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BOMcheck REACH Candidate List screening for the electrotechnical industry. June 2018

In June 2018 the number of substances of very high concern (SVHC) on the REACH Candidate List Substances increased to 191. Article 33 of the REACH Regulation requires companies who supply products which include any article which contains more than 0.1% by weight of any REACH Candidate List Substance to provide their customers with "*sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance*." To assist companies to manage their regulatory burden, BOMcheck has published this screening for the electrotechnical industry which reduces the time and cost for REACH compliance by 61%.

The European Chemicals Agency (ECHA) "Guidance on Requirements for Substances in Articles" contains several recommendations for companies to use industry sector knowledge to assess which REACH Candidate List substances to expect in certain types of parts and materials and which substances can be ruled out of being present. The ECHA guidance states that supply chain communication is the most important way of gathering information about REACH Candidate List substances and recommends that industry should establish communication standards and systems.

The BOMcheck standardized materials declaration system works with the IEC 62474 materials declaration standard to implement these ECHA recommendations for the electrotechnical industry. BOMcheck has published this REACH Candidate List screening to help companies to save time and reduce costs for REACH compliance by screening out 102 substances which are not normally found in parts and materials in the electrotechnical industry. Companies in the electrotechnical industry can use this screening to reduce the number of REACH Candidate List substances that they need to investigate from 191 down to 89.

The BOMcheck regulatory compliance declaration tool builds on this screening and provides detailed chemicals guidance for each REACH Candidate List substance. The guidance shows that 14 of the remaining 89 substances are only found in exotic materials and components, which means that the regulatory compliance burden at most suppliers is reduced by 61%.

Suppliers can rely on the chemicals guidance to identify materials and parts which are at risk of containing some of the 89 substances used in the electrotechnical industry. If the guidance indicates that the supplier's materials and parts are not at risk of containing a particular REACH Candidate List substance (for example, because the substance is used in PVDF plastic and the parts do not contain this type of plastic) then the supplier can claim compliance without additional efforts. The guidance helps the supplier to investigate substances which may be present in their parts and materials by providing information on known uses, typical addition rates and common trade names.

Saving time and reducing costs for REACH compliance has become even more important since the European Court of Justice ruling published 10 September 2015 and the new ECHA Guidance published December 2015. The ruling imposes new duties on successive companies all along the supply chain to provide information on REACH Candidate List substances in individual articles in the products they supply. In particular, the producer of the finished product is required to inform their customer if any individual article in the product contains a REACH Candidate List substance in a concentration > 0.1% w/w of the article.

Substance Category Name	CAS number(s) published by ECHA	Likely to be present in articles > 0.1% w/w?	Comments
Included in REACH Candidate List on 28 October 2008			
Triethyl arsenate	15606-95-8	No	Triethyl arsenate is used as a process chemical in the manufacturing process for semiconductor components (for example, Gallium Arsenide components). The triethyl arsenate is fully reacted during the manufacturing process. As a result triethyl arsenate is not detectable as a substance above 0.1% w/w in the manufactured semiconductor components.
Sodium dichromate, dihydrate	7789-12-0, 10588-01-9	No	Sodium dichromate (dehydrate form) is used in the metal finishing industry for chrome plating and corrosion resistance (passivating and anodising). The metal finishing processes are followed by several rinsing processes to remove excess process solution from the surface of the treated article. Therefore, in all of these cases, Sodium dichromate (dehydrate form) is not detectable as a substance in, or on, the treated article.
Lead hydrogen arsenate	7784-40-9	No	Lead hydrogen arsenate was previously used as a pesticide in agricultural applications. This application is not relevant to the electrotechnical industry.
Hexabromocyclododecane (HBCDD) and all major diastereoisomers	25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8	Yes	See detailed chemicals guidance in BOMcheck for further information.
Dibutyl phthalate (DBP)	84-74-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
Diarsenic trioxide	1327-53-3	Yes	See detailed chemicals guidance in BOMcheck for further information.
Diarsenic pentoxide	1303-28-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
Tributyl tin oxide (TBTO)	56-35-9	Yes	See detailed chemicals guidance in BOMcheck for further information.

Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	Yes	See detailed chemicals guidance in BOMcheck for further information.
Benzyl butyl phthalate (BBP)	85-68-7	Yes	See detailed chemicals guidance in BOMcheck for further information.
Anthracene	120-12-7	No	Anthracene is used as an intermediate in the production of dyes and pesticides. It is used in pyrotechnics for film and theatre productions as a component of black smoke. Anthracene is also found in coal tar derivatives such as creosote used for the treatment of wood for use in the construction industry. These applications are not relevant to the electrotechnical industry.
Shortchain Chlorinated Paraffins (C10 – C13)	85535-84-8	Yes	See detailed chemicals guidance in BOMcheck for further information.
5-tert-butyl-2,4,6-trinitro-m-xylene	81-15-2	No	5-tert-butyl-2,4,6-trinitro-m-xylene (also known as musk xylene) as has been used since the early 1900s as a fragrance ingredient in perfumes, soaps, detergents and cosmetics. This application is not relevant to the electrotechnical industry.
4,4'-Diaminodiphenylmethane	101-77-9	No	4,4'- Diaminodiphenylmethane (also known as MDA) is used as a hardener for epoxy resins, hardener in adhesives and intermediate in the manufacture of polyurethane. However, in all cases the substance becomes fully reacted in a polymerisation process. As a result, 4,4'- Diaminodiphenylmethane is not detectable as a substance above 0.1% w/w in supplied articles.
Cobalt dichloride (CoCl2)	7646-79-9	Yes	See detailed chemicals guidance in BOMcheck for further information.
Included in REACH Candidate List on 13 January 2010: Unique ID == EUREACH-0110			
~~*Refractory Ceramic Fibres, Zirconia Aluminosilicate*~~			In the June 2012 update to the REACH Candidate List, ECHA consolidated the entries for Aluminosilicate Refractory Ceramic Fibres and Zirconia Aluminosilicate Refractory Ceramic Fibres which were included in the List in January 2010 and also in December 2011. The ECHA Press Release notes that the scope of the more recent Aluminosilicate Refractory Ceramic Fibres and Zirconia Aluminosilicate Refractory Ceramic Fibres entries in the December 2011 List fully

~~*Refractory Ceramic Fibres, Aluminosilicate*~~			covers the earlier entries in the January 2010 List, and so these earlier entries are now consolidated into the December 2011 List. The REACH Candidate List published by ECHA now has only one entry for Aluminosilicate Refractory Ceramic Fibres and only one entry for Zirconia Aluminosilicate Refractory Ceramic Fibres, and these entries are included in the December 2011 List. The January 2010 List no longer includes Refractory Ceramic Fibres, Zirconia Aluminosilicate and Refractory Ceramic Fibres, Aluminosilicate.
Tris (2-chloroethyl) phosphate (TCEP)	115-96-8	Yes	See detailed chemicals guidance in BOMcheck for further information.
Coal tar pitch, high temperature	65996-93-2	No	Coal tar pitch is used for making anodes and electrodes for electric arc furnaces for aluminium and steel industries. It is also used as a binder in clay-pigeons for sport shooting and for roofing products. These applications are not relevant to the electrotechnical industry.
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead chromate molybdate sulfate red (C.I. Pigment Red 104)	12656-85-8	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead chromate	7758-97-6	Yes	See detailed chemicals guidance in BOMcheck for further information.
Diisobutyl phthalate (DIBP)	84-69-5	Yes	See detailed chemicals guidance in BOMcheck for further information.
Anthracene oil, anthracene paste,distn. Lights	91995-17-4	No	Anthracene is used as an intermediate in the production of dyes and pesticides. It is used in pyrotechnics for film and theatre productions as a component of black smoke. Anthracene is also found in coal tar derivatives such as creosote used for the treatment of wood for use in the construction industry. These applications are not relevant to the electrotechnical industry.
Anthracene oil, anthracene paste,anthracene fraction	91995-15-2	No	
Anthracene oil, anthracene paste	90640-81-6	No	
Anthracene oil, anthracene-low	90640-82-7	No	
Anthracene oil	90640-80-5	No	

2,4-Dinitrotoluene	121-14-2	No	2,4-Dinitrotoluene is used as an intermediate in the manufacture of explosives (examples include TNT) and isocyanates (the isocyanates are then used to manufacture flexible polyurethane foams). 2,4-Dinitrotoluene is also used in propellants (examples include smokeless gunpowder). These applications are not relevant to the electrotechnical industry.
Included in REACH Candidate List on 30 March 2010: Unique ID == EUREACH-0310			
Acrylamide	79-06-1	No	Acrylamide is used as an intermediate in the production of polyacrylamides, which are used in various applications, in particular in waste water treatment and paper processing. This application is not relevant to the electrotechnical industry.
Included in REACH Candidate List on 18 June 2010: Unique ID == EUREACH-0610			
Sodium chromate	7775-11-3	No	Sodium chromate, potassium chromate, ammonium dichromate and potassium dichromate are used as intermediates in the production of chromium pigments and dyes (e.g. based on lead, strontium, barium and zinc cations). Sodium chromate, potassium chromate, ammonium dichromate and potassium dichromate themselves are not used as pigments or dyes. Sodium chromate, potassium chromate, ammonium dichromate and potassium dichromate are used as process chemicals in electroplating (chrome plating) and conversion coatings (passivating and anodizing). In the passivation process, the strong oxidative properties of chromates are used to deposit a protective oxide layer of complex chromium compounds on metallic surfaces. The anodizing process is used only for alumunium and increases the thickness of the natural oxide layer on the surface of the aluminium. A sealing process is then used to fill the pores in the aluminium oxide layer. In all of these applications, sodium chromate, potassium chromate, ammonium dichromate and potassium dichromate are not detectable as substances in the electroplated or conversion coated part.
Potassium chromate	7789-00-6	No	

Ammonium dichromate	7789-09-5	No	The dichromates are also used as a mordant (reagent) in the leather tanning industry and the textile industry. The reaction process is based on an oxidation-reduction reaction. Sodium chromate, potassium chromate, ammonium dichromate and potassium dichromate are not detectable as substances in the leather or textile articles. Potassium dichromate and sodium dichromate are used in the manufacture of wood preservatives including copper chrome arsenic (CCA). The dichromates are reduced to form a complex solution of copper chromates and arsenates. Potassium dichromate and sodium dichromate are not detectable as substances in the treated wood. An aqueous slurry of ammonium dichromate, polyvinyl alcohol and phosphor is spin-coated to produce the phosphor raster of older models of televisions and other cathode-ray tube display devices. However, the percentage weight of ammonium dichromate in the cathode ray tube is considerably less than 0.1% by weight of the tube.
Potassium dichromate	7778-50-9	No	
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Disodium tetraborate, anhydrous	1303-96-4, 1330-43-4, 12179-04-3	Yes	See detailed chemicals guidance in BOMcheck for further information.
Boric acid	10043-35-3, 11113-50-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Trichloroethylene	79-01-6	No	Trichloroethylene is a clear, non-flammable solvent which has an ideal vapour pressure for use as a hot metal degreaser and as a solvent in specialist adhesives where a low flammability solvent is required. It has also been used as a solvent in the leather and textiles processing industries and was previously used as a solvent in paint, inks, lacquers and varnishes (this use was discontinued. The vapour pressure of trichloroethylene is around 82 kPa at 20°C which means it evaporates at a relatively fast rate at room temperature (for example, the vapour pressure of ethanol is around 9 kPa at 20°C). As a result, trichloroethylene is not detectable as a substance in hardware products or electrical/electronic equipment.
Included in REACH Candidate List on 15 December 2010: Unique ID == EUREACH-1210			

2-Ethoxyethanol	110-80-5	No	2-Ethoxyethanol is a colourless liquid at room temperature which boils at about 135°C. Also known by the trademark Cellosolve or as ethyl cellosolve, 2-Ethoxyethanol is a solvent which is used widely in commercial and industrial applications. The vapour pressure of 2-Ethoxyethanol is around 5.3 hPa at 20°C which means it evaporates at a moderate rate at room temperature (for example, the vapour pressure of ethanol is around 9 hPa at 20°C). 2-Ethoxyethanol production is used as a solvent in a wide range of commercial and industrial applications. It will dissolve oils, resins, grease, waxes, nitrocellulose, and lacquers. This is an ideal property as a multi-purpose cleaner and therefore 2-ethoxyethanol is used in products such as varnish removers and degreasing solutions. 2-ethoxyethanol is also used as a solvent in the formulation of paints, lacquers, varnishes and printing inks. In all of these applications, 2-Ethoxyethanol evaporates during use and as a result 2-Ethoxyethanol is not detectable as a substance in articles in concentrations > 0.1% w/w of the article.
2-Methoxyethanol	109-86-4	No	2-Methoxyethanol is a colourless, viscous liquid at room temperature which boils at about 124°C and has an ether-like odor. The vapour pressure of 2-Methoxyethanol is around 10 hPa at 20°C which means it evaporates at a moderate rate at room temperature (for example, the vapour pressure of ethanol is around 9 hPa at 20°C). 2-Methoxyethanol has previously been used as a carrier solvent where is it is used to dissolve chemicals such as cellulose acetate, various resins used in the electronics industry, and certain dyes. 2-Methoxyethanol has also been used as a drying solvent to create quick-drying varnishes, paints, enamels, nail polishes, and wood stains. In all of these applications, 2-Methoxyethanol evaporates during use and as a result 2-Methoxyethanol is not detectable as a substance in articles in concentrations > 0.1% w/w of the article.
Cobalt(II) Carbonate	513-79-1	No	Cobalt(II) Carbonate decomposes on heating to form Cobalt Oxide and Carbon Dioxide. This property enables Cobalt(II) Carbonate to be used in the production of cobalt pigments for ceramics and glasses and used in ceramics, glazes and enamels to protect from discolouring. However, Cobalt(II) Carbonate is not detectable as a substance in, or on, the finished ceramics, glazes or enamels.

Cobalt(II) Dinitrate	10141-05-6	No	Cobalt(II) Dinitrate is used as a chemical ingredient in surface treatment processes including anodizing, electro-deposition and non-electrodeposition of cobalt and other metal platings. Cobalt(II) Dinitrate is also used as a chemical ingredient in corrosion protection processes. In all these cases, Cobalt(II) Dinitrate is not detectable as a substance in, or on, the finished hardware article. Cobalt salts, including Cobalt(II) Dinitrate, are used in the manufacture of LiOn, NiCd and NiMH batteries. However, Cobalt(II) Dinitrate is not detectable as a substance in LiOn, NiCd or NiMH batteries. Cobalt(II) Dinitrate decomposes at 105°C to generate nitrous oxides. This property enables Cobalt(II) Dinitrate to be used in the production of cobalt pigments for ceramics and glasses and used in ceramics, glazes and enamels to protect from discolouring. However, Cobalt(II) Dinitrate is not detectable as a substance in, or on, the finished ceramics, glazes or enamels.
Cobalt(II) Sulphate	10124-43-3	No	Cobalt(II) Sulphate is used as a chemical ingredient in surface treatment processes including anodizing, electro-deposition and non-electrodeposition of cobalt and other metal platings. Cobalt(II) Sulphate is also used as a chemical ingredient in corrosion protection processes. In all these cases, Cobalt(II) Sulphate is not detectable as a substance in, or on, the finished hardware article. Cobalt salts, possibly including Cobalt(II) Suphate, are used in the manufacture of LiOn, NiCd and NiMH batteries. However, Cobalt(II) Sulphate is not detectable as a substance in LiOn, NiCd or NiMH batteries. Cobalt salts, possibly including Cobalt(II) Sulphate, are used in the manufacture of magnetic recording materials (for example video tapes). However, Cobalt(II) Sulphate is not detectable as a substance in, or on, the finished magnetic recording material. Cobalt(II) Sulphate decomposes at 735°C to oxides of sulphur and cobalt/cobalt oxides. This property enables Cobalt(II) Sulphate to be used in the production of cobalt pigments for ceramics and glasses and used in ceramics, glazes and enamels to protect from discolouring. However, Cobalt(II) Sulphate is not detectable as a substance in, or on, the finished ceramics, glazes or enamels.

Cobalt(II) Diacetate	71-48-7	No	Cobalt(II) Diacetate is used as a chemical ingredient in surface treatment processes including anodizing, electro-deposition and non-electrodeposition of cobalt and other metal platings. Cobalt(II) Diacetate is also used as a chemical ingredient in corrosion protection processes. In all these cases, Cobalt(II) Diacetate is not detectable as a substance in, or on, the finished hardware article. Cobalt(II) Diacetate starts to decompose at 140 ^{o}C and fully decomposes at 298 ^{o}C. Cobalt(II) Diacetate is used in the production of cobalt pigments for ceramics and glasses and used in ceramics, glazes and enamels to protect from discolouring. However, Cobalt(II) Diacetate is not detectable as a substance in, or on, the finished ceramics, glazes or enamels. Cobalt soaps (including Cobalt(II) Diacetate) are incorporated into rubber to assist the bonding of steel to the rubber during the vulcanization process (e.g. to make car tyres). Cobalt(II) Diacetate starts to decompose at 140^{o}C with the loss of water of hydration and fully decomposes at 298^{o}C. Rubber vulcanisation processes are generally carried out between 160^{o}C and 200^{o}C. Therefore, Cobalt(II) Diacetate is not detectable as a substance in the vulcanized rubber / steel article in concentrations > 0.1% w/w of the article. The Cobalt Development Institute has also confirmed that the purpose of adding Cobalt(II) Diacetate to the rubber is to synthesize other substances which promote adhesion of the rubber. Cobalt(II) Diacetate is used to speed up the drying process for paints, inks and varnishes which are based on unsaturated oils such as linseed oil and soybean oil. Where Cobalt(II) Diacetate is used, water-based alkyd paints can contain about 0.2% Cobalt(II) Diacetate whereas oil-based paints contain between 0.01% and 0.05% Cobalt(II) Diacetate. However, the weight of the paint layer on the article will be less than 5% of the article weight. Therefore in both cases, the concentration of Cobalt(II) Diacetate that could be detectable in, or on, the article will be considerably less than 0.1% w/w of the article. In view of this, Cobalt(II) Diacetate is not detectable as a substance in painted or varnished articles in concentrations > 0.1% w/w of the article.

Chromium Trioxide	1333-82-0	No	Chromium Trioxide is mainly used as a solution in water. When Chromium Trioxide is dissolved in water, the resulting solution contains an equilibrium of Chromium Trioxide, Chromic Acid, Dichromic Acid and oligomers of these acids. Accordingly, the applications where Chromic Acid and Dichromic Acid may be used in the hardware and electronics industry are exactly the same as the applications for Chromium Trioxide. Chromium Trioxide is used as an ingredient for electroplating processes (e.g. hard chrome plating, decorative or bright-chrome plating) conversion coatings (e.g. passivation of zinc, aluminium, cadmium and brass) and in metal pickling processes. These metal finishing processes are followed by several rinsing processes to remove excess process solution from the surface of the treated article. Therefore, in all of these cases, Chromium Trioxide, Chromic Acid and Dichromic acid are not detectable as a substances in, or on, the treated article. Chromium Trioxide is used in the manufacture of copper chrome arsenic (CCA) word preservatives and other chromium containing wood preservatives including copper chrome (CC), copper chrome boron (CCB) and copper chrome phosphate (CCP). These wood preservatives are used in industrial timber treatment plants. Most industrial CCA treatment plants use vacuum pressure impregnation during which all of the Cr(VI) is reduced to Cr(III) in which case Chromic Acid is not detectable as a substance in the treated wooden article. In other treatment processes, the Chromium Trioxide is reduced to form a complex solution of copper chromates. Chromium Trioxide, Chromic Acid and Dichromic acid are not detectable as a substance in the treated wood.
Acids generated from chromium trioxide and their oligomers	7738-94-5, 13530-68-2	No	
Included in REACH Candidate List on 20 June 2011: Unique ID == EUREACH-0611			
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	Yes	See detailed chemicals guidance in BOMcheck for further information.

1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	Yes	See detailed chemicals guidance in BOMcheck for further information.
1,2,3-Trichloropropane	96-18-4	No	1,2,3-trichloropropane is a colorless liquid at room temperature which boils at about 157°C and has a sharp, sweet smell. It has a vapour pressure of 290 Pa at 20°C and evaporates quickly at room temperature. Today 1,2,3-Trichloropropane is used primarily as a building block for the synthesis of other products (e.g. pesticides) and also as a cross-linking agent in the production of certain polymers (e.g. Polysulfide elastomers, Hexafluoropropylene). It has previously been used as solvent in degreasing agents and in paint and varnish removers. In these applications, 1,2,3-trichloropropane is used as a solvent and evaporates during the application process. Therefore, 1,2,3-trichloropropane is not detectable as a substance in concentrations > 0.1% by weight of the supplied article.

1-Methyl-2-pyrrolidone	872-50-4	No	1-methyl-2-pyrrolidone is a colourless liquid at room temperature which has an ammonia-like smell and boils at about 204°C and has a vapour pressure of 40 Pa at 20°C. It is used as a solvent to dissolve a wide range of chemicals (especially polymers) and also as a solvent for surface treatment of textiles, resins and metal coated plastics, in paint strippers. 1-methyl-2-pyrrolidone is used as a solvent for baked coatings which are cured at relatively high temperatures, in a very wide range of applications encompassing industrial, professional and consumer uses. The concentration of 1-methyl-2-pyrrolidone in paint ranges between 1 – 10%. 1-methyl-2-pyrrolidone is also used as a powerful cleaning solvent for plastics, resins, oils and grease. For example, it can be used alone or in blends for removal of oil, carbon deposits and other tarry polymeric residues from metal chambers, pistons and cylinders of engines. 1-methyl-2-pyrrolidone is also used as a solvent in the electronics industry. 1-methyl-2-pyrrolidone is used as a carrier solvent for photoresists and is also used as a stripper to remove photoresist from wafers and photo masks during semiconductor manufacturing. In all of these applications, 1-methyl-2-pyrrolidone is used as a solvent and evaporates during the application process. Therefore, 1-methyl-2-pyrrolidone is not detectable as a substance in concentrations > 0.1% by weight of the supplied article.
Hydrazine	302-01-2, 7803-57-8	No	Anhydrous Hydrazine (CAS 302-01-02) is used as a propellant for aerospace vehicles (satellite propulsion and upper stages of satellite launchers), as a fuel in military emergency power units (e.g. for F-16 fighter jets and gas generators for submarine rescue systems), as a controlled explosive, and as an intermediate to manufacture other chemicals. None of these uses are relevant to hardware products or electrical and electronic equipment. Hydrated Hydrazine (CAS 7803-57-8) is formed when anhydrous hydrazine is mixed with water. Hydrated Hydrazine (CAS 7803-57-8) is also known as hydrazine hydroxide and the chemical solution is sold for use in several applications including for use in water treatment, as a laboratory reagent and for use in chemical reactions to make other chemicals. Hydrated Hydrazine is an aqueous solution and is not found in hardware products or electrical and electronic equipment.

Strontium chromate	7789-06-2	No	Strontium chromate is a light yellow powder or granular solid which decomposes at about 500°C to chromium (III) oxide. It is used as a rust-inhibiting pigment to provide corrosion protection to metal substrates (iron, steel, zinc and aluminium). Due to its toxicity, the use of strontium chromate is now restricted to a few applications where there are no alternatives. As a result, the main current commercial applications of strontium chromate are as a pigment in primers for aerospace applications (for the protection of aluminium) and coil coated galvanized steel (for the protection of zinc and steel). A typical chromate primer contains around 3 to 5% strontium chromate pigment. The coil coating process involves applying very thin (5 to 20 micron thick) and highly uniform layers of paint to a moving, flat metal strip (coil) in a continuous and automatic process. Strontium chromate is used exclusively in primer paints beneath a top-coat in the finished product. In all of these primers applications, the weight of strontium chromate used relative to the weight of the metal substrate means that the strontium chromate will always represent < 0.1% w/w of the finished article.
2-Ethoxyethyl acetate	111-15-9	No	2-ethoxyethyl acetate is a colourless liquid at room temperature which boils at about 156°C. It is a Volatile Organic Compound (VOC) and has a vapour pressure of 270 Pa at 20°C. 2-Ethoxyethyl acetate is mainly used as a solvent in the chemical industry and as a solvent in some paints, coatings and adhesives, as well as in some wood stains and lacquers and varnishes for industrial use (e.g. in automobile lacquers to retard evaporation and impart a high gloss). 2-Ethoxyethyl acetate is also used as a hardener for epoxy resins. In all of these applications, 2-ethoxyethyl acetate evaporates or is reacted during use and as a result 2-ethoxyethyl acetate is not detectable as a substance in articles in concentrations > 0.1% w/w of the article.
Included in REACH Candidate List on 19 December 2011: Unique ID == EUREACH-1211			
2,2'-dichloro-4,4'-methylenedianiline	101-14-4	Yes	See detailed chemicals guidance in BOMcheck for further information.
Bis(2-methoxyethyl) phthalate	117-82-8	Yes	See detailed chemicals guidance in BOMcheck for further information.

Bis(2-methoxyethyl) ether	111-96-6	Yes	See detailed chemicals guidance in BOMcheck for further information.
Calcium arsenate	7778-44-1	No	Calcium arsenate is present as impurities in complex raw materials which are imported for the subsequent manufacture of copper, lead and a range of precious metals. During the metallurgical process the arsenic impurities are disposed of as waste. Calcium arsenate is also used as a precipitating agent in copper smelting and to manufacture diarsenic trioxide. As a result, calcium arsenate is not found in concentrations > 0.1% w/w in hardware articles.
Potassium hydroxyoctaoxodizincatedi-chromate	11103-86-9	No	Potassium hydroxyoctaoxodizincatedi-chromate and pentazinc chromate octahydroxide are used as rust-inhibiting pigments to provide corrosion protection to metal substrates (iron, steel, zinc and aluminium). The main current commercial applications of potassium hydroxyoctaoxodizincatedi-chromate and pentazinc chromate octahydroxide are as pigments in primers for aerospace and automotive applications (for the protection of aluminium) and coil coated galvanized steel (for the protection of zinc and steel). A typical chromate primer contains around 3 to 5% potassium hydroxyoctaoxodizincatedi-chromate pigment or pentazinc chromate octahydroxide pigment. The coil coating process involves applying very thin (5 to 20 micron thick) and highly uniform layers of paint to a moving, flat metal strip (coil) in a continuous and automatic process. Potassium hydroxyoctaoxodizincatedi-chromate and pentazinc chromate octahydroxide are used exclusively in primer paints beneath a top-coat in the finished product. In all of these primers applications, the weight of potassium hydroxyoctaoxodizincatedi-chromate pigment and pentazinc chromate octahydroxide used relative to the weight of the metal substrate means that the potassium hydroxyoctaoxodizincatedi-chromate and pentazinc chromate octahydroxide will always represent < 0.1% w/w of the finished article.
Pentazinc chromate octahydroxide	49663-84-5	No	
Lead dipicrate	6477-64-1	No	Lead dipicrate is an explosive which, because of its extreme sensitivity to impact, has been replaced by easier to handle superior explosives such as lead diazide and lead styphnate. Due to its explosive properties, lead dipicrate is not found in concentrations > 0.1% w/w in hardware articles.

N,N-dimethylacetamide	127-19-5	Yes	See detailed chemicals guidance in BOMcheck for further information.
Arsenic acid	7778-39-4	No	Arsenic acid is used as a fining agent in the manufacturer of ceramic glass (to remove gas bubbles from the glass melt) which is mainly used for vitro-ceramic household appliances. Arsenic acid decomposes when heated above 100°C to form arsenic pentoxide, which undergoes further decomposition above 300 °C. Both of these temperatures are exceeded during the manufacture of ceramic glass. As a result, arsenic acid is not detectable as a substance in ceramic glass articles. Arsenic acid is also used in manufacture of copper foil laminate for printed circuit boards where it is reduced to elemental arsenic (i.e. arsenic acid is not detectable as a substance on the copper foil laminate).
2-Methoxyaniline; o-Anisidine	90-04-0	No	o-Anisidine, also known as 2-Methoxyaniline, is used as an intermediate to manufacture dyes for tattooing and coloration of paper, polymers and aluminium foil. In all these applications, o-Anisidine is reacted to form another substance (the dye). As a result, o-Anisidine is not present in concentrations > 0.1% w/w in hardware articles.
Trilead diarsenate	3687-31-8	No	Trilead diarsenate is present as impurities in complex raw materials which are imported for the subsequent manufacture of copper, lead and a range of precious metals. During the metallurgical process the arsenic impurities are disposed of as waste. As a result, trilead diarsenate is not found in concentrations > 0.1% w/w in hardware articles.
1,2-dichloroethane	107-06-2	No	Over 95% of 1,2-Dichloroethane is used as an intermediate for the manufacture of vinyl chloride monomer for production of polyvinyl chloride (PVC). The substance is also used as an intermediate in the manufacture of fine chemicals (e.g. ethyleneamines and vinylidene chloride) and as a solvent in the chemical and pharmaceutical industry. As a result, 1,2-Dichloroethane is not found in concentrations > 0.1% w/w in hardware articles.

Formaldehyde, oligomeric reaction products with aniline	25214-70-4	No	Formaldehyde, oligomeric reaction products with aniline is also known as Polymeric MDA (PMDA) and has very similar uses to MDA. About 98% of PMDA is used as in intermediate to manufacture methylene diphenyl-diisocyanate (MDI). Other uses of PMDA include as a hardener for epoxy resins (e.g. for the production of rolls, pipes and moulds) and as a hardener for epoxy resin adhesives. In all these applications, PMDA is reacted in a polymerization process and so PMDA is not present in concentrations > 0.1% w/w in hardware articles.
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	No	4-(1,1,3,3-tetramethylbutyl)phenol, also known as 4-tert-Octylphenol, is mainly used as an intermediate to manufacture phenolic resins (98%) and octylphenol ethoxyates (2%) which are further used as a component in adhesives, coatings, inks and rubber articles. 4-tert-Octylphenol also has minor uses in solvent free paints for exterior use and in solvent based adhesives and putty. As a result, 4-tert-Octylphenol is not found in concentrations > 0.1% w/w in hardware articles.
Lead diazide, Lead azide	13424-46-9	No	Lead azide, also known as lead diazide, is explosive which is used as an initiator or booster in detonators for both civilian and military uses and as initiator in pyrotechnic devices. As a result, lead diazide is not found in concentrations > 0.1% w/w in hardware articles.
Phenolphthalein	77-09-8	No	Phenolphthalein is mainly used as a pH indicator, for example in mixtures and in chemical reagents, and in other pH indicator applications such as colour- changing dyes and in pH-indicator papers. It is also used in pharmaceutical preparations (e.g. laxatives) and in other medicines. As a result, phenolphthalein is not found in concentrations > 0.1% w/w in hardware articles.

Dichromium tris(chromate)	24613-89-6	No	Dichromium tris(chromate) is used as a process chemical in electroplating (chrome plating) and conversion coatings (passivating and anodizing). In the passivation process, the strong oxidative properties of chromates are used to deposit a protective oxide layer of complex chromium compounds on metallic surfaces. The anodizing process is used only for alumunium and increases the thickness of the natural oxide layer on the surface of the aluminium. A sealing process is then used to fill the pores in the aluminium oxide layer. In all of these applications, Dichromium tris(chromate) is not detectable as a substance in the electroplated or conversion coated part.
Lead styphnate	15245-44-0	No	Lead styphnate is an explosive which is used as a primer for small calibre and rifle ammunition and in munition pyrotechnics, powder actuated devices and detonators for civilian use. Due to its explosive properties, lead styphnate is not found in concentrations > 0.1% w/w in hardware articles.
Zirconia Aluminosilicate Refractory Ceramic Fibres	No CAS number(s) provided	Yes	See detailed chemicals guidance in BOMcheck for further information.
Aluminosilicate Refractory Ceramic Fibres	No CAS number(s) provided	Yes	See detailed chemicals guidance in BOMcheck for further information.
Included in REACH Candidate List on 18 June 2012: Unique ID == EUREACH-0612			
Diboron trioxide	1303-86-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead(II) bis(methanesulfonate)	17570-76-2	No	Lead(II) bis(methanesulfonate) is used as a process chemical in tin-lead electroless and electrolytic plating processes for electronic components. The electroplating process uses the Lead(II) bis(methanesulfonate) to create a metal plating and any surplus process chemicals are removed from the plated article during subsequent washing and cleaning processes. As a result, Lead(II) bis(methanesulfonate) is not detectable as a substance in the electroplated article. The finished plating is not RoHS compliant and so alternative electroplating processes are increasingly replacing the use of Lead(II) bis(methanesulfonate).

1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	Yes	See detailed chemicals guidance in BOMcheck for further information.
Formamide	75-12-7	No	Formamide, also known as methanamide, is a clear liquid at room temperature which is miscible with water and has an ammonia-like odor. It is used as an intermediate for the manufacture of pharmaceuticals (e.g. vitamins and pyrimidines) and other chemicals (e.g. hydrogen cyanide, triazoles). It is also used as an intermediate for paper finishing (formamide softens the paper fibres) and as a solvent (e.g. in the production of synthetic leather and inks). Formamide is not present in concentrations > 0.1% w/w in supplied articles.
1,3,5-tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	No	TGIC is an epoxy compound which is used as a hardener in resins and coatings which are cured by heat treatment. TGIC is mainly used as a hardener for polyester powder coatings which are used to provide protective coatings to a wider range of metal products, from window frames to fridges. The addition rate of the hardener to the coating can be between 4% and 10% and the coating is cured by heat treatment at about 200°C. TGIC is also used in the hardener component in solder mask inks which are used to print the circuit image onto a printed circuit board. The hardener component of the solder mask ink can contain between 25% and 60% TGIC and the solder mask ink is cured by heat treatment at about 150°C. During these heat treatment processes, the TGIC becomes fully cross-linked into the resin or coating to form a solid matrix. As a result, TGIC is not detectable as a substance in the resin or coating in supplied articles.
1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (B-TGIC)	59653-74-6	No	

4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	No	Michler's Ketone is used as an intermediate to manufacture a wide range of dyes which are then used to manufacture inks and colorants. Most modern manufacturing processes are very tightly controlled and in this case Michler's Ketone is fully reacted during the manufacture of the dye. However, this is not always the case and assessments in Canada have found that when present as a residual impurity in the dye, Michler's Ketone can be detected in concentrations up to 4.5% by weight of the dye. The dye is mixed with other substances to form inks or colorants, and so the percentage of Michler's Ketone which is present in the supplied inks or colorants is very small. Detailed studies of a wide range of ballpoint inks in Germany detected a maximum concentration of Michler's Ketone in the ball point ink of 0.124% by weight of the ink. Detailed studies of printed paper and printed paperboard in Japan detected a maximum concentration of Michler's Ketone in the paper of 0.0012% by weight of the paper. In view of these data, Michler's Ketone is not present in concentrations > 0.1% w/w in supplied articles.

N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	No	The structural formula for Michler's Base is identical to Michler's Ketone with the exception of substitution of two single bonds to two hydrogen atoms with a double bond to one oxygen atom, located between the two benene rings. Similar to Michler's Ketone, Michler's base is used as an intermediate to manufacture a wide range of dyes which are then used to manufacture inks and colorants. Most modern manufacturing processes are very tightly controlled and in this case Michler's Base is fully reacted during the manufacture of the dye. However, this is not always the case and, similar to Michler's Ketone, it is expected that when present as a residual impurity in the dye, Michler's Base may be detected in concentrations up to 4.5% by weight of the dye. The dye is mixed with other substances to form inks or colorants, and so the percentage of Michler's Base which is present in the supplied inks or colorants is very small. Detailed studies of a wide range of ballpoint inks in Germany detected a maximum concentration of Michler's Ketone in the ball point ink of 0.124% by weight of the ink. Detailed studies of printed paper and printed paperboard in Japan detected a maximum concentration of Michler's Ketone in the paper of 0.0012% by weight of the paper. In view of these data for Michler's Ketone, Michler's Base is not present in concentrations > 0.1% w/w in supplied articles.

[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	No	Either Michler's Ketone or Michler's Base can be used as an intermediate to manufacture C.I. Basic Blue 26, which is a blue dye. ECHA proposes to add C.I. Basic Blue 26 to the REACH Candidate List only where C.I. Basic Blue 26 contains > 0.1% of Michler's Base or Michler's Ketone as a residual impurity from the manufacturing process. ECHA carried out a survey of dye suppliers in the EU in 2011 and found that < 10% of these companies reported that their C.I. Basic Blue 26 contained > 0.1% of Michler's Base or Michler's Ketone as a residual impurity. When present as an impurity in C.I. Basic Blue 26, Michler's Ketone or Michler's Base may be detected in concentrations up to 4.5% by weight of the C.I. Basic Blue 26. The dye is mixed with other substances to form inks and colorants. The maximum concentration of C.I. Basic Blue 26 dye that would be found in an ink or colorant is about 10%, which in turn will represent considerably less than 1% of the weight of the supplied article. Therefore, the presence of C.I. Basic Blue 26 dye in inks or colorants will not lead to a concentration of more than 0.1% w/w of C.I. Basic Blue 26 in the supplied article, regardless of whether the C.I. Basic Blue 26 does actually contain > 0.1% of Michler's Base or Michler's Ketone as a residual impurity.

a,a-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	No	Either Michler's Ketone or Michler's Base can be used as an intermediate to manufacture C.I. Solvent Blue 4, which is also a blue dye. In fact, C.I. Solvent Blue 4 is a derivative of C.I. Basic Blue 26. ECHA proposes to add C.I. Solvent Blue to the REACH Candidate List only where C.I. Solvent Blue 4 contains > 0.1% of Michler's Base or Michler's Ketone as a residual impurity from the manufacturing process. When present as an impurity in C.I. Solvent Blue 4, Michler's Ketone or Michler's Base may be detected in concentrations up to 4.5% by weight of the C.I. Solvent Blue 4. The dye is mixed with other substances to form inks and colorants. The maximum concentration of C.I. Solvent Blue 4 dye that would be found in an ink or colorant is about 10%, which in turn will represent considerably less than 1% of the weight of the supplied article. Therefore, the presence of C.I. Solvent Blue 4 dye in inks or colorants will not lead to a concentration of more than 0.1% w/w of C.I. Solvent Blue 4 in the supplied article, regardless of whether the C.I. Solvent Blue 4 does actually contain > 0.1% of Michler's Base or Michler's Ketone as a residual impurity.

[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa -2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	No	Either Michler's Ketone or Michler's Base can be used as an intermediate to manufacture C.I. Basic Violet 3. ECHA proposes to add C.I. Basic Violet 3 to the REACH Candidate List only where C.I. Basic Violet 3 contains > 0.1% of Michler's Base or Michler's Ketone as a residual impurity from the manufacturing process. Based on the registrations received by the November 2010 deadline, ECHA estimates that less than 9% of C.I. Basic Violet 3 imported into the EU is expected to > 0.1% of Michler's Base or Michler's Ketone as a residual impurity. When present as an impurity in C.I. Basic Violet 3, Michler's Ketone or Michler's Base may be detected in concentrations up to 4.5% by weight of the C.I. Basic Violet 3. The dye is mixed with other substances to form inks and colorants. The maximum concentration of C.I. Basic Violet 3 dye that would be found in an ink or colorant is about 10%, which in turn will represent considerably less than 1% of the weight of the supplied article. Therefore, the presence of C.I. Basic Violet 3 dye in inks or colorants will not lead to a concentration of more than 0.1% w/w of C.I. Basic Violet 3 in the supplied article, regardless of whether the C.I. Basic Violet 3 does actually contain > 0.1% of Michler's Base or Michler's Ketone as a residual impurity.

4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with greater than or equal to 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	No	Either Michler's Ketone or Michler's Base can be used as an intermediate to manufacture 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol. ECHA proposes to 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol to the REACH Candidate List only where 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol contains > 0.1% of Michler's Base or Michler's Ketone as a residual impurity from the manufacturing process. When present as an impurity in 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol, Michler's Ketone or Michler's Base may be detected in concentrations up to 4.5% by weight of the 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol. The dye is mixed with other substances to form inks and colorants. The maximum concentration of 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol dye that would be found in an ink or colorant is about 10%, which in turn will represent considerably less than 1% of the weight of the supplied article. Therefore, the presence of 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol dye in inks or colorants will not lead to a concentration of more than 0.1% w/w of 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol in the supplied article, regardless of whether the 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol does actually contain > 0.1% of Michler's Base or Michler's Ketone as a residual impurity.
Included in REACH Candidate List on 19 December 2012: Unique ID == EUREACH-1212			
Pyrochlore, antimony lead yellow	8012-00-8	Yes	See detailed chemicals guidance in BOMcheck for further information.
6-methoxy-m-toluidine (p-cresidine)	120-71-8	No	6-methoxy-m-toluidine, also known as p-cresidine, is an azo dye which was previously used in the coloring process for textiles and leather articles. P-cresidine is one of 22 azo dyes which are already restricted under Article 67of the REACH Regulation. Since 2002 the maximum total concentration of any of these 22 azo dyes in leather or textile articles has been restricted to less than 30ppm. As a result, p-cresidine is not found in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.

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	No	Cyclic acid anhydrides are widely used in the chemical industry as an intermediate to manufacture other substances including polyester resins, alkyd resins and plasticizers for thermoplastic polymers. The alkyd resins are found in paints, varnishes and adhesives (see http://www.phadia.com/ko/3/ImmunoCAP-Allergens/Occupational-Allergens/Allergens/Phthalic-anhydride-/ for details). However, the cyclic acid anhydrides themselves are not found as detectable substances in paints, varnishes and adhesives. Cyclic acid anhydrides are also used as hardening agents / curing agents for epoxy resins and chain cross-linkers for thermoplastic polymers. In all of these applications, the cyclic acid anhydrides are used as an intermediate and they are reacted to form other substances. As a result, cyclic acid anhydrides are not detectable as substances in supplied articles for use in hardware and electrical and electronic equipment.
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	No	
Dibutyltin dichloride (DBTC)	683-18-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead bis(tetrafluoroborate)	13814-96-5	No	Lead bis(tetrafluoroborate) is mainly used in electroplating solutions for coating metal objects with lead. It is also used as a curing agent for epoxy resins and as a catalyst in the production of linear polyesters. These applications do not result in lead bis(tetrafluoroborate) being present in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.
Lead dinitrate	10099-74-8	Yes	See detailed chemicals guidance in BOMcheck for further information.

Silicic acid, lead salt	11120-22-2	No	Silicic acid, lead salt, also known as lead(2+) silicate, is used in the manufacture of lead crystal glass and ceramics. It becomes part of the glass or ceramic matrix and is not detectable as a substance in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.
4-Aminoazobenzene	60-09-3	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead titanium zirconium oxide	12626-81-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead monoxide (lead oxide)	1317-36-8	No	Lead oxide (lead monoxide) is used as a pigment in artist paints and is known as litharge or massicot. For example, see http://www.naturalpigments.com/detail.asp?PRODUCT_ID=437-59S for detailed information about how to use lead oxide (lead monoxide) as a pigment to make artist oil paints and varnishes. No information has been found to indicate any uses of lead oxide as a pigment in other applications (i.e. other than in artist paints). Lead monoxide is also used as an ingredient in the manufacture of lead batteries, however a more detailed literature review indicates that lead monoxide is not detectable as a substance in the supplied lead battery. Lead monoxide is used in the vulcanization of neoprene or polychloroprene rubber. In this application the lead monoxide becomes cross-linked into the rubber and is not detectable as a substance in the supplied rubber article. Lead monoxide is also used extensively in the manufacture of lead glasses and ceramic glazes as well as in fine dinnerware. In these applications the lead monoxide is converted into a lead silicate and so lead monoxide is not detectable as a substance in the supplied glass or ceramic articles.

o-Toluidine	95-53-4	No	o-Toluidine, also known as 2-Aminotoluene, is an azo dye which was previously used in the coloring process for textiles and leather articles. 2-Aminotoluene is one of 22 azo dyes which are already restricted under Article 67of the REACH Regulation. Since 2002 the maximum total concentration of any of these 22 azo dyes in leather or textile articles has been restricted to less than 30ppm. As a result, 2-Aminotoluene is not found in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	No	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine , known as Zoldine MS-Plus, is used: • to remove humidity during the spray application of two-component polyurethane systems • for water removal from polyols and pigments The substance is completely reacted during the moisture scavenging process. As a result, the substance is not found in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.
Silicic acid (H2Si2O5), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	Yes	See detailed chemicals guidance in BOMcheck for further information.

Trilead bis(carbonate)dihydroxide	1319-46-6	No	Basic lead carbonate, also known as white lead, was formerly used as an ingredient for lead paint and a cosmetic called Venetian Ceruse. It was previous used in artist paints because it has an opaque quality and makes a satiny smooth mixture when mixed with oils. These uses are not relevant to supplied articles for use in hardware and electrical and electronic equipment.
Furan	110-00-9	No	Furan is used primarily as an intermediate in the synthesis and production of tetrahydrofuran, pyrrole, and thiophene. Furan is also used in the formation of lacquers, as a solvent for resins, and in the production of agricultural chemicals, stabilizers, and pharmaceuticals. None of these uses are relevant to articles which are supplied for use in hardware and electrical and electronic equipment.
N,N-dimethylformamide	68-12-2	Yes	See detailed chemicals guidance in BOMcheck for further information.
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	No CAS number(s) provided	No	About 50% of 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (also known as 4-tert-octylphenol ethoxylates) are used in paints, varnishes and adhesives. The typical concentration of 4-tert-octylphenol ethoxylates in these mixtures is between 0 and 10% w/w, but some specific paint products can contain up to 30% w/w of 4-tert-octylphenol ethoxylates. When the paint, varnish or adhesive is applied to the article, it results in considerably less than 0.1% w/w of 4-tert-octylphenol ethoxylates in supplied articles in hardware and electrical and electronic equipment. Other uses of 4-tert-octylphenol ethoxylates include: • As a degreasing agent • As an emulsifier in finishing agents for covering leather and textiles with a thin polymer film for improved surface finish • As an emulsifier in pesticides to facilitate easier spraying of the pesticide These applications of 4-tert-octylphenol ethoxylates are not relevant to supplied articles for use in hardware and electrical and electronic equipment.

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]	No CAS number(s) provided	No	From January 2005, nonylphenols are banned from use as a substance or preparation in concentrations > 0.1% w/w in the EU in textiles and leather processing. However, 4-nonylphenols are still used in the production of textiles outside the EU as detergents, dispersing agents for dyeing, emulsifiers and spinning lubricants. Imported textile articles (such as towels, t-shirts, overalls and underwear) can typically contain 4-nonylphenols at concentrations ranging between 1 mg/kg and 1300 mg/kg (0.13% w/w). In one example, a t-shirt with a plastisol print contained 27000 mg/kg (2.7% w/w) of nonylphenol ethoxylates. When the textile articles are washed the nonylphenol ethoxylates are released into the sewerage system. But this application of 4-nonylphenols is not relevant to supplied articles in hardware and electrical and electronic equipment. Nonylphenol is used in certain homogenous materials in batteries but this does not result in the nonylphenol being present in a concentration > 0.1% w/w of the finished battery. Nonylphenol ethoxylates (and possibly also 4-nonylphenols) are also used for dry cleaning, car care products and other cleaning agents. These applications of 4-nonylphenols are also not relevant to supplied articles in hardware and electrical and electronic equipment. Nonylphenol ethoxylates (and possibly also 4-nonylphenols) are also used in paints, printing inks and water-based adhesives where they are typically found in concentrations of between 0.6% and 3% w/w. When the paint, ink or adhesive is applied to the article, it results in considerably less than 0.1% w/w of nonylphenol ethoxylates supplied articles for use in hardware and electrical and electronic equipment.
4,4'-methylenedi-o-toluidine	838-88-0	No	4,4'-methylenedi-o-toluidine is used as a building block to manufacture other chemical (e.g. Diphenylmethanes) and as a reagent for high-performance polymer research. These applications are not relevant to the electrotechnical industry.

Diethyl sulphate	64-67-5	No	Diethyl sulfate is an important chemical intermediate to make products for coatings, pharmaceuticals, personal care products, detergents and textiles. Diethyl sulfate is used as an alkylating agent to prepare ethyl derivatives of phenols, amines, and thiols. These applications are not relevant to the electrotechnical industry.
Dimethyl sulphate	77-78-1	No	Dimethyl sulphate is a strong methylating agent which is used as a key ingredient in the manufacture of many household and commercial chemical products. It is best known as a reagent for the methylation of phenols, amines, and thiols. These applications are not relevant to the electrotechnical industry.
Lead oxide sulfate	12036-76-9	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead titanium trioxide	12060-00-3	Yes	See detailed chemicals guidance in BOMcheck for further information.
Acetic acid, lead salt, basic	51404-69-4	No	Acetic acid, lead salt, basic (also known as basic lead acetate) is used as a reagent to make other lead compounds and as a fixative for some dyes. It was previously used in cosmetics and is still used today in men's hair coloring products. These applications are not relevant to the electrotechnical industry.
[Phthalato(2-)]dioxotrilead	69011-06-9	Yes	See detailed chemicals guidance in BOMcheck for further information.
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	Yes	See detailed chemicals guidance in BOMcheck for further information.
N-methylacetamide	79-16-3	No	N-Methylacetamide is used as a chemical intermediate in the production of other chemicals for use in wide variety of applications, including life sciences materials, agrochemicals, electronic materials and construction materials. N-Methylacetamide is also used as a laboratory reagent. These uses are not relevant to supplied articles for use in hardware and electrical and electronic equipment.

Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	No	Dinoseb is a contact herbicide in the dinitrophenol family which was used for weed control in cereals, undersown cereals, seedling lucerne and peas. Dinoseb was approved for use in the United States based on safety data from Industrial Bio-Test Laboratories and then subsequently withdrawn from the market in 1986 due to high incidences of birth defects. It may still be used as an herbicide in other parts of the world today. These applications are not relevant to the electrotechnical industry.
1,2-Diethoxyethane	629-14-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Tetralead trioxide sulphate	12202-17-4	Yes	See detailed chemicals guidance in BOMcheck for further information.
N-pentyl-isopentylphthalate	776297-69-9	Yes	See detailed chemicals guidance in BOMcheck for further information.
Dioxobis(stearato)trilead	12578-12-0	Yes	See detailed chemicals guidance in BOMcheck for further information.
Tetraethyllead	78-00-2	No	Tetraethyl lead was previously used as an additive to gasoline, wherein it served as an effective antiknock agent and prevented exhaust valve and seat wear. This use is not relevant to articles which are supplied for use in hardware and electrical and electronic equipment.
Pentalead tetraoxide sulphate	12065-90-6	Yes	See detailed chemicals guidance in BOMcheck for further information.
Pentacosafluorotridecanoic acid	72629-94-8	No	PFCAs are used to manufacture fluoropolymers and fluorotelomers. PFCAs are also used as surfactants and wetting agents in paints, inks and coatings. However, these uses do not result in PFCAs being present in concentrations > 0.1% w/w of the article, for articles which are supplied for use in hardware and electrical and electronic equipment.
Tricosafluorododecanoic acid	307-55-1	No	
Henicosafluoroundecanoic acid	2058-94-8	No	
Heptacosafluorotetradecanoic acid	376-06-7	No	

1-bromopropane (n-propyl bromide)	106-94-5	No	1-Bromopropane (1-BP) is a solvent which is used to dissolve fats, waxes and resins. It is a liquid at room temperature and evaporates during use. Two of its main uses are in degreasing agents (for example, vapor and immersion degreasing operations to clean electronics and metal surfaces) and in spray adhesives. 1-BP is currently used in the furniture industry as a solvent for adhesives used in constructing foam cushions. The dry cleaning industry, among others, has considered using 1-BP as solvent in place of other ozone depleting solvents. In all of these applications, 1-BP evaporates during use and so is not present in supplied articles for use in hardware and electrical and electronic equipment.
Methoxyacetic acid	625-45-6	No	Methoxy acetic acid, also known as MAA, is used in detergents and industrial cleaning agents, for descaling of ovens, for cleaning wheels and tyres and industrial equipment. These uses are not relevant to supplied articles for use in hardware and electrical and electronic equipment.
4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	No	4-methyl-m-phenylenediamine, also known as toluene-2,4-diamine, is used primarily as an intermediate in the production of toluene diisocyanate, which is then used to manufacture polyurethane. It is also used as an intermediate in the synthesis of direct oxidation black, a dye for hair and furs, and to prepare dyes for leather. It is also used as an intermediate in the preparation of a wide range of other chemicals impact-resistant resins, polyimides with superior wire-coating properties, benzimidazolethiols (antioxidants), hydraulic fluids, urethane foams, fungicide stabilizers, and sensitizers for explosives. None of these uses are relevant to supplied articles for use in hardware and electrical and electronic equipment.
Methyloxirane (Propylene oxide)	75-56-9	No	Propylene oxide is used as building block to synthesize a wide range of chemicals. Between 60 and 70% of all propylene oxide is converted to polyether polyols for the production of polyurethane plastics. About 20% of propylene oxide is hydrolyzed into propylene glycol. Other major products are polypropylene glycol, propylene glycol ethers, and propylene carbonate. These applications are not relevant to the electrotechnical industry.

Trilead dioxide phosphonate	12141-20-7	Yes	See detailed chemicals guidance in BOMcheck for further information.
o-aminoazotoluene	97-56-3	No	o-aminoazotoluene is an azo dye which was previously used in the coloring process for textiles and leather articles. o-aminoazotoluene is one of 22 azo dyes which are already restricted under Article 67of the REACH Regulation. Since 2002 the maximum total concentration of any of these 22 azo dyes in leather or textile articles has been restricted to less than 30ppm. As a result, o-aminoazotoluene is not found in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Yes	See detailed chemicals guidance in BOMcheck for further information.
4,4'-oxydianiline and its salts	101-80-4	No	4,4'-oxydianiline is used as an intermediate in the production of a wide variety of polymer resins. The primary use lies in the production of polyimide and poly(ester)imide resins. Other applications of 4,4'-oxydianiline include the production of poly(amide)imide resins, as an intermediate in the manufacture of epoxy resins and adhesives, and in the production of aromatic polyether imides. These applications are not relevant to the electrotechnical industry.
Orange lead (lead tetroxide)	1314-41-6	Yes	See detailed chemicals guidance in BOMcheck for further information.
Biphenyl-4-ylamine	92-67-1	No	Biphenyl-4-ylamine is an azo dye which was previously used in the coloring process for textiles and leather articles. Biphenyl-4-ylamine is one of 22 azo dyes which are already restricted under Article 67of the REACH Regulation. Since 2002 the maximum total concentration of any of these 22 azo dyes in leather or textile articles has been restricted to less than 30ppm. As a result, Biphenyl-4-ylamine is not found in concentrations > 0.1% w/w in supplied articles for use in hardware and electrical and electronic equipment.
Diisopentylphthalate	605-50-5	Yes	See detailed chemicals guidance in BOMcheck for further information.
Fatty acids, C16-18, lead salts	91031-62-8	Yes	See detailed chemicals guidance in BOMcheck for further information.

Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	No	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)), also known as ADCA, decomposes at between 190°C and 230°C to release N_2, CO, CO_2 and NH_3 gasses. ADCA is mainly used as a blowing agent in the rubber and plastics industry, for example to manufacture sponge rubber or expanded plastics. The ADCA decomposes during the heating process and so is not detectable as a substance in the supplied rubber or plastic article. ADCA is also used as a bleaching agent and aging agent, for example in photography. These applications are not relevant to the electrotechnical industry.
Sulfurous acid, lead salt, dibasic	62229-08-7	Yes	See detailed chemicals guidance in BOMcheck for further information.
Lead cyanamidate	20837-86-9	Yes	See detailed chemicals guidance in BOMcheck for further information.
Included in REACH Candidate List on 20 June 2013: Unique ID == EUREACH-0613			
Cadmium	7440-43-9	Yes	See detailed chemicals guidance in BOMcheck for further information.
Cadmium oxide	1306-19-0	Yes	See detailed chemicals guidance in BOMcheck for further information.
Pentadecafluorooctanoic acid (PFOA)	335-67-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Dipentyl phthalate (DPP)	131-18-0	Yes	See detailed chemicals guidance in BOMcheck for further information.

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]	No CAS number(s) provided	Yes	See detailed chemicals guidance in BOMcheck for further information.
Included in REACH Candidate List on 16 December 2013: Unique ID == EUREACH-1213			
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	Yes	See detailed chemicals guidance in BOMcheck for further information.
Trixylyl phosphate	25155-23-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	Yes	See detailed chemicals guidance in BOMcheck for further information.
Dihexyl phthalate	84-75-3	Yes	See detailed chemicals guidance in BOMcheck for further information.
Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	Yes	See detailed chemicals guidance in BOMcheck for further information.
Cadmium sulphide	1306-23-6	Yes	See detailed chemicals guidance in BOMcheck for further information.

Lead di(acetate)	301-04-2	No	Lead di(acetate), also known as lead(II) acetate, is used as a reagent to make other lead compounds, as a fixative for some dyes and in detector paper for hydrogen sulfide. Although banned from use in hair dyes in the EU, it is still used in hair dyes in the US provided the lead content is < 0.6%. Lead di(acetate) is also used as a drier in artist paints and varnishes and was previously used as a sweetener known as sugar of lead. These applications are not relevant to articles supplied in the electrotechnical industry.
Included in REACH Candidate List on 16 June 2014: Unique ID == EUREACH-0614			
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	Yes	See detailed chemicals guidance in BOMcheck for further information.
Cadmium chloride	10108-64-2	No	Cadmium chloride is used as raw material for synthesis of other cadmium compounds, as an ingredient in electroplating and electrogalvanizing baths for cadmium plating, as an ingredient for the manufacture of CdTe-based solar cells and vacuum tubes, and as a laboratory reagent. Cadmium chloride can be used as raw material for production of "cadmium soaps", which are used as PVC stabilizers. Cadmium chloride can be used as an intermediate in the production of cadmium-containing stabilizers and pigments, such as cadmium sulphide. Cadmium chloride has also been used as an ingredient in photography, photocopying, dyeing and calico printing (with thiosulphate). In all of these applications, the cadmium chloride is used as a raw material or an ingredient and becomes reacted or converted during use to form other substances. Further investigation was carried out on whether trace amounts of un-reacted cadmium chloride could be found when the substance is used in the production of cadmium-containing stabilizers and pigments, such as cadmium sulphide. The investigation noted that cadmium chloride is hygroscopic and will undergo hydrolysis in contact with water. Normal working conditions for incorporating the cadmium-containing stabilizers and pigments into plastic resin pellets, and subsequent extrusion of the plastic to form articles, include high temperature heating (for example 200^{o}C to 300^{o}C) and contact with moisture and oxygen. In these conditions any residual cadmium chloride is expected to fully decompose.

Sodium perborate; perboric acid, sodium salt	No CAS number(s) provided	No	Sodium perborate; perboric acid, sodium salt is used in chemical preparations mainly as a bleaching agent in laundry detergents and machine dishwashing products, and also in cleaning products and in cosmetic preparations. Sodium perborate; perboric acid, sodium salt is not used in the manufacture of articles in the electrotechnical industry and is not found as a detectable substance in supplied articles in the electrotechnical industry.
Sodium peroxometaborate	7632-04-4	No	Sodium peroxometaborate is used in chemical preparations mainly as a bleaching agent in laundry detergents and machine dishwashing products, and also in cleaning products and in cosmetic preparations. Sodium peroxometaborate is not used in the manufacture of articles in the electrotechnical industry and is not found as a detectable substance in supplied articles in the electrotechnical industry.
Included in REACH Candidate List on 17 December 2014: Unique ID == EUREACH-1214			
2-Benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	Yes	See detailed chemicals guidance in BOMcheck for further information.
2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Yes	See detailed chemicals guidance in BOMcheck for further information.

Cadmium fluoride	7790-79-6	No	There is very limited information on the actual use of cadmium fluoride in industry today. The main use of cadmium fluoride is probably as a research chemical. Cadmium fluoride is a fluorescent material and patents from the 1950's indicate it may previously have been used in certain phosphors for luminescent screens in cathode ray tubes. Feedback from the VT 62474 experts indicated that such CRT devices were not actually produced and are currently not being produced today. New potential uses for cadmium fluoride are cited in several patents covering a broad range of applications, however feedback from VT 62474 experts indicated that none of these applications are being used in product designs today or are likely to be used in product designs in the near future. • A US Patent issued 2012 highlights the potential use of cadmium fluoride for improvement of CdS/CdTe photovoltaic cells (solar cells) by incorporation of a nano-thin layer of cadmium fluoride in the cell material. • A US Patent issued 1996 covers incorporation of a cadmium fluoride crystal in an optically storing "Micro information storage system". • A US Patent issued 1985 covers use of a phosphor layer of cadmium fluoride in a direct current electroluminescent device • A US Patent issued 1983 covers use of cadmium fluoride as a constituent of a dielectric ceramic containing 2.5-12% cadmium fluoride. • A US Patent issued 1980 describes an electroluminescent device for emitting green light comprising a conducting cadmium fluoride crystal. Cadmium fluoride was previously used as an active component in fluxes for soldering aluminum, however this use is now restricted under paragraph 8 of Entry 23 of the substance restrictions in REACH Annex XVII. The fluxing agent typically contained 2 – 7% cadmium fluoride and so the concentration of cadmium fluoride in the soldered aluminum article is less than 0.1%

Cadmium sulphate	10124-36-4, 31119-53-6	No	The main use of cadmium sulphate is as an intermediate for the production of other inorganic cadmium substances and as a laboratory reagent. Cadmium sulphate is also used as a process chemical in electrolytic plating processes for cadmium plating of parts. The electroplating process uses the cadmium sulphate to create the metal plating and any surplus process chemicals are removed from the plated article during subsequent washing and cleaning processes. As a result, cadmium sulphate is not detectable as a substance in the electroplated article. Cadmium sulphate is also used for restoring old lead acid batteries. A 5-10% cadmium sulphate solution can be added to badly sulphated and disused batteries to rejuvenate them (see http://www.sovereign-omega.co.uk/Datasheets/Omega908-1.pdf, http://www.inoxmx.com/inox/mx2-battery-conditioner/ and http://www.indianriver.cc/Inox/Forms/MSDS%20INOX-MX2.pdf). The recommended addition rate for a typical 12v car battery weighing 11kg is about 15 ml (about 20gm) http://www.inoxmx.com/uses/mx2-applications-and-uses/. Assuming that the solution contained 10% cadmium sulphate, the treated battery would contain <0.02% cadmium sulphate by weight of the battery.
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(s) provided	Yes	See detailed chemicals guidance in BOMcheck for further information.

Included in REACH Candidate List on 15 June 2015: Unique ID == EUREACH-0615			
1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5; 68648-93-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	No CAS numbers provided	No	This substance is a colorless to pale yellow clear liquid which is sold under the trade name Karanal. It is used in applications such as fine fragrances and in soaps, detergents, shampoos and fabric rinse conditioners. The substance has a powerful and radiant dry, woody amber note. These applications are not relevant to the electrotechnical industry.
Included in REACH Candidate List on 17 December 2015: Unique ID == EUREACH-1215			
Nitrobenzene	98-95-3	No	Nitrobenzene is a yellowish, oily liquid. The main use of nitrobenzene is as an ingredient in the manufacturing process to manufacture aniline. It is also used as an ingredient in the manufacturing process for lubricating oils, dyes, drugs, pesticides and synthetic rubber. Nitrobenzene liquid was previously used in Kerr Cells to provide high-speed modulation of light. However the invention of the Pockels cell in the 1950's replaced the Kerr Cell in all but the most specialist applications. Pockels crystals can be grown in very convenient sizes and optical properties. Kerr Cells containing nitrobenzene may still be manufactured as custom components for use in specialist applications which require very high speed modulation of light, such as laboratory equipment to measure the speed of light and specialist equipment for high-speed cinematography. However, these custom part applications are not relevant to the electrotechnical industry.
Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1, 21049-39-8, 4149-60-4	Yes	See detailed chemicals guidance in BOMcheck for further information.

1,3-propanesultone	1120-71-4	Yes	See detailed chemicals guidance in BOMcheck for further information.
2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	Yes	See detailed chemicals guidance in BOMcheck for further information.
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	Yes	See detailed chemicals guidance in BOMcheck for further information
Included in REACH Candidate List on 20 June 2016: Unique ID == EUREACH-0616			
Benzo[def]chrysene	50-32-8	Yes	See detailed chemicals guidance in BOMcheck for further information.
Included in REACH Candidate List on 12 January 2017: Unique ID == EUREACH-0117			
4,4'-isopropylidenediphenol [Bisphenol A; BPA]	80-05-7	Yes	See detailed chemicals guidance in BOMcheck for further information
Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3108-42-7, 335-76-2, 3830-45-3	Yes	See detailed chemicals guidance in BOMcheck for further information
4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	No CAS numbers provided	No	This group of substances is abbreviated to 4-HPbl. The substances in this group are used as intermediates to manufacture polymers which are used in lubricant additives such as corrosion inhibitors, metal deactivators and detergents. 4-HPbl substances belong to a group of structurally similar alkylphenols monoalkylated predominantly in 4-position with different alkyl chain lengths. Other structurally similar alkylphenols monoalkylated include the REACH Candidate List substances 4-Nonylphenol, branched and linear […] and 4-(1,1,3,3-tetramethylbutyl)phenol. Neither of these REACH Candidate List substances is found in articles in the electrotechnical industry in concentrations > 0.1% w/w of the article. The ECHA dossier mentions phenol, heptyl derivs which is used as an intermediate to manufacture polymer materials which are usually used in lubricant additives. The ECHA dossier notes that the residual content of unreacted phenol, heptyl derivs. in the polymer material is well below 0.1%.

p-(1,1-dimethylpropyl)phenol	80-46-6	No	p-(1,1-dimethylpropyl)phenol is used as an intermediate to manufacture perfumes and fragrances and to manufacture phenolic resins and other polymers. There are no known uses of p-(1,1-dimethylpropyl)phenol by itself or as an un-reacted component of a preparation. p-(1,1-dimethylpropyl)phenol can be considered as part of a group of alkylphenols with a linear or branched alkylchain in para-position. The substances differ in the length of the alkylchain and the degree of branching. Substances in this group include the REACH Candidate List substances 4-Nonylphenol, branched and linear […] and 4-(1,1,3,3-tetramethylbutyl)phenol. Neither of these REACH Candidate List substances is found in articles in the electrotechnical industry in concentrations > 0.1% w/w of the article.
Included in REACH Candidate List on 7 July 2017			
Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	No CAS numbers provided	Yes	See detailed chemicals guidance in BOMcheck for further information
Included in REACH Candidate List on 15 January 2018			
Benz[a]anthracene	56-55-3, 1718-53-2	Yes	See detailed chemicals guidance in BOMcheck for further information
Cadmium carbonate	513-78-0	No	Cadmium carbonate is used in the manufacture of heat stabilizers which are used in plastics. However, in this application the cadmium carbonate is converted into cadmium oxide. Cadmium carbonate is used as an intermediate substance for the manufacture of other inorganic cadmium compounds and for the manufacture of glass, porcelain and ceramic products. Cadmium carbonate is also used as an intermediate to manufacture pigments and in the manufacture of NiCd batteries. In all of these applications, the cadmium carbonate is converted into other cadmium salts and so cadmium carbonate is not detectable as a substance in the supplied article. Cadmium carbonate is also used as a pH regulator and in water treatment products, however neither of these uses are relevant to supplied articles.

Cadmium hydroxide	21041-95-2	Yes	See detailed chemicals guidance in BOMcheck for further information
Cadmium nitrate	10022-68-1, 10325-94-7	No	Cadmium nitrate is used as an intermediate substance for the manufacture of other inorganic cadmium compounds and for the manufacture of glass, porcelain and ceramic products. Cadmium nitrate is also used as an intermediate to manufacture pigments, stabilizers and heat resistant polymers and in the manufacture of NiCd batteries. In all of these applications, the cadmium nitrate is converted into other cadmium salts and so cadmium nitrate is not detectable as a substance in the supplied article.
Chrysene	218-01-9, 1719-03-5	Yes	See detailed chemicals guidance in BOMcheck for further information
1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”TM) [covering any of its individual anti- and syn-isomers or any combination thereof]	No CAS number(s) provided	Yes	See detailed chemicals guidance in BOMcheck for further information

Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)[with greater than or equal to 0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)]	No CAS number(s) provided	No	RP-HP is a reaction product and is an SVHC only when it contains ≥0.1% w/w of 4-heptylphenol, branched and linear. In other words, RP-HP is an SVHC only when there is ≥0.1% w/w of un-reacted 4-heptylphenol, branched and linear. Modern manufacturing processes normally result in less than 1% unreacted substances. RP-HP is used in the formulation of lubricant additives, lubricants and greases. The maximum concentration of RP-HP in these lubricants is 2.5% w/w, the typical concentration of RP-HP in the lubricants is normally about 0.5% w/w. In a worst-case scenario where the RP-HP contains 1% unreacted 4-heptylphenol, branched and linear and the lubricant contains a maximum RP-HP addition rate of 2.5%, this would still result in less than 0.025% of the SVHC in the lubricant. Furthermore, when 4-heptylphenol, branched and linear was added to the REACH Candidate List in January 2017, the screening carried out by IEC 62474 identified that 4-heptylphenol, branched and linear is not found in articles in the electrotechnical industry in concentrations > 0.1% w/w of the article.
Included in REACH Candidate List on 27 June 2018			
Benzo[ghi]perylene	191-24-2	Yes	See detailed chemicals guidance in BOMcheck for further information
Octamethylcyclotetrasiloxane (D4)	556-67-2	Yes	See detailed chemicals guidance in BOMcheck for further information
Decamethylcyclopentasiloxane (D5)	541-02-6	Yes	See detailed chemicals guidance in BOMcheck for further information
Dodecamethylcyclohexasiloxane (D6)	540-97-6	Yes	See detailed chemicals guidance in BOMcheck for further information
Terphenyl hydrogenated	61788-32-7	Yes	See detailed chemicals guidance in BOMcheck for further information
Disodium octaborate	12008-41-2	Yes	See detailed chemicals guidance in BOMcheck for further information
Lead	7439-92-1	Yes	See detailed chemicals guidance in BOMcheck for further information
Dicyclohexyl phthalate (DCHP)	84-61-7	Yes	See detailed chemicals guidance in BOMcheck for further information
Ethylenediamine (EDA)	107-15-3	No	The main use of Ethylenediamine (EDA) is as an ingredient to manufacture other chemicals. The EDA is reacted in the manufacturing process and is not present at detectable levels in the end-use chemical products. EDA is also used as a curing agent for epoxy resins, urea-based resins and phenolic resins. As a curing agent, EDA is reacted and is not present at detectable levels in the cured resin.

Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride, TMA)	552-30-7	No	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride), known as TMA, is mainly used in the manufacture of esters and polymers and as a laboratory chemical. The main use of TMA is as an intermediate in the manufacture of plasticizers for PVC resins. TMA is also used as an intermediate to manufacture polyester resins for powder coatings. The ECHA dossier confirms any polymer manufactured using TMA will not contain any TMA in the finished article. TMA reacts in polymerisation processes or in the production processes to make (poly) esters and will not be present in the finished article. Even in case an unexpected residue of TMA would be present, TMA hydrolyses very quickly to trimellitic acid upon contact with water in air. In 2002 approximately 100,000 metric tonnes/year of TMA were produced worldwide, the majority of which (65,000 metric tonnes/year) were produced in the U.S. Most of the TMA produced (65%) was used as an intermediated to manufacture plasticizers for PVC resins, while smaller amounts (30%) were used as a reactant in wire and cable insulation enamels and polyester resins for powder coatings. The remaining 5% of U.S. production was used for a variety of purposes including as an epoxy curing agent, textile sizing agent, rubber curing accelerator, electrostatic toner binder, and vinyl cross-link agent. TMA is used as an intermediated in the manufacture of plasticizers, that are in turn compounded with PVC to make flexible plastic products such as automotive dashboards and coatings for electrical wire and cable. TMA is also used as an intermediate to manufacture polyester resin products used in military, industrial and aerospace applications. Around 2-10% TMA is typically used in the manufacture of epoxy resin and surface coating systems. In all of these applications the TMA becomes fully reacted and is not detectable as a substance in the finished article. There are no known uses of TMA by itself or as an un-reacted component of a preparation.