

ABB List of Prohibited and Restricted Substances, ver. 1.4

This document is valid as of 2014-08-15

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 | |

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|---|------------|---|------------|--|---|---|-----------------|
| 1,2,3-Trichloropropane | 96-18-4 | Carcinogenic and 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 | | | EC 1907/2006/C 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 |
|--|-------------|------------------------|------------|--|-------------------------------|--|--|
| 2,4-dinitrotoluene | 121-14-2 | Carcinogenic | | R | 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-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-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 |

| 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 | 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 |
| 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (<i>covering well-defined substances and UVCB substances, polymers and homologues</i>) | 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 $\geq 0.1\%$ 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 | 101-77-9 | Carcinogenic | | R | 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 | | R | | EC 1907/2006/C | 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments | |
|--|-------------------------------------|--|------------|--|-------------|----------------------------|---|-----------------|
| 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 plastics. | REACH |
| 4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) with ≥ 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments | |
|---|-------------------------------------|--|------------|--|-------------------------------|--|---|--------------------|
| 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 | | R | 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 production of various azo dyes | REACH, 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 | | R | 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 Tux. Subs. US 40 CFR Ch | Plastic packaging. | REACH |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments | |
|--|------------|--|------------|--|--|--|---|--------------------|
| 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 |
| Ammonium dichromate | 7789-09-5 | Carcinogenic; Mutagenic; Toxic for reproduction | | R | 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|---|----------------|--|------------|--|---|---|----------|
| 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, distn. 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 | | R | EC 1907/2006/C | Mainly used to remove gas bubbles from ceramic glass melt and in the production of laminated printed circuit boards | REACH |
| 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|--|---|--|------------|---|--|---|---|--------------------|
| 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 colours, 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 |
| 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|---|-----------|------------------------|------------|---|---|---|---|-----------------------------|
| Bis (2-ethylhexyl)phthalate (DEHP) | 117-81-7 | 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 colours, plastic, rubber, glue, filling medium and raw materials for paints. | REACH, IEC62474 |
| Bis(2-methoxyethyl) ether | 111-96-6 | Toxic for reproduction | | R | | EC 1907/2006/C 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, 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/EC 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 in "Notes" | EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A2 2011/65/EC 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 |
| 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 |

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|--|-------------------------------------|--|------------|---|--|---|---|-----------------------------|
| 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 photoresistors and in thin-film form combined with other layers for use in certain types of solar cells. | REACH, IEC62474 |
| Calcium arsenate | 7778-44-1 | Carcinogenic | | R | | 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) | Several See note 4 in "Notes" | 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/EC CAN NPRI 2010 CAN Tox. Subs. 1999/43/EC | Electric and electronic equipment covered by RoHS. Surface treatment. Pigment in e.g. | 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 |
|----------------------|----------------|---|------------|---|--|--|--|-----------------------------|
| | | | | | | | paint. | |
| Chromium trioxide | 1333-82-0 | Carcinogenic; Mutagenic | P | R | EU: sunset date 21/09/2017 | EC 1907/2006/C EC 1907/2006/XIV EC 1907/2006/XVII | Electric and electronic equipment covered by RoHS. Wood preservative. Surface treatment of metals. | REACH, RoHS, IEC62474 |
| Cobalt(II) carbonate | 513-79-1 | Carcinogenic and toxic for reproduction | | R | | EC 1907/2006/C ListCAN 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 and 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|--|---------------------------------------|---|------------|--|---|--|---|
| 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, alkydes, Motor insulation, hardener for epoxy resin | REACH, Permit is required from national authorities |
| Diarsenic pentaoxide | 1303-28-2 | Carcinogenic | R | 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 |
| Diarsenic trioxide | 1327-53-3 | Carcinogenic | R | 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 |
| Diazene-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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|----------------------------------|-----------|--|------------|---|--|--|---|-----------------|
| 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 |
| 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|--------------------------------------|------------|---------------------------------|------------|--|--|--|--------------------|
| 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 | | R | EC 1907/2006/C | 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 | | R | EU: sunset date 21/02/2015 EC 1907/2006/C EC 1907/2006/XIV | Solvent in adhesives, inks for paper and packaging. | REACH, IEC62474 |
| 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|---|------------|--|------------|---|--|--|--|--------------------|
| Dimethylfumarate (DMFu) | 624-49-7 | Health hazard | P | | | EC 1907/2006/XVII 2009/251/EC IEC62474 | 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 |
| 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments | |
|---|--|--|------------|--|-------------|----------------------------|--|--|
| 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 | | R | | EC 1907/2006/C | 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 |
| Heptacosaf fluorotetradecanoic acid, Henicosaf fluoroundecanoic acid | 376-06-7, 2058-94-8 | 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 | |
|---|--|---|------------|--|-------------------------------|--|---|---|
| Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (a - HBCDD, B-HBCDD, v- HBCDD) | 3194-55-6, 134237-52-8, 134237-50-6, 134237-51-7, 25637-99-4 | PBT | | R | 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 additive flame retardant primarily in expanded polystyrene (EPS) and extruded polystyrene (XPS), used as insulating materials in the construction industry. | REACH, IEC62474 |
| 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/EC 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 | R | EU: sunset date 21/05/2015, P in all applications, EU: P in all applications covered by RoHS, 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. 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 | R | 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 | EC 1907/2006/C EC 1907/2006/XVII CH SR 814.81 A2 CAN NPRI 2010 | Has previously been used as pesticide. | REACH |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|--|------------|--------------------------------------|------------|---|--|--|--|-----------------|
| | | | | | value: 0.01% w/w | | | |
| Lead monoxide (lead oxide) | 1317-36-8 | Toxic for reproduction | | R | | EC 1907/2006/C | Stabilizers, pigments, raw material for glass and ceramics manufacturing | REACH, IEC62474 |
| 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 | Semiconductors, 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|--------------------------------|---|---|------------|---|---|---|--|-----------------------------|
| 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 |
| 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/EC 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|--|---------------------------|--|------------|--|--|---|--|
| 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'-methylenedianiline (Michler's base) | 101-61-1 | Carcinogenic | | R | EC 1907/2006/C | Laboratory chemicals, paper goods, ink | REACH |
| 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 | REACH, IEC62474 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|-------------------------------------|------------|------------------------|------------|--|----------------|---|-----------------|
| | | | | | | dyes | |
| 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 |
| Pentacosfluorotridecanoic acid | 72629-94-8 | vPvB | | R | EC 1907/2006/C | | REACH |
| 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 | | R | EC 1907/2006/C | 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|---|--|---|------------|---|--|--|--|-----------------------------|
| 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 | | EC 1907/2006/XVII CH SR 814.81 A1 EC 850/2004 CAN Tox. Subs. | Electric and electronic equipment | REACH, RoHS, IEC62474 |
| 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 | | R | 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 | | R | 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 | | R | | EC 1907/2006/C | 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments | |
|--|--------------------------|---|------------|--|-------------------------------|--|---|---|
| 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 | | R | 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 |
| Sodium dichromate (anhydrous and dihydrate) | 7789-12-0, 10588-01-9 | Carcinogenic; Mutagenic; Toxic for reproduction | | R | 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 | | R | | EC 1907/2006/C 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|---|------------|--|------------|---|--|---|---|--|
| 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 | |
| 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 (CF4) | 75-73-0 | Greenhouse gas | | R | | 1999/296/EC EC 2006/842 | Semiconductor manufacturing (additives to SF6 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 |

| Substance | CAS No. | Risk | ABB class. | | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments |
|---------------------------------------|---|---|------------|---|--|---|--|--------------------|
| | | | | | | | | |
| 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 |
| 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 colour, Ceramic materials, oil paintings | REACH, IEC62474 |
| Trilead diarsenate | 3687-31-8 | Carcinogenic and 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 |

| Substance | CAS No. | Risk | ABB class. | Threshold values 0,1% w/w applies if nothing else stated | Legislation | Example of applications | Comments | |
|---|------------|--|------------|--|-------------------------------|---|--|--------------------|
| Tris(2-chloroethyl)phosphate | 115-96-8 | Toxic for reproduction | | R | 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 |
| 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-nr |
|---|-------------|
| 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-nr |
|---|------------|
| 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 dimethylfurfate 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 ECS 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, Version D3.00 (2013-01-30)
- US 40 CFR Ch corresponds to US Environmental Protection Agency, Public Information Regulations, CFR Title 40 – Protection of Environment

Version history

| Rev. | Page (P) Chapt. (C) | 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 (SECRC/TS/RM-12/060) and the table of document GI/SA-01.02A03. | 2013-06-27 / SECRC |
| 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 Methanedithiocyanate (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 Dimethylfumarate (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/SECRC |
| 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/SECRC |
| 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/SECRC |
| 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/SECRC |
| 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/SECRC |
| 1.4 | Notes | Inserted a chapter "Notes" concerning: 4-Nonylphenol, branched and linear. 4-Nonylphenol, branched and linear, ethoxylated Threshold values for Cadmium and cadmium compounds Chrome (VI) and compounds containing Cr(VI) – substances considered by IEC62474 | 2014-08-07/SECRC |
| 1.4 | The list | <p>New REACH candidate list substances: Cadmium chloride CAS number 10108-64-2 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear CAS number 68515-50-4 Sodium peroxometaborate CAS number 7632-04-4 Sodium perborate; perboric acid, sodium salt no CAS number.</p> <p>New references to REACH Annex XVII: Trixylyl phosphate CAS number 25155-23-1 Cadmium chloride CAS number 10108-64-2 Sodium peroxometaborate CAS number 7632-04-4 Sodium perborate; perboric acid, sodium salt no CAS number 4-(1,1,3,3-tetramethylbutyl)phenol CAS number 140-66-9.</p> <p>New references to IEC62474: Ammonium pentadecafluorooctanoate (APFO) CAS number 3825-26-1 Cadmium sulphide CAS number 1306-23-6 Pentadecafluorooctanoic acid (PFOA) CAS number 335-67-1 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 Dipentyl phthalate (DPP) CAS number 131-18-0 Trixylyl phosphate CAS number 25155-23-1 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 Imidazolidine-2-thione (2-imidazoline-2-thiol) CAS number 96-45-7.</p> <p>New classification: 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: Nickel and its compounds CAS number 7440-02-0 (Ni).</p> <p>Others: Threshold values for Cadmium and cadmium compounds moved to "Notes".</p> | 2014-08-07/SECRC |

