applications. Limit value: 0.001% w/w of total halogenated biphenyls in lubrication oils and greases manufactured from waste oils.	CH SR 814.81 A1 FR ECA R521-4 to 42 EC 850/2004 US 40 CFR Ch 2001/852/EC	E.g. insecticide	

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
1,2,3-Trichloropropane	96-18-4	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII US 40 CFR Ch. (7-1-10 Edition) #372,65(a)	Painter mediate and varnish remover, solvent, degreasing agent	REACH
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Used in PVC products	REACH, IEC62474
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Used in PVC products	REACH, IEC62474
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	Toxic for reproduction		R		EC 1907/2006/C	In plastic articles	REACH
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Toxic for reproduction		R		EC 1907/2006/C	Explosives, phlegmatizer	REACH, IEC62474
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	Toxic for reproduction		R		EC 1907/2006/C	Solvents and help-chemicals in the manufacture of industrial chemicals. Various petroleum products for motor vehicles	REACH, IEC62474
1,2-dibromo-1,1,2,2-tetrafluoroethane (Halon-2402)	124-73-2	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN Tox. Subs. US 40 CFR Ch	E.g. fire extinguisher	IEC62474
1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114)	76-14-2	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	E.g. cooling agent	IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
1,2-dichloroethane	107-06-2	Carcinogenic	P		EU: sunset date 22/11/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	Solvent	REACH
1,2-diethoxyethane	629-14-1	Toxic for reproduction		R		EC 1907/2006/C		REACH, IEC62474
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	Toxic for reproduction		R		EC 1907/2006/C	Solvents and help-chemicals in the manufacture of industrial chemicals. As electrolyte in lithium batteries.	REACH, IEC62474
1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (TGIC) Triglycidylisocyanurate (TGIC)	2451-62-9	Mutagenic		R		EC 1907/2006/C	Curing-agent. Coating and laminating, printing ink, screen printing. Powder paints	REACH
1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]- 1,3,5-triazine-2,4,6-(1H, 3H, 5H)-trione) (β-TGIC)	59653-74-6	Mutagenic		R		EC 1907/2006/C	Metal products such as tools. Plastic Goods (softener)	REACH
1-bromopropane (n-propyl bromide)	106-94-5	Toxic for reproduction		R		EC 1907/2006/C	Solvent	REACH, IEC62474
1-Chloro-1,1,2,2,2-pentafluoroethane (CFC-115)	76-15-3	Substance that deplete the ozone layer	P			EC 2037/2000 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	E.g. cooling agent	IEC62474
1-chloro-1,1-difluoroethane (HCFC-142b)	75-68-3	Substance that deplete the ozone layer		R		CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN NPRI 2010 US 40 CFR Ch	Cooling agents, blowing agent PUR foam	IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	PBT; vPvB		R		EC 1907/2006/C	UV-absorbers, especially for transparent plastic materials. UV-protection agents in coatings especially for cars and special industrial wood coatings. UV-protection agents for plastics, rubber and polyurethanes.	REACH
2,4-dinitrotoluene	121-14-2	Carcinogenic	P		EU: sunset date 21/08/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 US 40 CFR Ch	Explosives	REACH
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	PBT; vPvB		R		EC 1907/2006/C; Japan (Law Concerning the Examination and Regulation of Manufacture)	UV-absorbers, especially for transparent plastic materials. UV-protection agents in coatings especially for cars and special industrial wood coatings. UV-protection agents for plastics, rubber and polyurethanes.	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
2-ethoxyethanol	110-80-5	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010 US 40 CFR Ch	Solvent in paint	REACH
2-ethoxyethyl acetate	111-15-9	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010	Solvent in paint and varnish	REACH
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Toxic for reproduction		R		EC 1907/2006/C	Might be used as heat stabilizer in plastic (mainly PVC processing)	REACH
2-Methoxyaniline; o-Anisidine	90-04-0	Carcinogenic		R		EC 1907/2006/C EC 1907/2006/XVII	Mainly used in the manufacture of dyes for tattooing and coloration of paper, polymers and aluminum foil.	REACH, IEC62474
2-methoxyethanol	109-86-4	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	Solvent in paint	REACH
2-methoxyethyl acetate	110-49-6	Toxic for reproduction		R		EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Paints, lacquers	REACH
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	Toxic for reproduction		R		EC 1907/2006/C		REACH
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	Equivalent level of concern having probable serious effects to the environment		R	In Switzerland P in certain applications.	EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010	Used in varnish and paint and for surface treatment and may occur in products of plastics and rubber	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues)	No data	Equivalent level of concern having probable serious effects to the environment		R		EC 1907/2006/C		REACH
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol, with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	561-41-1	Carcinogenic		R		EC 1907/2006/C	Manufacture of ink and paint. Staining of different materials.	REACH
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	Carcinogenic		R		EC 1907/2006/C	Dyeing of paper, ink in cartridges and pens, plant dyeing. Laboratory Chemicals, Paper Goods.	REACH
4,4'-diaminodiphenylmethane (MDA)	101-77-9	Carcinogenic	P		EU: sunset date 21/08/2014	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII	Hardener for plastics and adhesives	REACH, IEC62474
4,4'-methylenebis[2-chloroaniline]	101-14-4	Carcinogenic	P		EU: sunset date 22/11/2017	EC 1907/2006/C EC 1907/2006/XIV	Hardener in resins and polymers	REACH, IEC62474
4,4'-methylenedi-o-toluidine	838-88-0	Carcinogenic		R		EC 1907/2006/C	An intermediate to paint, textiles	REACH, IEC62474
4,4'-oxydianiline and its salts	101-80-4	Carcinogenic; Mutagenic		R		EC 1907/2006/C	Intermediate	REACH, IEC62474
4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	2580-56-5	Carcinogenic		R		EC 1907/2006/C	Ink, paint, detergents. Dyeing of paper, packaging textiles and plastic products. Paper products, packaging materials, textiles and	REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							plastics.	
4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) with \geq 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	548-62-9	Carcinogenic		R		EC 1907/2006/C	Dyeing of paper, ink used in cartridges and ballpoint pens, plant dyeing. Laboratory chemicals, paper goods.	REACH, IEC62474
4-Aminoazobenzene	60-09-3	Carcinogenic		R		EC 1907/2006/C	Textile	REACH, IEC62474
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	Carcinogenic		R		EC 1907/2006/C	Textile, Intermediate for the production of toluene diisocyanate and dyes	REACH, IEC62474
4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	Several See note 1 in "Notes"	Equivalent level of concern having probable serious effects to the environment		R		EC 1907/2006/C	Cleaning agent	REACH
4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	Several See note 2 in "Notes"	Equivalent level of concern having probable serious effects to the environment		R		EC 1907/2006/C	Cleaning agent	REACH
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	vPvB	P		EU: sunset date 21/08/2014	EC 1907/2006/C EC 1907/2006/XIV	Used in rinsing agents, detergents and metal polish	REACH
6-methoxy-m-toluidine (p-cresidine)	120-71-8	Carcinogenic		R		EC 1907/2006/C	Used in the	REACH,

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							production of various azo dyes	IEC62474
Acetic acid, lead salt, basic	51404-69-4	Toxic for reproduction		R		EC 1907/2006/C	Coatings, paints, laboratory chemicals	REACH
Acids generated from chromium trioxide and their oligomers. Group containing: Chromic acid, Dichromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid	7738-94-5, 13530-68-2	Carcinogenic; Mutagenic; Toxic for reproduction	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV	Wood preservatives. Surface treatment of metals.	REACH
Acrylamide	79-06-1	Carcinogenic; Mutagenic		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	Plastic packaging.	REACH
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	PBT; vPvB		R	In Switzerland P in paints and varnishes, sealants, plastics and rubbers, and textiles. Limit value: 1% w/w	EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010	Used as flame retardants. Occurs in paints and sealants, coolant and lubricants, in articles of plastics and rubber, cutting oils and cutting fluids.	REACH, IEC62474
Alkanes, C14-17, chloro (Chlorinated Paraffins)	85535-85-9	PBT		R		1999/721/EC EC 1907/2006	Cutting oil, lubricant Plasticizer	REACH
Aluminosilicate Refractory Ceramic Fibres		Carcinogenic		R		EC 1907/2006/C CAN Tox. Subs.	Insulation materials for industrial use. Fire protection in industrial equipment.	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Ammonium dichromate	7789-09-5	Carcinogenic; Mutagenic; Toxic for reproduction	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Used for surface coating	REACH
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	Toxic for reproduction		R		EC 1907/2006/C	Processing aid in the production of fluoropolymers	REACH, IEC62474
Anthracene	120-12-7	PBT		R		EC 1907/2006/C CAN NPRI 2010 US 40 CFR Ch	Available in pyrotechnics and in paints and waterproof coatings.	REACH
Anthracene oil	90640-80-5	Carcinogenic; PBT; vPvB		R		EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A2	Used in manufacture of anthracene and carbon black.	REACH
Anthracene oil, anthracene paste	90640-81-6	Carcinogenic; PBT; vPvB		R		EC 1907/2006/C EC 1907/2006/XVII	Used in manufacture of anthracene and carbon black.	REACH
Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	Carcinogenic; PBT; vPvB		R		EC 1907/2006/C EC 1907/2006/XVII	Used in manufacture of anthracene and carbon black.	REACH
Anthracene oil, anthracene paste, distr. lights	91995-17-4	Carcinogenic; PBT; vPvB		R		EC 1907/2006/C EC 1907/2006/XVII	Used in manufacture of anthracene and carbon black.	REACH
Anthracene oil, anthracene-low	90640-82-7	Carcinogenic; PBT; vPvB		R		EC 1907/2006/C EC 1907/2006/XVII	Used in manufacture of anthracene and carbon black.	REACH
Arsenic acid	7778-39-4	Carcinogenic	P		EU: sunset date 22/08/2017	EC 1907/2006/C EC 1907/2006/XIV	Mainly used to remove gas bubbles from	REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							ceramic glass melt and in the production of laminated printed circuit boards	
Arsenic and arsenic compounds	7440-38-2 (As)	Toxic to aquatic organisms; May cause long-term adverse effects in the aquatic environment		R	Germany: P in treatment of water and in wood-based materials. CH: P in wood-based materials. Limit value: 0,0025 % w/w	EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	Electronic equipment	REACH
Asbestos (incl. Brown, blue and white asbestos, Tremolite)	1332-21-4, 77536-66-4, 77536-68-6, 12172-73-5, 77536-67-5, 12001-29-5, 132207-32-0, 12001-28-4	Carcinogenic	P			EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	E.g. thermal insulation	REACH, IEC62474
Benzyl butyl phthalate (BBP)	85-68-7	Toxic for reproduction	P		EU: sunset date 21/05/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010	Used as plasticizer in polymer products, mainly in PVC. Occurs in colors, materials to plastic, rubber, glue, filling medium and raw materials for paints.	REACH, IEC62474
Beryllium and beryllium compounds	7440-41-7 (Be)	Acute toxicity; Serious health hazard		R		EC 1907/2006/XVII US 40 CFR Ch 1999/43/EC	Electronic equipment	REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Biphenyl-4-ylamine	92-67-1	Carcinogenic		R		EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A1 US 40 CFR Ch	Intermediate, dyes, pigments, textiles	REACH, IEC62474
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	Equivalent level of concern having probable serious effects to the environment; Toxic for reproduction	P		EU: sunset date 21/02/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs US 40 CFR Ch	Used as plasticizer in PVC. Occurs also in colors, plastic, rubber, glue, filling medium and raw materials for paints.	REACH, IEC62474
Bis(2-methoxyethyl) ether	111-96-6	Toxic for reproduction	P		EU: sunset date 22/08/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII	Used primarily as a reaction solvent or process chemical. Solvent for battery electrolytes.	REACH, IEC62474
Bis(2-methoxyethyl) phthalate	117-82-8	Toxic for reproduction		R		EC 1907/2006/C	Used as plasticizer in paint and varnish.	REACH, IEC62474
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	PBT; vPvB	P	R	R in all applications except: EU: P in all applications covered by RoHS CH: P as flame retardant in EEE covered by RoHS Directive	EC 1907/2006/C CH SR 814.81 A1 2011/65/EU CAN NPRI 2010 CAN Tox. Subs US 40 CFR Ch	Flame retardants, insulation materials, electrical equipment, textiles, plastics in automotive industry	REACH, RoHS, IEC62474
Bis(tributyltin)oxide (TBTO)	56-35-9	PBT		R		EC 1907/2006/C US 40 CFR Ch.	Occurs as a preservative in textiles, paper, leather, rubber and polymer materials	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Boric acid	10043-35-3, 11113-50-1	Toxic for reproduction		R		EC 1907/2006/C	Used as wood preservative, flame retardant etc. Can be used in treated wood and flame-proof insulation.	REACH, IEC62474
Bromochlorodifluoromethane (Halon- 1211)	353-59-3	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	E.g. fire extinguisher	IEC62474
Cadmium and cadmium compounds	7440-43-9 (Cd)	Flammable; Acute toxicity; Hazardous to the environment; Serious health hazard	P	R	See Note 3	EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A2 2011/65/EU 2006/66/EC 2000/53/EC CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	Cadmium and cadmium compounds. Electric and electronic equipment covered by RoHS	REACH, RoHS IEC62474
Cadmium chloride	10108-64-2	Carcinogenic; Mutagenic; Toxic for reproduction; Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C EC 1907/2006/XVII	Industrial and laboratory chemicals, which are used in surface treatment and the manufacture of other cadmium compounds	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Cadmium fluoride	7790-79-6	Carcinogenic; Mutagenic; Toxic for reproduction; Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C EC 1907/2006/XVII	Used in oxygen-sensitive applications, such as metal production.	REACH
Cadmium oxide	1306-19-0	Carcinogenic; Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C EC 1907/2006/XVII	Used in electronics, for pigments, batteries, and electroplating.	REACH, IEC62474
Cadmium sulphate	10124-36-4, 31119-53-6	Carcinogenic; Mutagenic; Toxic for reproduction; Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C EC 1907/2006/XVII	Used for the electroplating of cadmium in electronic circuits. It is also a precursor to cadmium-based pigment such as cadmium sulfide. It is also used for electrolyte in a Weston standard cell as well as a pigment in fluorescent screens.	REACH, IEC62474
Cadmium sulphide	1306-23-6	Carcinogenic; Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C EC 1907/2006/XVII	Used as a pigment, in manufacturing of photo resistors and in thin-film form combined with other	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							layers for use in certain types of solar cells.	
Calcium arsenate	7778-44-1	Carcinogenic		R		EC 1907/2006/C EC 1907/2006/XVII	Present in complex raw materials imported for manufacture of copper, lead and a range of precious metals. It appears mainly to be used as precipitating agent in copper smelting and to manufacture diarsenic trioxide.	REACH
Chlorodifluoromethane (HCFC-22)	75-45-6	Substance that deplete the ozone layer		R		CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN NPRI 2010 US 40 CFR Ch	Cooling agents, blowing agent PUR foam	IEC62474
Chrome (VI+) and compounds contain Cr(VI)	See Note 4	Carcinogenic	P	R	EU: P in all applications covered by RoHS, CH: P in packaging, limit value: 0.01% w/w	EC 1907/2006/XVII CH SR 814.81 A2 2000/53/EC 2011/65/EU CAN NPRI 2010 CAN Tox. Subs. 1999/43/EC	Electric and electronic equipment covered by RoHS. Surface treatment. Pigment in e.g. paint.	REACH, RoHS, IEC62474
Chromium trioxide	1333-82-0	Carcinogenic; Mutagenic	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII 2011/65/EU	Electric and electronic equipment covered by RoHS. Wood preservative.	REACH, RoHS, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							Surface treatment of metals.	
Cobalt(II) carbonate	513-79-1	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C CAN NPRI for 2010 - Schedule 1 Part 1 Group 1 Substances	A precursor to cobalt carbonyl and various cobalt salts	REACH
Cobalt(II) diacetate	71-48-7	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C CAN NPRI 2010	Surface treatment of metals.	REACH
Cobalt(II) dinitrate	10141-05-6	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C CAN NPRI 2010	Surface treatment of metals.	REACH
Cobalt(II) sulphate	10124-43-3	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010	Pigment. Surface treatment.	REACH
Cobalt dichloride	7646-79-9	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI for 2010 - Schedule 1 Part 1 Group 1 Substances	Surface treatment	REACH, IEC62474
Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]	85-42-7, 13149-00-3, 14166-21-3	Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C	Plasticizers, polyester, alkyds, Motor insulation, hardener for epoxy resin	REACH, Permit is required from national authorities
Diarsenic pentaoxide	1303-28-2	Carcinogenic		P	EU: sunset date 21/05/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010	Used in wood preservatives, in the paint industry, metallurgy and in the manufacture of special glass.	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Diarsenic trioxide	1327-53-3	Carcinogenic	P		EU: sunset date 21/05/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010	Used in dyeing of glass and enamel. Used in the manufacture of special glass. Has previously been used as wood preservative.	REACH, IEC62474
Diazen-1,2-dicarboxamide (C,C'- azodi(formamide))	123-77-3	Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C	Raw material for the manufacture of rubber and plastic, rubber and plastic products	REACH
Diboron trioxide	1303-86-2	Toxic for reproduction		R		EC 1907/2006/C	Raw material for the manufacture of glass, glassware, ceramics and metals. Paints, varnishes, inks, flame retardants, catalysts, detergent. The glassware and enameled glass products. Imported roared protected wood products.	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Dibutyl phthalate (DBP)	84-74-2	Toxic for reproduction	P		EU: sunset date 21/02/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 US 40 CFR Ch	Occurs in various articles of plastic, mainly PVC. Occurs in glue, paints, plastics, rubber etc.	REACH, IEC62474
Dibutyltin dichloride (DBTC)	683-18-1	Toxic for reproduction		R		EC 1907/2006/C	Rubber manufacturing, rubber products	REACH, IEC62474
Dichlorodifluoromethane (CFC-12)	75-71-8	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN Tox. Subs. US 40 CFR Ch	E.g. cooling agent	IEC62474
Dichloromethane (methylene chloride)	75-09-2	Health hazard	P			EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch 90/415/EC 96/55/EC 1999/43/EC EC 2037/2000	E.g. degreasing	REACH
Dichromium tris(chromate)	24613-89-6	Carcinogenic	P		EU: sunset date 22/01/2019	EC 1907/2006/C EC 1907/2006/XIV	Used for surface treatment.	REACH
Diethyl sulphate	64-67-5	Carcinogenic; Mutagenic		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	An intermediate	REACH
Dihexyl phthalate	84-75-3	Toxic for reproduction		R		EC 1907/2006/C California Prop 65	Plasticizer in PVC	REACH, IEC62474
Diisobutyl phthalate (DIBP)	84-69-5	Toxic for reproduction	P		EU: sunset date 21/02/2015	EC 1907/2006/C EC 1907/2006/XIV	Solvent in adhesives, inks for paper and packaging.	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Diisodecylphthalate (DIDP)	26761-40-0	Hazardous to the environment		R		EC 1907/2006/XVII	Plasticizer in PVC, adhesive, paints	REACH, IEC62474
Diisononylphthalate (DINP)	28553-12-0	Hazardous to the environment		R		EC 1907/2006/XVII	Plasticizer in PVC, adhesive, paints	REACH, IEC62474
Diisopentylphthalate	605-50-5	Toxic for reproduction		R		EC 1907/2006/C	Explosives	REACH, IEC62474
Dimethyl sulphate	77-78-1	Carcinogenic		R		EC 1907/2006/C CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	An intermediate	REACH
Dimethylfumarate (DMFu)	624-49-7	Health hazard	P			EC 1907/2006/XVII 2009/251/EC	Drying and anti-mold agents, silica gel	IEC62474
Dimethylphthalate (DMP)	131-11-3	Health hazard		R		2005/84/EC	Plasticizer in PVC, adhesive, paints	
di-n-octyl phthalate (DNOP)	117-84-0	Serious health hazard		R		EC 1907/2006/XVII CAN NPRI 2010	Plasticizer in PVC, adhesive, paints	REACH, IEC62474
Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	Toxic for reproduction		R		EC 1907/2006/C	Pesticide	REACH
Dioxobis(stearato)trilead	12578-12-0	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers for PVC, plastic goods	REACH, IEC62474
Dipentyl phthalate (DPP)	131-18-0	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Laboratory chemical	REACH, IEC62474
Diphenylamine	122-39-4	Acute toxicity; Health hazard; Hazardous to the environment		R			Hardeners	
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	Carcinogenic		R		EC 1907/2006/C EC 1907/2006/XVII	Azo dyes	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	Carcinogenic		R		EC 1907/2006/C EC 1907/2006/XVII	Azo dyes	REACH
Disodium tetraborate, anhydrous	1330-43-4, 1303-96-4, 12179-04-3	Toxic for reproduction		R		EC 1907/2006/C	Used as wood preservative, flame retardant etc. Can be used in treated wood and flame-proof insulation.	REACH, IEC62474, Permit is required from national authorities
Ethylenediamine	107-15-3	Flammable; Corrosive; Serious health hazard		R			Hardeners	
Fatty acids, C16-18, lead salts	91031-62-8	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers for PVC, plastic goods	REACH, IEC62474
Formaldehyde, oligomeric reaction products with aniline	25214-70-4	Carcinogenic	P		EU: sunset date 22/08/2017	EC 1907/2006/C EC 1907/2006/XIV Can Tox. Subs.	Hardener for epoxy resins, e.g. glue, paint and varnish.	REACH
Formamide	75-12-7	Toxic for reproduction		R		EC 1907/2006/C	Intermediate. Laboratory chemical	REACH
Furan	110-00-9	Carcinogenic		R		EC 1907/2006/C	Solvent	REACH
Henicosafuoroundecanoic acid	2058-94-8	vPvB		R		EC 1907/2006/C	Used in the production of fluoropolymers	REACH
Heptacosafuorotetradecanoic acid	376-06-7	vPvB		R		EC 1907/2006/C	Used in the production of fluoropolymers	REACH
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α - HBCDD, B-HBCDD, γ- HBCDD)	3194-55-6, 134237-52-8, 134237-50-6, 134237-51-7, 25637-99-4	PBT	P		EU: sunset date 21/08/2015	EC 1907/2006/C EC 1907/2006/XIV	Used as flame retardant in the plastics industry, mainly in polystyrene. Used as an	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							additive flame retardant primarily in expanded polystyrene (EPS) and extruded polystyrene (XPS), used as insulating materials in the construction industry.	
Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4]. The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	Equivalent level of concern having probable serious effects to human health		R		EC 1907/2006/C	Motor insulation, hardener for epoxy res in	REACH, IEC62474, Permit is required from national authorities
Hexamethylenetetramine	100-97-0	Health hazard; Flammable		R			Hardeners	
Hydrazine	302-01-2, 7803-57-8	Carcinogenic		R		EC 1607/2006/C EC 1607/2006/XVII CAN NPRI 2010 US 40 CFR Ch	Corrosion inhibitor in cooling systems.	REACH
Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	Toxic for reproduction		R		EC 1607/2006/C EC 1607/2006/XVII	Used in rubber manufacturing	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Lead and lead compounds	7439-92-1 (Pb)	Acute toxicity; Serious health hazard; Hazardous to the environment	P	R	P in packaging; completely banned in paints (lead carbonate and sulphates). R in all other applications. EU: P in all applications covered by RoHS, FR: P in in non- removable batteries and accumulators. Limit value, 0.4% w/w. CH: P - in non- removable batteries, limit value: 0.1% w/W; - in wood- based materials, limit value: 0.009% w/w; - in packaging, limit value: 0.01% w/w.	EC 1907/2006/XVII CH SR 814.81 A2 2011/65/EU 2000/53/EC CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch 1999/43/EC	Electric and electronic equipment covered by RoHS	REACH, RoHS, IEC62474
Lead bis(tetrafluoroborate)	13814-96-5	Toxic for reproduction		R		EC 1907/2006/C	Surface treatment, electroplating, laboratory chemical	REACH
Lead chromate	7758-97-6	Carcinogenic; Toxic for reproduction	P		EU: sunset date 21/05/2015	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CH SR 814.81 A2 2011/65/EU 2000/53/EC CAN NPRI 2010 CAN Tox. Subs.	Dyes and pigments. Corrosion protection. Electric and electronic equipment covered by RoHS	REACH, RoHS, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Carcinogenic; Toxic for reproduction	P		EU: sunset date 21/05/2015, P in all applications. CH: P in packaging, limit value 0.01% w/w	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CH SR 814.81 A2 2000/53/EC CAN NPRI 2010 CAN Tox. Subs.	Dyes and pigments, Corrosion protection	REACH, IEC62474
Lead cyanamidate	20837-86-9	Toxic for reproduction		R		EC 1907/2006/C		REACH, IEC62474
Lead di(acetate)	301-04-2	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Laboratory Chemical, in color, paint strippers and thinners	REACH
Lead diazide, Lead azide	13424-46-9	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Mainly used as initiator or booster in detonators for both civilian and military uses and as initiator in pyrotechnic devices.	REACH
Lead dinitrate	10099-74-8	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers for PVC, Plastic Goods	REACH, IEC62474
Lead dipicrate	6477-64-1	Toxic for reproduction		R		EC 1907/2006/C	Lead dipicrate is an explosive like lead diazide and lead styphnate.	REACH
Lead hydrogen arsenate	7784-40-9	Carcinogenic; Toxic for reproduction	P	R	R in all applications. CH: P - in non-removable batteries, Limit value: 0.1% w/w; - in packaging, limit value: 0.01% w/w	EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010	Has previously been used as pesticide.	REACH
Lead monoxide (lead oxide)	1317-36-8	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers, pigments, raw	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
							material for glass and ceramics manufacturing	
Lead oxide sulfate	12036-76-9	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers for PVC, Plastic Goods	REACH, IEC62474
Lead styphnate	15245-44-0	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Mainly used as a primer for small calibre and rifle ammunition. Other common uses are in munition pyrotechnics, powder actuated devices and detonators for civilian use.	REACH
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Carcinogenic; Toxic for reproduction	P		EU: sunset date 21/05/2015, P in all applications. CH: P in packaging, limit value 0.01% w/w	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010 CAN Tox. Subs	Dyes and pigments. Corrosion protection.	REACH, IEC62474
Lead titanium trioxide	12060-00-3	Toxic for reproduction		R		EC 1907/2006/C	Semiconductor s, computers, electrical and optical products	REACH, IEC62474
Lead titanium zirconium oxide	12626-81-2	Toxic for reproduction		R		EC 1907/2006/C	Electronic products	REACH, IEC62474
Lead(II) bis(methanesulfonate)	17570-76-2	Toxic for reproduction		R		EC 1907/2006/C	Surface coating in the manufacture of electronic components such as circuit boards	REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Mercury and mercury compounds	7439-97-6 (Hg)	Acute toxicity; Hazardous to the environment; Serious health hazard	P	R	P in anti-fouling, wood preservation, textiles, water treatment and in batteries and accumulators; 2% w/w in button cells. R in all other applications. EU: P in all applications covered by RoHS, CH: P in all applications except certain types of EEE. Limit value: 0.0005% w/w -in portable batteries; 2% w/w, - in button cells; 0.01% w/w - in packaging; 0.0025% w/w - in wood-based materials; - in EEE 0.1% w/w	EC 1907/2006/XVII CH SR 814.81 A1 CH SR 814.81 A2 2011/65/EU CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch 89/677/EEC	Mercury and mercury compounds Electric and electronic equipment covered by RoHS	REACH, RoHS, IEC62474
Methanediisocyanate (MDI)	101-68-8, 2536-05-2, 5873-54-1, 26447-40-5	Serious health hazard		R		EC 1907/2006/XVII 1999/43/EC	PUR-foam, adhesives	REACH
Methoxyacetic acid	625-45-6	Toxic for reproduction		R		EC 1907/2006/C	Lime remover	REACH
Methyloxirane (Propylene oxide)	75-56-9	Carcinogenic; Mutagenic		R		EC 1907/2006/C EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	For surfactants	REACH
Methyltetrahydrophthalic- (anhydrides)	26590-20-5	Corrosive; Serious health hazard		R			Motor insulation, hardener for epoxy resin	Permit is required from national authorities
N,N,N',N'-tetramethyl-4,4'-	101-61-1	Carcinogenic		R		EC 1907/2006/C	Laboratory	REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
methylenedianiline (Michler's base)							chemicals, paper goods, ink	
N,N-dimethylacetamide	127-19-5	Toxic for reproduction		R		EC 1907/2006/C	May occur in surface treatment, sealants etc.	REACH
N,N-dimethylformamide	68-12-2	Toxic for reproduction		R		EC 1907/2006/C	Solvents, laboratory chemical	REACH, IEC62474
N-methylacetamide	79-16-3	Toxic for reproduction		R		EC 1907/2006/C	Laboratory chemical	REACH
Nonylphenol (4-Nonylphenol, branched and linear)	25154-52-3, 84852-15-3	Toxic for reproduction; Hazardous for the environment		R		EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010 CAN Tox. Subs. 2001/838/EC	Cleaning agent	REACH
Nonylphenoethoxylate	9016-45-9	Health hazard; Hazardous to aquatic organisms		R		EC 1907/2006/XVII CH SR 814.81 A1 CAN NPRI 2010 CAN Tox. Subs. 2001/838/EC	Cleaning agent	REACH
N-pentyl-isopentylphthalate	776297-69-9	Toxic for reproduction		R		EC 1907/2006/C		REACH, IEC62474
o-aminoazotoluene	97-56-3	Carcinogenic		R		EC 1907/2206/C EC 1907/2206/XVII	Dyes, pigments, textile, intermediate for dyes	REACH, IEC62474
Orange lead (lead tetroxide)	1314-41-6	Toxic for reproduction		R		EC 1907/2006/C	Pigments, stabilizers, lead acid batteries, glass and ceramics, rubber and plastic products	REACH, IEC62474
o-Toluidine	95-53-4	Carcinogenic		R		EC 1907/2006/C	Intermediate for dyes	REACH, IEC62474
Pentacosafuorotridecanoic acid	72629-94-8	vPvB		R		EC 1907/2006/C		REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Pentadecafluorooctanoic acid (PFOA)	335-67-1	Toxic for reproduction		R		EC 1907/2006/C	Surfactant in the emulsion polymerization of fluoropolymers	REACH, IEC62474
Pentalead tetraoxide sulphate	12065-90-6	Toxic for reproduction		R		EC 1907/2006/C	Plastic products, lead acid batteries, stabilizers for PVC	REACH, IEC62474
Pentazinc chromate octahydroxide	49663-84-5	Carcinogenic	P		EU: sunset date 22/01/2019	EC 1907/2006/C EC 1907/2006/XIV	Used for surface treatment and as pigment in paint.	REACH, IEC62474
Phenolphthalein	77-09-8	Carcinogenic		R		EC 1907/2006/C	Used in labs as pH-indicator and may occur as corrosion inhibitor.	REACH
Phthalato(2-)dioxotrilead	69011-06-9	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers for PVC, rubber products, plastic products	REACH, IEC62474
Pitch, coal tar, high temp.	65996-93-2	Carcinogenic; PBT; vPvB		R		EC 1907/2006/C EC 1907/2006/XVII	Used in manufacture of anthracene and carbon black. Corrosion protection.	REACH
Polybrominated diphenyl-ethers (PBDE) Polybrominated biphenyls (PBB) (di-, tetra-, hexa-, octa-, decabromobiphenyl)	92-86-4, 60044-25-9, 36355-01-8, 59536-65-1, 27858-07-7, 13654-09-6	PBT; vPvB	P	R	EU: P in all applications covered by RoHS	EC 1907/2006/XVII 2011/65/EU CH SR 814.81 A1 EC 850/2004 CAN Tox. Subs.	Electric and electronic equipment	REACH, RoHS, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Polychlorinated biphenyl (PCB)	1336-36-3	Health hazard; Acute toxicity to aquatic organisms	P			CH SR 814.81 A2 EC 850/2004 CAN Tox. Subs. US 40 CFR Ch 91/339/EEC 96/59/EC	E.g. transformers & capacitors	IEC62474
Potassium chromate	7789-00-6	Carcinogenic; Mutagenic	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Surface coating of metals.	REACH, IEC62474
Potassium dichromate	7778-50-9	Carcinogenic; Mutagenic; Toxic for reproduction	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Surface coating of metals.	REACH, IEC62474
Potassium hydroxyoctaoxodizincatedichromate	11103-86-9	Carcinogenic	P		EU: sunset date 22/01/2019	EC 1907/2006/C EC 1907/2006/XIV	Surface coating of metals	REACH, IEC62474
Pyrochlore, antimony lead yellow	8012-00-8	Toxic for reproduction		R		EC 1907/2006/C	Dye, pigment, ink toner	REACH, IEC62474
reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)		Toxic for reproduction		R		EC 1907/2006/C	Might be used as heat stabilizer in plastic (mainly PVC processing)	REACH
Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped	68784-75-8	Toxic for reproduction		R		EC 1907/2006/C	Paint, coating in light-bulbs	REACH, IEC62474
Silicic acid, lead salt	11120-22-2	Toxic for reproduction		R		EC 1907/2006/C	Glass and ceramic products	REACH
Sodium chromate	7775-11-3	Carcinogenic; Mutagenic; Toxic for reproduction	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Laboratory chemical	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Sodium dichromate (anhydrous and dihydrate)	7789-12-0, 10588-01-9	Carcinogenic; Mutagenic; Toxic for reproduction	P		EU: sunset date 21/09/2017	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Surface treatment of metal and electroplating products.	REACH, IEC62474, Permit is required from national authorities
Sodium perborate; perboric acid, sodium salt	-	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Bleach in laundry and dishwasher detergents	REACH
Sodium peroxometaborate	7632-04-4	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	Bleach in laundry and dishwasher detergents	REACH
Strontium chromate	7789-06-2	Carcinogenic	P		EU: sunset date 22/01/2019	EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII CAN NPRI 2010 CAN Tox. Subs.	Corrosion protection in pigment of paints and varnish.	REACH, IEC62474
Sulfurous acid, lead salt, dibasic	62229-08-7	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers for PVC, plastic goods	REACH, IEC62474
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Toxic for reproduction		R		EC 1907/2006/C	Used as wood preservatives, flame retardants etc. Can be used in treated wood and flame-proof insulation.	REACH, IEC62474
Tetrachloroethene (perchloroethylene)	127-18-4	Carcinogenic; Hazardous to aquatic organisms	P			CH SR 814.81 A1 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch 90/415/EEC EC 2037/2000 96/55/EC 1999/43/EC	E.g. degreasing	

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Tetrachloromethane (carbon tetrachloride)	56-23-5	Acute toxicity; Hazardous to the environment; Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	E.g. degreasing	IEC62474
Tetraethyllead	78-00-2	Toxic for reproduction		R		EC 1907/2006/C	Fuel	REACH
Tetrafluoromethane (CF ₄)	75-73-0	Greenhouse gas		R		1999/296/EC EC 2006/842	Semiconductor manufacturing (additives to SF ₆ excluded)	IEC62474
Tetrahydrophthalic anhydride	85-43-8	Allergenic		R			Motor insulation, hardener for epoxy resin	Permit is required from national authorities
Tetralead trioxide sulphate	12202-17-4	Toxic for reproduction		R		EC 1907/2006/C	Paints, varnishes, PVC stabilizers, plastic products, lead acid battery	REACH, IEC62474
Toluendiisocyanate (TDI)	91-08-7, 584-84-9, 26471-62-5	Hazardous to the environment; Acute toxicity; Allergenic		R		CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch 1999/43/EC	PUR-foam, adhesives	
Trichlorofluoromethane (CFC-11)	75-69-4	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN Tox. Subs. US 40 CFR Ch	E.g. cooling agent	IEC62474
Tricosafuorododecanoic acid	307-55-1	vPvB		R		EC 1907/2006/C		REACH
Triethyl arsenate	15606-95-8	Carcinogenic		R		EC 1907/2006/C EC 1907/2006/XVII	May occur in the electronics industry in integrated circuits.	REACH

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
Trifluorobromomethane (Halon-1301)	75-63-8	Substance that deplete the ozone layer	P			CH SR 814.81 A1 CH SR 814.81 A2 EC 2037/2000 CAN NPRI 2010 CAN Tox. Subs. US 40 CFR Ch	E.g. fire extinguisher	IEC62474
Trilead bis(carbonate) dihydroxide	1319-46-6	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010	Pigment in color, Ceramic materials, oil paintings	REACH, IEC62474
Trilead diarsenate	3687-31-8	Carcinogenic; Toxic for reproduction		R		EC 1907/2006/C	Present in complex raw materials imported for manufacture of copper, lead and a range of precious metals.	REACH
Trilead dioxide phosphonate	12141-20-7	Toxic for reproduction		R		EC 1907/2006/C	Stabilizers	REACH, IEC62474
Tris(2-chloroethyl)phosphate	115-96-8	Toxic for reproduction	P		EU: sunset date 21/08/2015	EC 1907/2006/C EC 1907/2006/XIV CAN Tox. Subs.	Additive flame retardant for plastics. Flame-retardant paints lacquers and adhesives.	REACH, IEC62474
Trixylyl phosphate	25155-23-1	Toxic for reproduction		R		EC 1907/2006/C EC 1907/2006/XVII	In lubricants	REACH, IEC62474
Zinc chromate	13530-65-9	Carcinogenic; Hazardous to the environment; Allergenic		R		CAN NPRI 2010 CAN Tox. Subs. 1999/43/EC EC 1907/2006	Surface treatment. Pigment in e.g. paint.	REACH, IEC62474
Zirconia Aluminosilicate Refractory Ceramic Fibres		Carcinogenic		R		EC 1907/2006/C CAN Tox. Subs.	Insulation materials for industrial use. Fire protection in industrial equipment.	REACH, IEC62474

Substance	CAS No.	Risk	ABB class.		Threshold values 0,1% w/w applies if nothing else stated	Legislation	Example of applications	Comments
α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1- methanol (C.I. Solvent Blue 4) with \geq 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)	6786-83-0	Carcinogenic		R		EC 1907/2006/C	Ink. Dyeing of paper, packaging materials textiles and plastic products. Washer fluid. Paper products, packaging materials, textiles and plastics.	REACH

Note 1. 4-Nonylphenol, branched and linear - Non-exhaustive list of substances covered by the group entry

Substance name: 4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]

<http://echa.europa.eu/documents/10162/16559221-1576-43d6-8306-228357265f34>

Substance	CAS No
Phenol, 4- nonyl-, branched	84852-15-3
Phenol, 4-isononyl-	26543-97-5
Phenol, 4-nonyl-	104-40-5
Phenol, 4-(1-methyloctyl)-	17404-66-9
Phenol, 4-(1,1-dimethylheptyl)-	30784-30-6
Phenol, 4-(1-ethyl-1-methylhexyl)-	52427-13-1
Phenol, 4-(1-ethyl-1,3-dimethylpentyl)-	186825-36-5
Phenol, 4-(1-ethyl-1,4-dimethylpentyl)-	142731-63-3

Note 2. 4-Nonylphenol, branched and linear, ethoxylated - Non-exhaustive list of substances covered by the group entry

Substance name: 4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]

<http://echa.europa.eu/documents/10162/f24cf2d8-11d5-4495-9e18-065b34e94e0b>

Substance	CAS No
Poly(oxy-1,2-ethanediyl), α -(4-nonylphenyl)- ω -hydroxy-	26027-38-3
Ethanol, 2-[2-[2-(4-nonylphenoxy)ethoxy]ethoxy]ethoxy]-	7311-27-5
Ethanol, 2-[2-(4-nonylphenoxy)ethoxy]-	20427-84-3
3,6,9,12,15-Pentaoxaheptadecan-1-ol,17-(4-nonylphenoxy)-	34166-38-6
3,6,9,12,15,18-Hexaoxaicosan-1-ol, 20-(4-nonylphenoxy)-	27942-27-4
3,6,9,12,15,18,21,24-Octaoxahexacosan-1-ol, 26-(4-nonylphenoxy)-	14409-72-4

Note 3. Threshold values for cadmium and cadmium compounds

R in all applications

EU: P - as pigment in polymer materials and paints, except for safety reasons;

- as stabilizer in mixtures or articles manufactured from polymers or copolymers of vinyl chloride, except for safety reasons. Limit value: 0.01 % w/w.
- in EEE, limit value: 0.01% w/w.

France: P - in portable batteries, limit value: 0.002 % w/w;

- in zinc-carbon batteries, limit value: 0.015% w/w.

Germany: P as coating of metal surfaces, except to ensure functional reliability.

CH: P - in portable batteries, including those contained in appliances, limit value: 0.2% w/w;

- in plastics, limit value 0.01% w/w;
- in paints, limit value: 0.01% w/w,
- in paint with high zinc content 0.1% w/w;
- as coating of metal surfaces, except to ensure functional reliability;
- in zinc-plated articles, limit value: 0.025% w/w; in packaging, limit value: 0.01% w/w;
- in wood based materials, limit value: 0.005% w/w;
- in EEE, limit value: 0.01% w/w.

Note 4. Chrome (VI) and compounds containing Cr(VI)

IEC62474 considers the following Cr(VI) compounds:

Barium chromate CAS number 10294-40-3, Calcium chromate CAS number 13765-19-0, Chromium trioxide CAS number 1333-82-0, Sodium chromate CAS number 7775-11-3, Sodium dichromate CAS number 10588-01-9, Strontium chromate CAS number 7789-06-2, Potassium dichromate CAS number 7778-50-9, Potassium chromate CAS number 7789-00-6 and Zinc chromate CAS number 13530-65-9.

Reference list

- 2011/65/EC corresponds to Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- 2009/251/EC corresponds to Commission decision of 17 March 2009 requiring Member States to ensure their products containing the biocide dimethylfurfurate are not placed or made available on the market.
- EC 1907/2006/C corresponds to Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Candidate list
- EC 1907/2006/XIV corresponds to Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Annex XIV
- EC 1907/2006/XVII corresponds to Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): Annex XVII
- EC 2006/842 corresponds to Regulation No 842/2006 of the European Parliament and of the Council of 17 May 2006 on certain fluorinated greenhouse gases.
- 2005/84/EC corresponds to Directive 2005/84/EC of the European Parliament and of the Council of 14 December 2005 amending for the 22nd time Council Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations (phthalates in toys and childcare articles).
- EC 850/2004 corresponds to Regulation No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants amending Directive 79/117/EC.
- 2001/838/EC corresponds to: Commission Recommendation of 7 November 2001 on the results of the risk evaluation and the risk reduction strategies for the substances: acrylaldehyde; dimethyl sulphate; nonylphenol phenol, 4-nonyl-, branched; tert-butyl methyl ether; 2001/838/EC
- 2001/852/EC corresponds to Commission Decision of 19 November 2001 on adopting Community import decisions pursuant to Council Regulation (EEC) no 2455/92 concerning the export and import of certain dangerous chemicals and amending Decision 2000/657/EC.
- 2000/53/EC corresponds to Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2000 concerning end-of life vehicles.
- EC 2037/2000 corresponds to Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer
- 1999/721/EC corresponds to Commission recommendation of 12 October 1999 on the results of the risk evaluation and on the risk reduction strategies for the substances: 2-(2-butoxyethoxy)ethanol; 2-(2-methoxyethoxy)ethanol; Alkanes, C10-13, chloro; Benzene, C10-13-alkyl derivs.
- 1999/296/EC corresponds to Council Decision of 26 April 1999 amending Decision 93/389/EEC for a monitoring mechanism of Community CO₂ and other greenhouse gas emissions
- 1999/43/EC corresponds to Directive 1999/43/EC of the European Parliament and of the Council of 25 May 1999 amending for the 17th time Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations
- 96/59/EC corresponds to Council Directive 96/59/EC of 16 September 1996 on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT)
- 96/55/EC corresponds to Commission Directive 96/55/EC of 4 September 1996 adapting to technical progress for the 2nd time Annex I to Council Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations (chlorinated solvents)

91/339/EC corresponds to Council Directive 91/339/EEC of 18 June 1991 amending for the 11th time Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations

90/415/EC corresponds to Council Directive 90/415/EEC of 27 July 1990 amending Annex II to Directive 86/280/EEC on limit values and quality objectives for discharges of certain dangerous substances included in list I of the Annex to Directive 76/464/EEC

89/677/EEC corresponds to Council Directive 89/677/EEC of 21 December 1989 amending for the eighth time Directive 76/769/EEC on the approximation of the laws, regulations and administrative provisions of the member states relating to restrictions on the marketing and use of certain dangerous substances and preparations

CH SR 814.81 A1 corresponds to SR 814.81 Ordinance on the Reduction of Risks relating to the Use of Certain Particularly Dangerous Substances, Preparations and Articles (Chemical Risk Reduction Ordinance, ORRChem) of 18 May 2005 – Annex 1 Provisions relating to specific substances. (Switzerland)

CH SR 814.81 A2 corresponds to 814.81 Ordinance on the Reduction of Risks relating to the Use of Certain Particularly Dangerous Substances, Preparations and Articles (Chemical Risk Reduction Ordinance, ORRChem) of 18 May 2005 – Annex 2 Provisions relating to groups of preparations and articles. (Switzerland)

CAN NPRI 2010 corresponds to Canadian National Pollutant Release Inventory changes in reporting requirements for 2010. (Canada)

CAN Tox. Subs. corresponds to Canadian Toxic Substances List - Schedule 1. (Canada)

FR ECA R521-4 to 42 corresponds to France Environment Code Article R521-4 to 42.

IEC62474 corresponds to IEC 62474 Material Declaration for Products of and for the Electrical Industry, Substance Lists: D7.00 and XML schema: X5.00. (2014-09-24)

US 40 CFR Ch corresponds to US Environmental Protection Agency, Public Information Regulations, CFR Title 40 – Protection of Environment

California Prop 65 corresponds to Proposition 65, formally titled "The Safe Drinking Water and Toxic Enforcement Act".

Version history

Rev.	Chapter	Description	Date Dept./Init.
1.1	All	First version of this ABB List of Prohibited and Restricted Substances, ver. 1.1, valid as of 2013-07-01, this is an updated version of the existing list ABB List of Prohibited and Restricted Substances, ver. 1.0 (SECR/TS/RM-12/060) and the table of document GI/SA-01.02A03.	2013-06-27 / SECR
1.2	The list	<p>Added substances to the list due to the inclusion on REACH Candidate list for 1,2,3-Trichloropropane CAS number 96-18-4, 2-Methoxyaniline; o-Anisidine CAS number 90-04-0, 4-Nonylphenol, branched and linear no CAS number, 4-Nonylphenol, branched and linear, ethoxylated no CAS number, Ammonium pentadecafluorooctanoate (APFO) CAS number 3825-26-1, Arsenic acid CAS number 7778-39-4, Bis(2-methoxyethyl) ether CAS number 111-96-6, Cadmium oxide CAS number 1306-19-0, Calcium arsenate CAS number 7778-44-1, Cobalt dichloride CAS number 7646-79-9, Cobalt(II) carbonate CAS number 513-79-1, Dipentyl phthalate (DPP) CAS number 131-18-0, Lead diazide, Lead azide CAS number 13424-46-9, Lead dipicrate CAS number 6477-64-1, Lead styphnate CAS number 15245-44-0, Pentadecafluorooctanoic acid (PFOA) CAS number 335-67-1 and Trilead diarsenate CAS number 3687-31-8.</p> <p>Added legislative reference to REACH Candidate list for Cadmium, CAS number 7440-43-9</p> <p>Deleted legislative reference to REACH Candidate list for 1,1,1-trichloroethane CAS number 71-55-6 and Methanediisocyanate (MDI) CAS numbers 101-68-8, 2536-05-2, 5873-54-1, 26447-40-5</p> <p>Added reference to Annex XVII for MDI CAS numbers 101-68-8, 2536-05-2, 5873-54-1, 26447-40-5 and Dimethylfumurate (DMFu) CAS number 624-49-7.</p> <p>Added comment to IEC62474 for 4,4'-methylenedi-o-toluidine CAS number 838-88-0, Trilead bis(carbonate)dihydroxide CAS number 1319-46-6, Tetrachloromethane CAS number 56-23-5, 1,1,1-Trichloroethane CAS number 71-55-6, 1-Bromopropane CAS number 106-94-5, Polychlorinated Biphenyls CAS number 1336-36-3, Aluminosilicate Refractory Ceramic Fibres and Zirconia Aluminosilicate Refractory Ceramic Fibres</p> <p>Corrected CAS number for 1,2-Dichloro-1,1,2,2-tetrafluoroethane (CFC-114) CAS number 76-14-2</p>	2013-08-21/SECR
1.3	Page 1. Principles	"This document contains substances relevant to ABB, the document is reviewed and updated annually, legislation changed after this publication date shall always be considered." Changed to "This document contains substances relevant to ABB. The document is reviewed and updated twice per year, in January and August mainly based on the update of REACH Candidate list in December and June. Legislation changed after publication shall always be considered."	2014-01-02/SECR
1.3	The list	Added substances to the list due to the inclusion on REACH Candidate list for Cadmium sulphide CAS number 1306-23-6, Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) CAS number 573-58-0, Disodium 4-amino-3'-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38) CAS number 1937-37-7, Dihexyl phthalate CAS number 84-75-3, Imidazolidine-2-thione (2-imidazoline-2-thiol) CAS number 96-45-7, Lead di(acetate) CAS number 301-04-2 and Trixylyl phosphate CAS number 25155-23-1.	2014-01-02/SECR
1.4	Page 1	"The scope for this list is ABB's suppliers, R&D, production processes, products, packaging materials, service activities and construction sites" is replaced by "The scope for this list is goods supplied to ABB, product development, production processes, products, packaging materials, service activities and construction sites".	2014-08-07/SECR
1.4	Page 1. Principles	"Prohibited substances are not to be used within ABB nor in products manufactured or sold by ABB" is replaced by "Prohibited substances must not be used as described by legislation within ABB nor in products manufactured or sold by ABB".	2014-08-07/SECR
1.4	Notes	<p>Inserted a chapter "Notes" concerning:</p> <p>4-Nonylphenol, branched and linear.</p> <p>4-Nonylphenol, branched and linear, ethoxylated</p> <p>Threshold values for Cadmium and cadmium compounds</p> <p>Chrome (VI) and compounds containing Cr(VI) – substances considered by IEC62474</p>	2014-08-07/SECR
1.4	The list	<p>New REACH candidate list substances:</p> <p>Cadmium chloride CAS number 10108-64-2</p> <p>1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear CAS number 68515-50-4</p> <p>Sodium peroxometaborate CAS number 7632-04-4</p> <p>Sodium perborate; perboric acid, sodium salt no CAS number.</p> <p>New references to REACH Annex XVII:</p> <p>Trixylyl phosphate CAS number 25155-23-1</p> <p>Cadmium chloride CAS number 10108-64-2</p> <p>Sodium peroxometaborate CAS number 7632-04-4</p> <p>Sodium perborate; perboric acid, sodium salt no CAS number</p> <p>4-(1,1,3,3-tetramethylbutyl)phenol CAS number 140-66-9.</p> <p>New references to IEC62474:</p> <p>Ammonium pentadecafluorooctanoate (APFO) CAS number 3825-26-1</p> <p>Cadmium sulphide CAS number 1306-23-6</p> <p>Pentadecafluorooctanoic acid (PFOA) CAS number 335-67-1</p> <p>Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] CAS numbers 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9</p> <p>Dipentyl phthalate (DPP) CAS number 131-18-0</p> <p>Trixylyl phosphate CAS number 25155-23-1</p> <p>Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) CAS number 573-58-0</p> <p>Imidazolidine-2-thione (2-imidazoline-2-thiol) CAS number 96-45-7.</p> <p>New classification:</p> <p>Chromium trioxide CAS number 1333-82-0 classified also as Prohibited according to RoHS. (Added under "Examples of application" "Electric and electronic equipment covered by RoHS").</p> <p>Deleted substance:</p> <p>Nickel and its compounds CAS number 7440-02-0 (Ni).</p> <p>Others:</p> <p>Threshold values for Cadmium and cadmium compounds moved to "Notes".</p>	2014-08-07/SECR

1.5	The list	<p>New REACH candidate list substances: Cadmium fluoride CAS number 7790-79-6 Cadmium sulphate CAS numbers 10124-36-4; 31119-53-6 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) CAS number 3846-71-7 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) CAS number 25973-55-1 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) CAS number 15571-58-1 reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE) no CAS number</p> <p>Updated REACH candidate list substance: Bis(2-ethylhexyl) phthalate (DEHP) CAS number 117-81-7 is updated with the new classification "Equivalent level of concern having probable serious effects to the environment". DEHP is already included in the Candidate List based on its toxic for reproduction properties.</p> <p>New references to REACH Annex XIV: Formaldehyde, oligomeric reaction products with aniline (technical MDA) CAS number 25214-70-4 Arsenic acid CAS number 7778-39-4 Bis(2-methoxyethyl) ether (diglyme) CAS number 111-96-6 1,2-dichloroethane (EDC) CAS number 107-06-2 2,2'-dichloro-4,4'-methylenedianiline (MOCA) CAS number 101-14-4 Dichromium tris(chromate) CAS number 24613-89-6 Strontium chromate CAS number 7789-06-2 Potassium hydroxyoctaoxodizincatedichromate CAS number 11103-86-9 Pentazinc chromate octahydroxide CAS number 49663-84-5</p> <p>New references to REACH Annex XVII: Cadmium fluoride CAS number 7790-79-6 Cadmium sulphate CAS numbers 10124-36-4; 31119-53-6</p>	2015-01-02/SECRC
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