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# Product Chemical Content Brochure



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Product Chemical Content Brochure

Dear Customer or Supplier

onsemi being, a global manufacturer and supplier of semiconductors, complies with all relevant environmental, safety and health regulations and directives applicable to the country of manufacture and sale.

This brochure contains lists of chemicals that are prohibited in our products. This list is designed to meet onsemi's compliance with all applicable environmental, health and safety regulations of the countries where it operates and does business and with requirement defined in ISO 14001 and 45001. Please see the certification status [here](#). onsemi is focused to comply commonly accepted Industry requirements. It is also in concert with the needs of our customers for environmentally friendly products and in reduction in use of hazardous materials in the manufacture of these products. To help us meet these objectives, we are requiring also our suppliers to restrict the use and content of the listed chemicals in the raw materials and products supplied to onsemi.

onsemi meets the requirements:

- European Union Directive on the Restrictions on use of certain Hazardous Substances 2011/65/EU (RoHS3) and the Directive 2015/863/EU amending Annex II to Directive 2011/65/EU as regards the list of restricted substances,  
<https://www.rohsguide.com/>
- REACH (Registration, Evaluation, Authorization and Restriction of Chemical substances) requirements and is committed to provide information about substances in its products as required.  
<https://echa.europa.eu/candidate-list-table>

- China's Management Measures on Electronic information Product Pollution Control (China-RoHS) regulation.

<https://www.rohsguide.com/china-rohs.htm>

## **Product Material Composition**

onsemi provides the detailed material composition, based on the homogenous or piece parts contained in its products. This information are available on the following web site by searching for its orderable part numbers:  
<http://www.onsemi.com/PowerSolutions/MaterialComposition.do>

The material composition table helps to find concentrations of the materials, intentionally-added, and present in significant quantities. The matrix does not list the materials or their quantity, present as impurities, normally found in trace levels in the raw materials used in manufacture of the product.

## **Environmentally Restricted Substances**

onsemi restricts the intentional use and presence of certain substances, known to be toxic and harmful to the environment, in its products. We are providing a list of these materials in Table 1, as we are very certain that many of our customers share these concerns.

Applications of substances listed in Table 2a are restricted by RoHS. Exemptions defined by RoHS applied in our products are stated in technical documentation for each product:

- Exemption 7a: Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85% by weight or more lead).
- Exemption 7c-I: Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.
- Exemption 10(a): Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass ceramic material, or in a glass ceramic matrix compound.
- Exemption 15: Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages).

In Table 2b are listed homogenous materials used in our products by which is required a Third Party (SGS Lab) Test Report for ROHS and “Halogen-free” Compliance.

## **Requirements for a third-party analytical test report for RoHS and halogen- free compliance**

ROHS substance testing and a report requirement:

(For homogeneous materials to be tested on RoHS restricted substances see Table 2A)

1. Suppliers are required to use an [ISO 17025](#) certified, or equivalent, third party laboratory that is well versed with ROHS compliance and testing protocols to have the samples of materials analyzed annually.
2. For a list of substances, that must be analyzed, reference Table 2A.
3. The test method IEC 62321 must be used for all ROHS substances.
4. For test on Beryllium the required test methods are US EPA 3050B and US EPA 3052.
5. Test results must meet ROHS maximum concentration values (MCVs) specified in Directive 2011/65/EU.
6. Materials need to be tested in the same compositional state as its presence in the final product. Wet materials must be dried or cured to simulate the state in the finished product since regulated substance concentration may change from wet to dry.
  - If test reports are provided in the non-cured and cured-state, such as die attach epoxies, then the reports for the cured material will have a two-year expiration.
7. The report must contain a picture of the specimen tested
8. The test will be repeated annually, and a new report will be submitted to **onsemi**

Suppliers claiming “halogen-free” materials must provide an analytical test report that will meet the following standards and conditions (For die attach, solder pastes, mold compounds, substrates, solder mask and polyimide materials):

9. Suppliers must use ISO 17025 certified, or equivalent, third-party laboratory, which is well versed with “halogen-free” compliance and testing protocols.
10. Analytical testing of materials must be done with material in the “cured” state.
11. Materials must be analyzed for total chlorine, total bromine and antimony compounds
12. Ion Chromatograph using a common test method like EN 14582 must be used. The chosen method must capture all chlorine and bromine, regardless of whether it is organic or inorganic etc.
13. Test results must show total chlorine and total bromine below 900 ppm levels each and not exceeding 1500 ppm total.
14. Test results must show total antimony trioxide concentration below 900 ppm level
15. The report must contain a picture of the specimen tested.
16. The test will be repeated annually, and a recent test report will be submitted to **onsemi**
17. Report must be in English.

## Foundries and Subcontractors

Supplying their finished product to **onsemi** must provide an annual analytical test report per requirements state above.

It is responsibility of **onsemi** suppliers, to provide the name(s) and email contact(s) information of the person(s) who will be responsible to provide the analytical test reports. Additional information will be provided by local Supply Management representative.

The supplier must retain all analytical test reports for 10 years after product end of life.

Even though, silicon crystal manufacturing operation involves the use of chromic acid in a test process; the final products do not contain Hexavalent Chromium above the RoHS threshold limit. **onsemi** bans the use of lead (Pb) except in the products that are required by the customers. Many applications, e.g. defense etc. allow the use of lead (Pb).

**onsemi** products do not contain any substance subject to authorization (REACH Annex XIV) and are in compliance with REACH ANNEX XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

**onsemi** active products do not contain substances included in the Candidate List of Substances of Very High Concern (Table 3) included till January 2021 with the exception of lead (Pb) and lead oxide (PbO), which are included in the June 2018 SVHC list. In such cases, the lead (Pb) and lead oxide (PbO) are RoHS exempted.

Diboron trioxide was added to REACH as a Substance of Very High Concern (SVHC) on June 18, 2012. **onsemi** products in glass encapsulated packages may list Diboron trioxide as a constituent material in the glass encapsulation, in a concentration greater than 0.1%; REACH classifies; glass as a substance of unknown or variable composition, complex reaction products or biological matter (UVCB) containing the elements silica, calcium, sodium, potassium, magnesium and other cautions bonded together with oxygen. In glass, these elements are bonded into a non-crystalline molecular structure with completely different properties than the starting material; Therefore Diboron trioxide is not present in the finished **onsemi** product and does not require notification of the presents of a SVHC.

Direct materials suppliers to **onsemi** must ensure that all materials used in part manufacture and in facility operations satisfy all applicable environmental, health and safety government regulations and directives, including European Union Directive on the Restrictions on use of certain Hazardous Substances (RoHS), on restricted, toxic and hazardous materials. Suppliers must be prepared to provide supporting evidence of conformance.

## Packaging Materials

This specification establishes requirements on packaging materials (including reporting) for **onsemi** products, parts and assemblies including those supplied by subcontractors. It is largely based on European Union Directive 94/62/EC

(Article 11) and all amendments (2004/12/EC).

In addition, it includes the reporting requirements for substances of very high concern (SVHC's) candidates as they are referred to in the REACH Regulation in the European Union. Articles, including packaging, that contain >0.1% by weight of an SVHC candidate are subject to communication requirements and may be subject to notification requirements under REACH.

Packaging means all goods made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of products from the producer to the customer or the consumer.

Packaging Components are packaging materials which can be easily separated by hand or by simple mechanical means.

## Requirements

1. No packaging component or packaging subcomponent used for **onsemi** products shall contain lead (Pb), cadmium (Cd), mercury (Hg), hexavalent chromium (Cr6), or as a part of its final composition in excess of a sum concentration level of 100ppm (0.01%) by weight. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01994L0062-20150526&from=EN>

Packaging materials have to be certified only at the time of first brought into company. Annual update of 3<sup>rd</sup> party test reports is not required for packaging materials.

2. Do not use halogenated (including brominated) flame retardants in packaging materials. Examples include PBB (Polybrominated biphenyl), PBDE (Polybrominated diphenyl ether), or TBBPA (Tetrabromobisphenol A).
3. The substances shown in REACH Annex XVII Restricted Substances are prohibited. Refer to link for full listing, uses and allowances as defined by ECHA. <https://echa.europa.eu/substances-restricted-under-reach>
4. The substances shown in Authorization List are now prohibited from use in packaging materials in amounts greater than 0.1% w/w of the article. For the official list and related requirements refer to the ECHA website: <https://echa.europa.eu/authorisation-list>
5. Packaging components that contain more than 0.1% by weight (>1000ppm) of any of the substances of REACH Substances of Very High Concern (SVHC) Candidates list are subject to communications requirements, and in some cases to notification requirements under REACH. All packaging components that contain more than 0.1% by weight of any of these substances must be reported to **onsemi** procurement.

Table 1: Restricted and Reportable Substances

| Substance   | Controlled Application  | Restricted or Reportable | Substance Threshold Limit (ppm) | Legal, Regulatory or Industry Standards Reference |
|---|---|--------------------------|---------------------------------|---|
| Acrylonitrile   | As a monomer in direct and critical indirect materials  | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
| Arsenic and its compounds   | Semiconductor substrates and dopants  | Reportable               | Exempt                          | Industry requirement                              |
| 1,3-Butadiene   | As a monomer in direct and critical indirect materials  | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
| Beryllium copper  | Direct and critical indirect materials,   | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
| Beryllium oxide   | Direct and critical indirect materials,   | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
| Bisphenol A   | As a monomer in plastics and epoxies  | Restricted               | 50                              | Industry requirement                              |
| Chlorine and its compounds  | As a monomer in all direct and critical indirect materials  | Restricted               | 0 <sup>b</sup>                  | Industry Requirement                              |
| Phosphorus – White and Red  | Direct and critical indirect materials except a metallic alloy component                                    | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
| Polyvinyl chloride (PVC)  | Plastics, polymers, laminates and epoxies   | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
|   | Certified packaging materials   | Reportable               | Exempt                          |   |
| Rare earth elements   | Direct and critical indirect materials  | Reportable               | 0 <sup>c</sup>                  | Industry requirement                              |
| Tetrabromobis-phenol A (TBBPA)  | Direct and critical indirect materials  | Restricted               | 0 <sup>b</sup>                  | Industry requirement                              |
| Toluene   | Solvents in paints, coating, inks, adhesives, primers   | Restricted               | 1000                            | Industry requirement                              |
| Arsenic and its compounds   | In any packing material, paints, melt materials, biocides (including wood treatment), glass, metal finishes | Restricted               | 0 <sup>b</sup>                  | EU directive 76/769/EC                            |
| Asbestos  | In any materials  | Restricted               | 0 <sup>b</sup>                  | EU directive 76/769/EC                            |
| Azocolourants and azodyes which form certain aromatic amines  | Textile, leather any material that contacts the skin.   | Restricted               | 30                              | EU directive 76/769/EC                            |
| Other Chlorinated organic compounds   | Plastics, polymers, laminates and epoxies   | Restricted               | 0 <sup>b</sup>                  | EU directive 76/769/EC                            |
| Perfluorooctane sulfonate (PFOS) and salts (PFAS, PFOA), C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X (X=OH, metal salts, halides, amides and other derivatives including polymers) | In any material   | Restricted               | 0 <sup>b</sup>                  | EU directive 76/769/EC                            |
| Polybrominated biphenyls (PBBs) and their ethers / oxides (PBDEs, PBBOs)  | In any material   | Restricted               | 0 <sup>b</sup>                  | EU directive 76/769/EC                            |

| Substance   | Controlled Application  | Restricted or Reportable | Substance Threshold Limit (ppm) | Legal, Regulatory or Industry Standards Reference     |
|---|---|--------------------------|---------------------------------|---|
| Polychlorinated biphenyls (PCBs), terphenyls (PCTs), and naphthalenes | In any material   | Restricted               | 0 <sup>b</sup>                  | EU directive 76/769/EC                                |
| Cadmium and its compounds   | Plastic parts, plastic stabilizers, pigments, dyes, paints, inks, surface treatments, coatings, plating, fluorescent lamps  | Restricted               | 5                               | Directive 2011/65/EU                                  |
|   | Solder  | Restricted               | 20                              |   |
|   | All other direct and critical indirect materials  | Restricted               | 50                              |   |
| Lead and its compounds  | Plastic parts, plastic stabilizers, paints, pigments, dyes, ink   | Restricted               | 50                              | Directive 2011/65/EU                                  |
|   | Surface treatments, coatings  |                          | 100                             |   |
|   | Solders used for drinking water systems   |                          | 100                             |   |
|   | Fluorescent lamps   |                          | 100                             |   |
|   | Non leaded solder, terminal finish (bar, wire, paste, balls)  |                          | 500                             |   |
|   | All other materials and applications  |                          | 1000                            |   |
| Mercury and its compounds   | Direct and critical indirect materials  | Restricted               | 0 <sup>b</sup>                  | Directive 2011/65/EU                                  |
| Cadmium and its compounds   | Packaging materials   | Restricted               | 5 <sup>a</sup>                  | Directive 94/62/EEC                                   |
| Hexavalent chromium and its compounds                                 | Packaging materials   | Restricted               | 100 <sup>a</sup>                | Directive 94/62/EEC                                   |
| Lead and its compounds  | Packaging materials   | Restricted               | 100 <sup>a</sup>                | Directive 94/62/EEC                                   |
| Mercury and its compounds   | Packaging materials   | Restricted               | 100 <sup>a</sup>                | Directive 94/62/EEC                                   |
| Antimony and its compounds  | Direct and critical indirect materials designated in 'Green' products (i.e., substrates, die attach, bond wire, mold compounds, terminal finish, solder balls, etc) | Restricted               | 900                             | onsemi Green material                                 |
| Bromine   | Polymer materials designated in 'Green' products (i.e., substrates, die attach, mold compounds, etc) Exemption: Materials not designated as 'Green'                 | Restricted               | 900                             | onsemi Green material                                 |
| Bromine & Chlorine sum total  | Polymer materials designated in 'Green' products (i.e., substrates, die attach, mold compounds, etc) Exemption: Materials not designated as 'Green'                 | Restricted               | 1500                            | onsemi Green material                                 |
| Chlorine and its compounds  | Polymer materials designated in 'Green' products (i.e., substrates, die attach, mold compounds, etc) Exemption: Materials not designated as 'Green'                 | Restricted               | 900                             | onsemi Green material                                 |
| Aniline (benzenamine)   | Any application   | Restricted               | 0 <sup>b</sup>                  | Canadian Environmental Protection Act 1999 (CEPA1999) |

| Substance   | Controlled Application   | Restricted or Reportable | Substance Threshold Limit (ppm) | Legal, Regulatory or Industry Standards Reference  |
|---|--|--------------------------|---------------------------------|--|
| Phenol, n-methyl-   | As a monomer   | Restricted               | 10                              | Canadian Environmental Protection Act, 1999 (CEPA1999)                                   |
| Decabromodiphenyl Ethane  | Direct and critical indirect materials   | Restricted               | 0 <sup>b</sup>                  | Prohibition of Certain Toxic Substances Regulations, 2012                                |
| Dechlorane Plus   | Direct and critical indirect materials   | Restricted               | 0 <sup>b</sup>                  | Prohibition of Certain Toxic Substances Regulations, 2012                                |
| Antimony and its compounds  | Direct and critical indirect materials   | Reportable               | 1000                            | JIG, 4th edition   |
|   | Materials used as doping sources for silicon processes                                 | Reportable               | Exempt                          |  |
| Beryllium and its compounds                                       | Direct and critical indirect materials   | Reportable               | 1000                            | JIG, 4 <sup>th</sup> edition   |
| Bismuth   | Direct and critical indirect materials,  | Reportable               | 1000                            | JIG, 4 <sup>th</sup> edition   |
| N-Hexane  | In any material  | Reportable               | 1000                            | JIG, 4 <sup>th</sup> edition   |
| Nickel and its compounds  | Direct and critical indirect materials   | Reportable               | 1000                            | JIG, 4 <sup>th</sup> edition   |
| Selenium and its compounds  | Direct and critical indirect materials   | Reportable               | 1000                            | JIG, 4 <sup>th</sup> edition   |
| Carbon disulfide  | Direct and critical indirect materials   | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| Ethylene glycol ethers  | In any material  | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| Hexachlorobutadiene (HCBD)  | In any material  | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| Isopropylphenyl phosphate (PIP 3:1)                               | In any material  | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| Ozone depleting substances  | All products and materials   | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| Pentachlorothiophenol (PCTP)                                      | In any material  | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| 2,4,6-Tri-tert-butylphenol (TTBP)                                 | In any material  | Restricted               | 0 <sup>b</sup>                  | US EPA Toxic Air Pollutant   |
| Benzotriazole   | Plastics, polymers, laminates, plastic stabilizers, pigments, dyes, paints, inks       | Restricted               | 0 <sup>b</sup>                  | Japan Industrial Safety and Health Law   |
| Phenol, 2- (2H – benzotriazol-2-yl) – 4,6-bis (1,1-dimethylethyl) | Adhesives, paints, printing inks, inked ribbon, plastic materials, decorative laminate | Restricted               | 0 <sup>b</sup>                  | Japan's Act on the Evaluation of chemical substances and Regulation of Their Manufacture |
| Expanded Polystyrene (EPS)  | Not permitted in packaging in Korea only.  | Restricted               | ≤ 0.04m3                        | Korean packaging waste law   |
| Formaldehyde  | In packaging and materials made of wood  | Restricted               | 0 <sup>b</sup>                  | U.S. TSCA  |
| Halogenated dioxins and furans                                    | In any material  | Restricted               | 0 <sup>b</sup>                  | Germany Chemicals Prohibition Ordinance (ChemVerbotsV).                                  |
| 4-Nitrobiphenyl and its salt                                      | In any material  | Restricted               | 0 <sup>b</sup>                  | U.S Code of Federal Regulation   |
| Substance   | Controlled Application   | Restricted or Reportable | Substance Threshold Limit (ppm) | Legal, Regulatory or Industry Standards Reference  |
| Perchlorate and its salts   | In any material  | Restricted               | 0 <sup>b</sup>                  | U.S Code of Federal Regulation   |

| Substance  | Controlled Application                 | Restricted or Reportable | Substance Threshold Limit (ppm) | Legal, Regulatory or Industry Standards Reference   |
|--|--|--------------------------|---------------------------------|---|
| N,N'-ditoly-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine, N,N'-dixylyl-p-phenylenediamine | Direct and critical indirect materials | Restricted               | 0 <sup>b</sup>                  | Order for Enforcement of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. |
| Nano materials   | Direct and critical indirect materials | Reportable               | Intentionally added             | Decree No. 2012-232   |
| POPs-Persistent organic pollutants   | In any material                        | Restricted               | 0 <sup>b</sup>                  | Stockholm Convention  |
| Radio Active Substances  | Direct and critical indirect materials | Restricted               | 0 <sup>b</sup>                  | EU-D 96/29 Euratom, Nuclear Legislation in OECD and NEA Countries   |

a. The sum total of all four metals cannot exceed 100 ppm

b. Substance threshold limit 0 is defined that intentional use of the substance is prohibited.

c. Substance threshold limit is defined that intentional use of the substance is limited for technical needs.

Table 2a RoHS substances

| Substance name                 | Chemical marking | CAS number | Concentration limit by weight |
|--------------------------------|------------------|------------|-------------------------------|
| Lead                           | Pb               | 7439-92-1  | 0.1 %                         |
| Cadmium                        | Cd               | 7440-43-9  | 0.01 %                        |
| Mercury                        | Hg               | 7439-97-6  | 0.1 %                         |
| Hexavalent Chromium            | Cr <sup>6+</sup> | 7440-47-3  | 0.1%                          |
| Polybrominated Biphenyls       | PBB              | 67774-32-7 | 0.1 %                         |
| Polybrominated diphenyl ethers | PBDE             |            | 0.1 %                         |
| Bis(2-ethylhexyl) phthalate    | DEHP             | 117-81-7   | 0.1 %                         |
| Butyl benzyl Phthalate         | BBP              | 85-68-7    | 0.1 %                         |
| Dibutyl phthalate              | DBP              | 84-74-2    | 0.1 %                         |
| Diisobutyl phthalate           | DIBP             | 84-74-2    | 0.1 %                         |

Table 2b

| Substance                         | RoHS Directive 2011/65/EU restricted substances |           |           |                     |                          |                                |                              |                        |                   |                      |                  |                  | Halogen Free restricted substances***** |                                |           |         | Other requirements          |                        |  |  |
|-----------------------------------|---|-----------|-----------|---------------------|--------------------------|--------------------------------|------------------------------|------------------------|-------------------|----------------------|------------------|------------------|---|--------------------------------|-----------|---------|-----------------------------|------------------------|--|--|
|                                   | Cadmium   | Lead      | Mercury   | Hexavalent Chromium | Polybrominated biphenyls | Polybrominated diphenyl ethers | Bis (2-ethylhexyl) phthalate | Butyl benzyl phthalate | Dibutyl phthalate | Diisobutyl phthalate | Halogen Fluorine | Halogen Chlorine | Halogen Bromine                         | Antimony Trioxide              | Beryllium | Arsenic | Perfluoroctanesulfonic acid | Perfluorooctanoic Acid |  |  |
| Chemical Formula                  | Cd  | Pb        | Hg        | CrVI                | PBB                      | PBDE                           | DEHP                         | BBP                    | DBP               | DIIPB                | F                | Cl               | Br                                      | Sb <sub>2</sub> O <sub>3</sub> | Be        | As      | PFOS                        | PFOA                   |  |  |
| Homogeneous material to be tested |   |           |           |                     |                          |                                |                              |                        |                   |                      |                  |                  |   |                                |           |         |                             |                        |  |  |
| Wafer                             | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ○         | ●       | ●                           | ●                      |  |  |
| Leadframe                         | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Die attach/ Epoxy                 | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ○         | ○       | ○                           | ○                      |  |  |
| Plating anodes                    | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Wire bond                         | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Solder clips                      | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Solder paste                      | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ○       | ○                           | ○                      |  |  |
| Solder Wire                       | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Solder balls                      | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Substrates                        | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ○       | ○                           | ○                      |  |  |
| Heat sink/ spreader               | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Mold compound                     | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ○       | ○                           | ○                      |  |  |
| Soldermask                        | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ○       | ●                           | ●                      |  |  |
| Polyimide/PI Tape                 | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ○       | ○                           | ●                      |  |  |
| Coating                           | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ○       | ○                           | ●                      |  |  |
| RDL/UBM metals                    | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Substrate Metal                   | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ○                | ○                                       | ○                              | ●         | ○       | ○                           | ○                      |  |  |
| Passive components                | ●   | ●         | ●         | ●                   | ●                        | ●                              | ●                            | ●                      | ●                 | ●                    | ●                | ●                | ●                                       | ●                              | ●         | ●       | ○                           | ○                      |  |  |
| RoHS requirement                  | <100 ppm  | <1000 ppm | <1000 ppm | <1000 ppm           | <1000 ppm                | <1000 ppm                      | <1000 ppm                    | <1000 ppm              | <1000 ppm         | <1000 ppm            | ○                | ○                | ○                                       | ○                              | ○         | ○       | ○                           | ○                      |  |  |
| Other requirements                | ○   | ○         | NA        | <500 ppm***         | NA                       | NA                             | NA                           | NA                     | NA                | NA                   | <900 ppm         | <900 ppm         | <900 ppm                                | <1000 ppm****                  | NA        | 0*****  | 0*****                      |                        |  |  |

●— mandatory tested substance

○ – not mandatory tested substance

\*Pigment stabilizer, copper alloys; reference GB/T 26572

\*\*Plastics (i.e. polymeric) materials cable jackets and insulation, paints, inks, non-metallic and non-ceramics coatings e.g. stabilizer, pigment, drying agent; reference IEEE 1680.1-2009, CSPSIA

\*\*\*Metal coating, pigment; reference GB/T 26572

\*\*\*\*Metals and ceramic materials in connectors, stiffeners, AC inlets, springs, EMI finger/spring, transceivers, brackets, housing, buttons, speaker wire, beryllia ceramic, copper-beryllium alloys; reference EPA 3050B and/or EPA 3051A and/or EPA 3052r

\*\*\*\*\* Substance threshold limit 0 is defined that intentional use of the substance is prohibited; reference DIN CEN/TS 15968 15968 (MDL≤ 25ppb, analyzed by LC-MS-MS)

\*\*\*\*\*Total Halogens ≤ 1500 ppm

Table 3 Candidate List of Substances of Very High Concern (SVHC) under REACH

| Substance name   | EC No.    | CAS No.      | Date of inclusion |
|--|-----------|--------------|-------------------|
| Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol   | 700-960-7 | -            | 23-Jan-2024       |
| Phenol, methylstyrenated   | 270-966-8 | 68512-30-1   | 23-Jan-2024       |
| Bumetizole (UV-326)  | 223-445-4 | 3896-11-5    | 23-Jan-2024       |
| 2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one   | 438-340-0 | 119344-86-4  | 23-Jan-2024       |
| 2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)   | 221-573-5 | 3147-75-9    | 23-Jan-2024       |
| 2,4,6-tri-tert-butylphenol   | 211-989-5 | 732-26-3     | 23-Jan-2024       |
| Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide  | 278-355-8 | 75980-60-8   | 14-Jun-2023       |
| Bis(4-chlorophenyl) sulphone   | 201-247-9 | 80-07-9      | 14-Jun-2023       |
| Reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine                        | 473-390-7 | -            | 17-Jan-2023       |
| Perfluoroheptanoic acid and its salts  | -         | -            | 17-Jan-2023       |
| Ammonium perfluoroheptanoate   | 228-098-2 | 6130-43-4    | 17-Jan-2023       |
| Potassium perfluoroheptanoate  | -         | 21049-36-5   | 17-Jan-2023       |
| Perfluoroheptanoic acid  | 206-798-9 | 375-85-9     | 17-Jan-2023       |
| Sodium perfluoroheptanoate   | 243-518-4 | 20109-59-5   | 17-Jan-2023       |
| Melamine   | 203-615-4 | 108-78-1     | 17-Jan-2023       |
| Isobutyl 4-hydroxybenzoate   | 224-208-8 | 4247-02-3    | 17-Jan-2023       |
| Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof   | -         | -            | 17-Jan-2023       |
| Bis(2-ethylhexyl) tetrabromophthalate  | 247-426-5 | 26040-51-7   | 17-Jan-2023       |
| Barium diboron tetraoxide  | 237-222-4 | 13701-59-2   | 17-Jan-2023       |
| 4,4'-sulphonyldiphenol   | 201-250-5 | 80-09-1      | 17-Jan-2023       |
| 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol   | 201-236-9 | 79-94-7      | 17-Jan-2023       |
| 1,1'-[ethane-1,2-diylbisoxyl]bis[2,4,6-tribromobenzene]  | 253-692-3 | 37853-59-1   | 17-Jan-2023       |
| N-(hydroxymethyl)acrylamide  | 213-103-2 | 924-42-5     | 10-Jun-2022       |
| tris(2-methoxyethoxy)vinylsilane   | 213-934-0 | 1067-53-4    | 17-Jan-2022       |
| S-(tricyclo(5.2.1.0'2,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate                                | 401-850-9 | 255881-94-8  | 17-Jan-2022       |
| 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol   | 204-327-1 | 119-47-1     | 17-Jan-2022       |
| (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)                             | -         | -            | 17-Jan-2022       |
| (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one  | 253-242-6 | 36861-47-9   | 17-Jan-2022       |
| (3E)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one   | -         | 1782069-81-1 | 17-Jan-2022       |
| (1R,3E,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one   | -         | 95342-41-9   | 17-Jan-2022       |
| (1S,3E,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one   | -         | 852541-30-1  | 17-Jan-2022       |
| (1R,3Z,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one   | -         | 852541-21-0  | 17-Jan-2022       |
| (1R,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one  | -         | 741687-98-9  | 17-Jan-2022       |
| (1S,3Z,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one   | -         | 852541-25-4  | 17-Jan-2022       |
| Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/or combinations thereof (PDDP) | -         | -            | 08-Jul-2021       |
| Phenol, dodecyl-, branched   | 310-154-3 | 121158-58-5  | 08-Jul-2021       |
| Phenol, 4-dodecyl, branched  | -         | 210555-94-5  | 08-Jul-2021       |
| Phenol, 4-isododecyl-  | -         | 27147-75-7   | 08-Jul-2021       |
| Phenol, tetrapropylene-  | -         | 57427-55-1   | 08-Jul-2021       |
| Phenol, (tetrapropenyl) derivatives  | -         | 74499-35-7   | 08-Jul-2021       |
| 4-isododecylphenol   | -         | 27459-10-5   | 08-Jul-2021       |
| orthoboric acid, sodium salt   | -         | -            | 08-Jul-2021       |
| Boric acid, sodium salt  | 215-604-1 | 1333-73-9    | 08-Jul-2021       |

| Substance name  | EC No.    | CAS No.      | Date of inclusion |
|---|-----------|--------------|-------------------|
| Orthoboric acid, sodium salt  | 237-560-2 | 13840-56-7   | 08-Jul-2021       |
| boric acid (H3BO3), sodium salt, hydrate  | -         | 25747-83-5   | 08-Jul-2021       |
| boric acid (H3BO3), sodium salt (1:1)   | -         | 14890-53-0   | 08-Jul-2021       |
| Boric acid (H3BO3), disodium salt   | -         | 22454-04-2   | 08-Jul-2021       |
| Trisodium orthoborate   | 238-253-6 | 14312-40-4   | 08-Jul-2021       |
| Medium-chain chlorinated paraffins (MCCP)   | -         | -            | 08-Jul-2021       |
| Alkanes, C14-17, chloro   | 287-477-0 | 85535-85-9   | 08-Jul-2021       |
| Tetradecane, chloro derivs.   | -         | 198840-65-2  | 08-Jul-2021       |
| Alkanes, C14-16, chloro   | -         | 1372804-76-6 | 08-Jul-2021       |
| di-, tri- and tetrachlorotetradecane  | -         | -            | 08-Jul-2021       |
| glutaral  | 203-856-5 | 111-30-8     | 08-Jul-2021       |
| 4,4'-(1-methylpropylidene)bisphenol   | 201-025-1 | 77-40-7      | 08-Jul-2021       |
| 2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers  | -         | -            | 08-Jul-2021       |
| (2R)-3-(4-tert-butylphenyl)-2-methylpropanal  | -         | 75166-31-3   | 08-Jul-2021       |
| 2-(4-tert-butylbenzyl)propionaldehyde   | 201-289-8 | 80-54-6      | 08-Jul-2021       |
| (2S)-3-(4-tert-butylphenyl)-2-methylpropanal  | -         | 75166-30-2   | 08-Jul-2021       |
| 2,2-bis(bromomethyl)propane-1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)                                   | -         | -            | 08-Jul-2021       |
| 2,3-dibromo-1-propanol (2,3-DBPA)   | 202-480-9 | 96-13-9      | 08-Jul-2021       |
| 2,2-dimethylpropan-1-ol, tribromo derivative (TBNPA)  | 253-057-0 | 36483-57-5   | 08-Jul-2021       |
| 3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA)   | -         | 1522-92-5    | 08-Jul-2021       |
| 2,2-bis(bromomethyl)propane-1,3-diol (BMP)  | 221-967-7 | 3296-90-0    | 08-Jul-2021       |
| 1,4-dioxane   | 204-661-8 | 123-91-1     | 08-Jul-2021       |
| Diocetyltin dilaurate, stannane, diocetyl-, bis(coco acyloxy) derivs., and any other stannane, diocetyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety | -         | -            | 19-Jan-2021       |
| diocetyltin dilaurate; stannane, diocetyl-, bis(coco acyloxy) derivs.   | -         | -            | 19-Jan-2021       |
| Diocetyltin dilaurate   | 222-883-3 | 3648-18-8    | 19-Jan-2021       |
| Stannane, diocetyl-, bis(coco acyloxy) derivs.  | 293-901-5 | 91648-39-4   | 19-Jan-2021       |
| Bis(2-(2-methoxyethoxy)ethyl)ether  | 205-594-7 | 143-24-8     | 19-Jan-2021       |
| Dibutylbis(pentane-2,4-dionato-O,O')tin   | 245-152-0 | 22673-19-4   | 25-Jun-2020       |
| Butyl 4-hydroxybenzoate   | 202-318-7 | 94-26-8      | 25-Jun-2020       |
| 2-methylimidazole   | 211-765-7 | 693-98-1     | 25-Jun-2020       |
| 1-vinylimidazole  | 214-012-0 | 1072-63-5    | 25-Jun-2020       |
| Perfluorobutane sulfonic acid (PFBS) and its salts  | -         | -            | 16-Jan-2020       |
| Potassium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonate   | 249-616-3 | 29420-49-3   | 16-Jan-2020       |
| 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonic acid   | 206-793-1 | 375-73-5     | 16-Jan-2020       |
| bis(4-t-butylphenyl)iodonium perfluorobutanesulfonate   | 432-660-4 | 194999-85-4  | 16-Jan-2020       |
| tetrabutyl-phosphonium nonafluoro-butane-1-sulfonate  | 444-440-5 | 220689-12-3  | 16-Jan-2020       |
| dimethyl(phenyl)sulfanium perfluorobutanesulfonate  | 452-310-4 | 220133-51-7  | 16-Jan-2020       |
| Ammonium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulphonate  | 269-513-7 | 68259-10-9   | 16-Jan-2020       |
| Triphenylsulfonium perfluorobutane sulfonate  | 478-340-8 | 144317-44-2  | 16-Jan-2020       |
| N,N,N-triethylethanaminium 1,1,2,2,3,3,4,4,4-nonafluorobutane-1-sulfonate   | -         | 25628-08-4   | 16-Jan-2020       |
| magnesium perfluorobutanesulfonate  | -         | 507453-86-3  | 16-Jan-2020       |
| lithium perfluorobutanesulfonate  | -         | 131651-65-5  | 16-Jan-2020       |
| morpholinium perfluorobutanesulfonate   | -         | 503155-89-3  | 16-Jan-2020       |
| 1-(4-butoxy-1-naphthalenyl)tetrahydrothiophenium 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonate   | 468-770-4 | -            | 16-Jan-2020       |
| Diisohexyl phthalate  | 276-090-2 | 71850-09-4   | 16-Jan-2020       |
| 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one  | 400-600-6 | 71868-10-5   | 16-Jan-2020       |
| 2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone   | 404-360-3 | 119313-12-1  | 16-Jan-2020       |
| Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)  | -         | -            | 16-Jul-2019       |
| tris(nonylphenyl) phosphite   | 247-759-6 | 26523-78-4   | 16-Jul-2019       |
| Phenol, 4-nonyl-, phosphite (3:1)   | -         | 3050-88-2    | 16-Jul-2019       |
| tris(4-nonylphenyl, branched) phosphite   | -         | -            | 16-Jul-2019       |
| Phenol, p-sec-nonyl-, phosphite   | -         | 106599-06-8  | 16-Jul-2019       |
| Phenol, p-isonyl-, phosphite (3:1)  | -         | 31631-13-7   | 16-Jul-2019       |
| 4-tert-butylphenol  | 202-679-0 | 98-54-4      | 16-Jul-2019       |
| 2-methoxyethyl acetate  | 203-772-9 | 110-49-6     | 16-Jul-2019       |

| Substance name  | EC No.    | CAS No.      | Date of inclusion |
|---|-----------|--------------|-------------------|
| 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides  | -         | -            | 16-Jul-2019       |
| 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionyl fluoride  | 218-173-8 | 2062-98-8    | 16-Jul-2019       |
| 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid  | 236-236-8 | 13252-13-6   | 16-Jul-2019       |
| potassium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionate  | 266-578-3 | 67118-55-2   | 16-Jul-2019       |
| ammonium 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propanoate   | -         | 62037-80-3   | 16-Jul-2019       |
| Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-, (-)  | -         | 75579-40-7   | 16-Jul-2019       |
| Propanoic acid, 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)-, (+)-   | -         | 75579-39-4   | 16-Jul-2019       |
| Pyrene  | 204-927-3 | 129-00-0     | 15-Jan-2019       |
| Phenanthrene  | 201-581-5 | 85-01-8      | 15-Jan-2019       |
| Fluoranthene  | 205-912-4 | 206-44-0     | 15-Jan-2019       |
| Benzol[k]fluoranthene   | 205-916-6 | 207-08-9     | 15-Jan-2019       |
| 2,2-bis(4'-hydroxyphenyl)-4-methylpentane   | 401-720-1 | 6807-17-6    | 15-Jan-2019       |
| 1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one   | 239-139-9 | 15087-24-8   | 15-Jan-2019       |
| Terphenyl, hydrogenated   | 262-967-7 | 61788-32-7   | 27-Jun-2018       |
| Octamethylcyclotetrasiloxane  | 209-136-7 | 556-67-2     | 27-Jun-2018       |
| Lead  | 231-100-4 | 7439-92-1    | 27-Jun-2018       |
| Ethylenediamine   | 203-468-6 | 107-15-3     | 27-Jun-2018       |
| Dodecamethylcyclohexasiloxane   | 208-762-8 | 540-97-6     | 27-Jun-2018       |
| Disodium octaborate   | 234-541-0 | 12008-41-2   | 27-Jun-2018       |
| Dicyclohexyl phthalate  | 201-545-9 | 84-61-7      | 27-Jun-2018       |
| Decamethylcyclopentasiloxane  | 208-764-9 | 541-02-6     | 27-Jun-2018       |
| Benzol[ghi]perylene   | 205-883-8 | 191-24-2     | 27-Jun-2018       |
| Benzene-1,2,4-tricarboxylic acid 1,2 anhydride  | 209-008-0 | 552-30-7     | 27-Jun-2018       |
| Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)   | -         | -            | 15-Jan-2018       |
| Reaction product of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and phenol, heptyl derivs.   | -         | 1471311-26-8 | 15-Jan-2018       |
| Formaldehyde, reaction products with branched and linear heptylphenol, carbon disulfide and hydrazine   | 300-298-5 | 93925-00-9   | 15-Jan-2018       |
| Chrysene  | 205-923-4 | 218-01-9     | 15-Jan-2018       |
| Cadmium nitrate   | 233-710-6 | 10325-94-7   | 15-Jan-2018       |
| Cadmium hydroxide   | 244-168-5 | 21041-95-2   | 15-Jan-2018       |
| Cadmium carbonate   | 208-168-9 | 513-78-0     | 15-Jan-2018       |
| Benzol[a]anthracene   | 200-280-6 | 56-55-3      | 15-Jan-2018       |
| 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" <sup>TM</sup> )  | -         | -            | 15-Jan-2018       |
| (1S,2S,5R,6R,9S,10S,13R,14R)-1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1 <sup>6</sup> , <sup>9</sup> .0 <sup>2</sup> ,13.0 <sup>5</sup> , <sup>10</sup> ]octadeca-7,15-diene | -         | 135821-03-3  | 15-Jan-2018       |
| 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   | 236-948-9 | 13560-89-9   | 15-Jan-2018       |
| (1S,2S,5S,6S,9R,10R,13R,14R)-1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1 <sup>6</sup> , <sup>9</sup> .0 <sup>2</sup> ,13.0 <sup>5</sup> , <sup>10</sup> ]octadeca-7,15-diene | -         | 135821-74-8  | 15-Jan-2018       |
| rel-(1R,4S,4aS,6aR)-1,2,3,4,7,8,9,10,13,13,14,14-dodecachloro-1,4,4a,5,6,6a,7,10,10a,11,12,12a-dodecahydro-1,4:7,10-dimethanodibenzol[a,e]cyclooctene   | -         | -            | 15-Jan-2018       |
| rel-(1R,4S,4aS,6aS,7S,10R,10aR,12aR)-1,2,3,4,7,8,9,10,13,13,14,14-dodecachloro-1,4,4a,5,6,6a,7,10,10a,11,12,12a-dodecahydro-1,4:7,10-dimethanodibenzol[a,e]cyclooctene                          | -         | -            | 15-Jan-2018       |
| Perfluorohexane-1-sulphonic acid and its salts  | -         | -            | 07-Jul-2017       |
| perfluorohexane-1-sulphonic acid  | 206-587-1 | 355-46-4     | 07-Jul-2017       |
| ammonium perfluorohexane-1-sulphonate   | 269-511-6 | 68259-08-5   | 07-Jul-2017       |
| tridecafluorohexanesulphonic acid, compound with 2,2'-iminodiethanol (1:1)  | 274-462-9 | 70225-16-0   | 07-Jul-2017       |
| potassium perfluorohexane-1-sulphonate  | 223-393-2 | 3871-99-6    | 07-Jul-2017       |
| Ethanaminium, N-[4-[(4-(diethylamino)phenyl)[4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)    | -         | 1310480-24-0 | 07-Jul-2017       |

| Substance name  | EC No. | CAS No.      | Date of inclusion |
|---|--------|--------------|-------------------|
| Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | -      | 1310480-27-3 | 07-Jul-2017       |
| Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 1310480-28-4 | 07-Jul-2017       |
| Beta-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1:)(1:1)   | -      | 1329995-45-0 | 07-Jul-2017       |
| Gamma-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1:)(1:1)  | -      | 1329995-69-8 | 07-Jul-2017       |
| Sulfonium, triphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 144116-10-9  | 07-Jul-2017       |
| Quinolinium, 1-(carboxymethyl)-4-[2-[4-[4-(2,2-diphenylethenyl)phenyl]-1,2,3,3a,4,8b-hexahydrocyclopent[b]indol-7-yl]ethenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | -      | 1462414-59-0 | 07-Jul-2017       |
| Iodonium, diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 153443-35-7  | 07-Jul-2017       |
| Methanaminium, N,N,N-trimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1)  | -      | 189274-31-5  | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with 2-methyl-2-propanamine (1:1)   | -      | 202189-84-2  | 07-Jul-2017       |
| Iodonium, bis[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 213740-81-9  | 07-Jul-2017       |
| Sulfonium, bis(4-methylphenyl)phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 341548-85-4  | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, scandium(3+) salt (3:1)  | -      | 350836-93-0  | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, neodymium(3+) salt (3:1)   | -      | 41184-65-0   | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, yttrium(3+) salt (3:1)   | -      | 41242-12-0   | 07-Jul-2017       |
| Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:2)   | -      | 421555-73-9  | 07-Jul-2017       |
| Iodonium, bis[4-(1,1-dimethylpropyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic  | -      | 421555-74-0  | 07-Jul-2017       |
| Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 425670-70-8  | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt (1:1)   | -      | 55120-77-9   | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, zinc salt  | -      | 70136-72-0   | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with N,N-diethylethanamine (1:1)  | -      | 72033-41-1   | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, sodium salt  | -      | 82382-12-5   | 07-Jul-2017       |
| Iodonium, bis[(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (9Cl)  | -      | 866621-50-3  | 07-Jul-2017       |
| Sulfonium, (4-methylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | -      | 910606-39-2  | 07-Jul-2017       |
| Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 911027-68-4  | 07-Jul-2017       |
| Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.13,7]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.13,7]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate | -      | 911027-69-5  | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, cesium salt (1:1)  | -      | 92011-17-1   | 07-Jul-2017       |
| Dibenzo[k,n][1,4,7,10,13]tetraoxathiacyclopentadecinium, 19-[4-(1,1-dimethylethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)  | -      | 928049-42-7  | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. With pyrrolidine (1:1)  | -      | 1187817-57-7 | 07-Jul-2017       |
| N,N,N-triethylethanaminium tridecafluorohexane-1-sulfonate  | -      | 108427-55-0  | 07-Jul-2017       |

| Substance name   | EC No.    | CAS No.      | Date of inclusion |
|--|-----------|--------------|-------------------|
| N,N,N-tributylbutan-1-aminium tridecafluorohexane-1-sulfonate  | -         | 108427-54-9  | 07-Jul-2017       |
| Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)   | -         | 1000597-52-3 | 07-Jul-2017       |
| 1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6,6-tridecafluoro-, gallium salt (9Cl)  | -         | 341035-71-0  | 07-Jul-2017       |
| p-(1,1-dimethylpropyl)phenol   | 201-280-9 | 80-46-6      | 12-Jan-2017       |
| Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts   | -         | -            | 12-Jan-2017       |
| Nonadecafluorodecanoic acid  | 206-400-3 | 335-76-2     | 12-Jan-2017       |
| sodium nonadecafluorodecanoate   | -         | 3830-45-3    | 12-Jan-2017       |
| Ammonium nonadecafluorodecanoate   | 221-470-5 | 3108-42-7    | 12-Jan-2017       |
| 4-heptylphenol, branched and linear  | -         | -            | 12-Jan-2017       |
| Phenol, heptyl derivs.   | 276-743-1 | 72624-02-3   | 12-Jan-2017       |
| 4-heptylphenol   | 217-862-0 | 1987-50-4    | 12-Jan-2017       |
| 4-(3-ethylpentan-3-yl)phenol   | -         | 37872-24-5   | 12-Jan-2017       |
| 4-(2-methylhexan-2-yl)phenol   | -         | 30784-31-7   | 12-Jan-2017       |
| 4-(3,3-dimethylpentan-2-yl)phenol  | -         | 911371-06-7  | 12-Jan-2017       |
| 4-(3-methylhexan-2-yl)phenol   | -         | 854904-93-1  | 12-Jan-2017       |
| 4-(4,4-dimethylpentan-2-yl)phenol  | -         | 911371-07-8  | 12-Jan-2017       |
| 4-(4-methylhexan-2-yl)phenol   | -         | 71945-81-8   | 12-Jan-2017       |
| 4-(5-methylhexan-2-yl)phenol   | -         | 857629-71-1  | 12-Jan-2017       |
| 4-(2,2-dimethylpentan-3-yl)phenol  | -         | 861010-65-3  | 12-Jan-2017       |
| 4-(3-methylhexan-3-yl)phenol   | -         | 30784-32-8   | 12-Jan-2017       |
| 4-(heptan-3-yl)phenol  | -         | 6465-74-3    | 12-Jan-2017       |
| 4-(heptan-2-yl)phenol  | -         | 6863-24-7    | 12-Jan-2017       |
| 4-(heptan-4-yl)phenol  | -         | 6465-71-0    | 12-Jan-2017       |
| 4-(3-ethylpentyl)phenol  | -         | 911370-98-4  | 12-Jan-2017       |
| 4-(3-methylhexyl)phenol  | -         | 102570-52-5  | 12-Jan-2017       |
| 4-(4-methylhexyl)phenol  | -         | 1139800-98-8 | 12-Jan-2017       |
| 4-(5-methylhexyl)phenol  | -         | 100532-36-3  | 12-Jan-2017       |
| 4-(2,4-dimethylpentan-3-yl)phenol  | -         | 1824346-00-0 | 12-Jan-2017       |
| Phenol, 4-tert-heptyl-   | -         | 288864-02-8  | 12-Jan-2017       |
| Phenol, 4-(1-ethyl-1,2-dimethylpropyl)-  | -         | 30784-27-1   | 12-Jan-2017       |
| 4-(2,3-dimethylpentan-2-yl)phenol  | -         | 861011-60-1  | 12-Jan-2017       |
| 4-(2,4-dimethylpentan-2-yl)phenol  | -         | 33104-11-9   | 12-Jan-2017       |
| 4-(2,3,3-trimethylbutan-2-yl)phenol  | -         | 72861-06-4   | 12-Jan-2017       |
| 4-(5-methylhexan-3-yl)phenol   | -         | 854904-92-0  | 12-Jan-2017       |
| 4,4'-isopropylidenediphenol  | 201-245-8 | 80-05-7      | 12-Jan-2017       |
| Benzol[def]chrysene (Benzol[a]pyrene)  | 200-028-5 | 50-32-8      | 20-Jun-2016       |
| Perfluorononan-1-oic-acid and its sodium and ammonium salts  | -         | -            | 17-Dec-2015       |
| Perfluorononan-1-oic-acid  | 206-801-3 | 375-95-1     | 17-Dec-2015       |
| Sodium salts of perfluorononan-1-oic-acid  | -         | 21049-39-8   | 17-Dec-2015       |
| Ammonium salts of perfluorononan-1-oic-acid  | -         | 4149-60-4    | 17-Dec-2015       |
| Nitrobenzene   | 202-716-0 | 98-95-3      | 17-Dec-2015       |
| 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)   | 253-037-1 | 36437-37-3   | 17-Dec-2015       |
| 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)   | 223-383-8 | 3864-99-1    | 17-Dec-2015       |
| 1,3-propanesultone   | 214-317-9 | 1120-71-4    | 17-Dec-2015       |
| 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]   | -         | -            | 15-Jun-2015       |
| Reaction mass of 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane and 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane   | 413-720-9 | -            | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1S,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-   | -         | 676367-06-9  | 15-Jun-2015       |
| Reaction mass of 5-[(2R)-butan-2-yl]-2-[(1R,2R)-2,4-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2R)-butan-2-yl]-2-[(1R,6R)-4,6-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2S)-butan-2-yl]-2-[(1R,2R)-2,4-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2S)-butan-2-yl]-2-[(1S,2R)-2,4-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2S)-butan-2-yl]-2-[(1S,6R)-4,6-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane | -         | -            | 15-Jun-2015       |
| 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane  | -         | -            | 15-Jun-2015       |
| 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane  | -         | -            | 15-Jun-2015       |

| Substance name  | EC No.    | CAS No.                   | Date of inclusion |
|---|-----------|---------------------------|-------------------|
| 1,3-Dioxane, 2-(2,4-dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-  | -         | 186309-28-4               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-  | -         | 676367-05-8               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-rel-  | -         | 343934-04-3               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-  | -         | 676367-09-2               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-rel-  | -         | 343934-05-4               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1R,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-  | -         | 676367-04-7               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1R,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-  | -         | 676367-08-1               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1S,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-  | -         | 676367-03-6               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1S,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-  | -         | 676367-07-0               | 15-Jun-2015       |
| 1,3-Dioxane, 2-[(1S,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-  | -         | 676367-02-5               | 15-Jun-2015       |
| 1,3-Dioxane, 2-(2,4-dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-  | -         | 117933-89-8               | 15-Jun-2015       |
| 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters   | -         | -                         | 15-Jun-2015       |
| 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters  | 272-013-1 | 68648-93-1                | 15-Jun-2015       |
| 1,2-Benzene dicarboxylic acid, di-C6-10-alkyl esters  | 271-094-0 | 68515-51-5                | 15-Jun-2015       |
| Reaction mass of 2-ethylhexyl 10-ethyl-4,4-diocetyl-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) | -         | -                         | 17-Dec-2014       |
| Cadmium sulphate  | 233-331-6 | 10124-36-4,<br>31119-53-6 | 17-Dec-2014       |
| Cadmium fluoride  | 232-222-0 | 7790-79-6                 | 17-Dec-2014       |
| 2-ethylhexyl 10-ethyl-4,4-diocetyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)   | 239-622-4 | 15571-58-1                | 17-Dec-2014       |
| 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)  | 223-346-6 | 3846-71-7                 | 17-Dec-2014       |
| 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)  | 247-384-8 | 25973-55-1                | 17-Dec-2014       |
| Sodium peroxometaborate   | 231-556-4 | 7632-04-4                 | 16-Jun-2014       |
| Sodium perborate, perboric acid, sodium salt  | -         | -                         | 16-Jun-2014       |
| Perboric acid, sodium salt  | 234-390-0 | 11138-47-9                | 16-Jun-2014       |
| Sodium perborate  | 239-172-9 | 15120-21-5                | 16-Jun-2014       |
| Borate(2-), tetrahydroxybis[μ-(peroxy-κO1:κO2)]di-, sodium, hydrate (1:2:6)   | -         | 125022-34-6               | 16-Jun-2014       |
| Borate(2-), tetrahydroxybis[μ-(peroxy-κO1:κO2)]di-, sodium (1:2)  | -         | 90568-23-3                | 16-Jun-2014       |
| Perboric acid (H3BO2(O2)), monosodium salt, trihydrate  | -         | 13517-20-9                | 16-Jun-2014       |
| Cadmium chloride  | 233-296-7 | 10108-64-2                | 16-Jun-2014       |
| 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear  | 271-093-5 | 68515-50-4                | 16-Jun-2014       |
| Trixyl phosphate  | 246-677-8 | 25155-23-1                | 16-Dec-2013       |
| Lead di(acetate)  | 206-104-4 | 301-04-2                  | 16-Dec-2013       |
| Imidazolidine-2-thione (2-imidazoline-2-thiol)  | 202-506-9 | 96-45-7                   | 16-Dec-2013       |
| 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)   | 217-710-3 | 1937-37-7                 | 16-Dec-2013       |
| Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)  | 209-358-4 | 573-58-0                  | 16-Dec-2013       |
| Dihexyl phthalate   | 201-559-5 | 84-75-3                   | 16-Dec-2013       |
| Cadmium sulphide  | 215-147-8 | 1306-23-6                 | 16-Dec-2013       |
| Pentadecafluoroctanoic acid (PFOA)  | 206-397-9 | 335-67-1                  | 20-Jun-2013       |
| Dipentyl phthalate (DPP)  | 205-017-9 | 131-18-0                  | 20-Jun-2013       |
| Cadmium oxide   | 215-146-2 | 1306-19-0                 | 20-Jun-2013       |
| Cadmium   | 231-152-8 | 7440-43-9                 | 20-Jun-2013       |
| Ammonium pentadecafluoroctanoate (APFO)   | 223-320-4 | 3825-26-1                 | 20-Jun-2013       |
| 4-Nonylphenol, branched and linear, ethoxylated   | -         | -                         | 20-Jun-2013       |
| Nonylphenol, ethoxylated (8-EO)   | -         | 9016-45-9                 | 20-Jun-2013       |

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|---|-----------|--------------|-------------------|
| Nonylphenol, ethoxylated (6.5-EO)   | -         | 9016-45-9    | 20-Jun-2013       |
| Nonylphenol, branched, ethoxylated  | 500-209-1 | 68412-54-4   | 20-Jun-2013       |
| 4-Nonylphenol, ethoxylated  | 500-045-0 | 26027-38-3   | 20-Jun-2013       |
| Nonylphenol, ethoxylated  | 500-024-6 | 9016-45-9    | 20-Jun-2013       |
| 2-[2-[2-(4-nonylphenoxy)ethoxy]ethoxy]ethanol   | 230-770-5 | 7311-27-5    | 20-Jun-2013       |
| Nonylphenol, ethoxylated (10-EO)  | -         | 9016-45-9    | 20-Jun-2013       |
| 26-(4-Nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxaheptadecan-1-ol                       | -         | 14409-72-4   | 20-Jun-2013       |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -(nonylphenyl)- $\omega$ -hydroxy-, branched       | -         | 68412-54-4   | 20-Jun-2013       |
| Poly (oxy-1,2-ethanediyl), alpha -(nonylphenyl)-omega-hydroxy-, branched              | -         | 68412-54-4   | 20-Jun-2013       |
| 2-[2-(4-nonylphenoxy)ethoxy]ethanol   | 243-816-4 | 20427-84-3   | 20-Jun-2013       |
| Nonylphenol, ethoxylated (15-EO)  | -         | 9016-45-9    | 20-Jun-2013       |
| 20-(4-nonylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol                                 | 248-743-1 | 27942-27-4   | 20-Jun-2013       |
| 2-(isononylphenoxy)ethanol  | 284-987-5 | 85005-55-6   | 20-Jun-2013       |
| 3,6,9,12-Tetraoxatetradecan-1-ol, 14-(4-nonylphenoxy)-, branched                      | 293-926-1 | 91648-64-5   | 20-Jun-2013       |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -(nonylphenyl)- $\omega$ -hydroxy- (CAS 9016-45-9) | -         | 9016-45-9    | 20-Jun-2013       |
| 4-Nonylphenol, branched, ethoxylated  | -         | 127087-87-0  | 20-Jun-2013       |
| Nonylphenolpolyglycoether   | -         | -            | 20-Jun-2013       |
| 2-[4-(3,6-dimethylheptan-3-yl)phenoxy]ethanol   | -         | 1119449-37-4 | 20-Jun-2013       |
| 2-[2-[4-(3,6-dimethylheptan-3-yl)phenoxy]ethoxy]ethanol                               | -         | 1119449-38-5 | 20-Jun-2013       |
| Nonylphenol, ethoxylated (polymer)  | -         | -            | 20-Jun-2013       |
| Nonylphenol, ethoxylated (EO = 4)   | -         | -            | 20-Jun-2013       |
| Nonylphenol, ethoxylated (EO = 10)  | -         | -            | 20-Jun-2013       |
| 2-(4-nonylphenoxy)ethanol   | -         | 104-35-8     | 20-Jun-2013       |
| 4-t-Nonylphenol-diethoxylate  | -         | 156609-10-8  | 20-Jun-2013       |
| 3,6,9,12-Tetraoxatetradecan-1-ol, 14-(4-nonylphenoxy)-                                | -         | 20636-48-0   | 20-Jun-2013       |
| 17-(4-nonylphenoxy)-3,6,9,12,15-pentaoxaheptadecan-1-ol                               | -         | 34166-38-6   | 20-Jun-2013       |
| 4-Nonylphenol, branched, ethoxylated  | 500-315-8 | 127087-87-0  | 20-Jun-2013       |
| 29-(nonylphenoxy)-3,6,9,12,15,18,21,24,27-nonaoxanonacosanol                          | 248-294-1 | 27177-08-8   | 20-Jun-2013       |
| 23-(nonylphenoxy)-3,6,9,12,15,18,21-heptaoxatricosan-1-ol                             | 248-293-6 | 27177-05-5   | 20-Jun-2013       |
| 20-(nonylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol                                   | 248-292-0 | 27177-03-3   | 20-Jun-2013       |
| 2-[2-(nonylphenoxy)ethoxy]ethanol   | 248-291-5 | 27176-93-8   | 20-Jun-2013       |
| 26-(nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxaheptadecan-1-ol                         | 247-816-5 | 26571-11-9   | 20-Jun-2013       |
| 14-(nonylphenoxy)-3,6,9,12-tetraoxatetradecan-1-ol                                    | 247-555-7 | 26264-02-8   | 20-Jun-2013       |
| 20-(isononylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol                                | 265-785-6 | 65455-69-8   | 20-Jun-2013       |
| 44-(nonylphenoxy)-3,6,9,12,15,18,21,24,27,30,33,36,39,42-tetraoxatetradecan-1-ol      | 260-678-0 | 57321-10-5   | 20-Jun-2013       |
| 26-(nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxaheptadecan-1-ol                         | 255-695-5 | 42173-90-0   | 20-Jun-2013       |
| 2-(nonylphenoxy)ethanol   | 248-762-5 | 27986-36-3   | 20-Jun-2013       |
| Isononylphenol, ethoxylated   | -         | 37205-87-1   | 20-Jun-2013       |
| Trilead dioxide phosphonate   | 235-252-2 | 12141-20-7   | 19-Dec-2012       |
| Trilead bis(carbonate) dihydroxide  | 215-290-6 | 1319-46-6    | 19-Dec-2012       |
| Tricosafluorododecanoic acid  | 206-203-2 | 307-55-1     | 19-Dec-2012       |
| Tetralead trioxide sulphate   | 235-380-9 | 12202-17-4   | 19-Dec-2012       |
| Tetraethyllead  | 201-075-4 | 78-00-2      | 19-Dec-2012       |
| Sulfurous acid, lead salt, dibasic  | 263-467-1 | 62229-08-7   | 19-Dec-2012       |
| Silicic acid, lead salt   | 234-363-3 | 11120-22-2   | 19-Dec-2012       |
| Silicic acid ( $H_2SiO_5$ ), barium salt (1:1), lead-doped                            | 272-271-5 | 68784-75-8   | 19-Dec-2012       |
| Pyrochlore, antimony lead yellow  | 232-382-1 | 8012-00-8    | 19-Dec-2012       |
| Pentalead tetraxide sulphate  | 235-067-7 | 12065-90-6   | 19-Dec-2012       |
| Pentacosafafluorotridecanoic acid   | 276-745-2 | 72629-94-8   | 19-Dec-2012       |
| Orange lead (lead tetroxide)  | 215-235-6 | 1314-41-6    | 19-Dec-2012       |
| o-toluidine   | 202-429-0 | 95-53-4      | 19-Dec-2012       |
| o-aminoazotoluene   | 202-591-2 | 97-56-3      | 19-Dec-2012       |
| n-pentyl-isopentyl phthalate  | -         | 776297-69-9  | 19-Dec-2012       |
| N-methylacetamide   | 201-182-6 | 79-16-3      | 19-Dec-2012       |
| N,N-dimethylformamide   | 200-679-5 | 68-12-2      | 19-Dec-2012       |
| Methyloxirane (Propylene oxide)   | 200-879-2 | 75-56-9      | 19-Dec-2012       |
| Methoxyacetic acid  | 210-894-6 | 625-45-6     | 19-Dec-2012       |
| Lead titanium zirconium oxide   | 235-727-4 | 12626-81-2   | 19-Dec-2012       |
| Lead titanium trioxide  | 235-038-9 | 12060-00-3   | 19-Dec-2012       |
| Lead oxide sulfate  | 234-853-7 | 12036-76-9   | 19-Dec-2012       |
| Lead monoxide (lead oxide)  | 215-267-0 | 1317-36-8    | 19-Dec-2012       |

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|---|-----------|-------------|-------------------|
| Lead dinitrate  | 233-245-9 | 10099-74-8  | 19-Dec-2012       |
| Lead cyanamidate  | 244-073-9 | 20837-86-9  | 19-Dec-2012       |
| Lead bis(tetrafluoroborate)   | 237-486-0 | 13814-96-5  | 19-Dec-2012       |
| Hexahydromethylphthalic anhydride   | -         | -           | 19-Dec-2012       |
| Hexahydro-1-methylphthalic anhydride  | 256-356-4 | 48122-14-1  | 19-Dec-2012       |
| Hexahydro-3-methylphthalic anhydride  | 260-566-1 | 57110-29-9  | 19-Dec-2012       |
| Hexahydromethylphthalic anhydride   | 247-094-1 | 25550-51-0  | 19-Dec-2012       |
| Hexahydro-4-methylphthalic anhydride  | 243-072-0 | 19438-60-9  | 19-Dec-2012       |
| Heptacosafluorotetradecanoic acid   | 206-803-4 | 376-06-7    | 19-Dec-2012       |
| Henicosafluoroundecanoic acid   | 218-165-4 | 2058-94-8   | 19-Dec-2012       |
| Furan   | 203-727-3 | 110-00-9    | 19-Dec-2012       |
| Fatty acids, C16-18, lead salts   | 292-966-7 | 91031-62-8  | 19-Dec-2012       |
| Dioxobis(stearato)trilead   | 235-702-8 | 12578-12-0  | 19-Dec-2012       |
| Dinoseb (6-sec-butyl-2,4-dinitrophenol)   | 201-861-7 | 88-85-7     | 19-Dec-2012       |
| Dimethyl sulphate   | 201-058-1 | 77-78-1     | 19-Dec-2012       |
| Diisopentyl phthalate   | 210-088-4 | 605-50-5    | 19-Dec-2012       |
| Diethyl sulphate  | 200-589-6 | 64-67-5     | 19-Dec-2012       |
| Diethyltin dichloride (DBTC)  | 211-670-0 | 683-18-1    | 19-Dec-2012       |
| Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCA)  | 204-650-8 | 123-77-3    | 19-Dec-2012       |
| Cyclohexane-1,2-dicarboxylic anhydride  | -         | -           | 19-Dec-2012       |
| Cyclohexane-1,2-dicarboxylic anhydride  | 201-604-9 | 85-42-7     | 19-Dec-2012       |
| trans-cyclohexane-1,2-dicarboxylic anhydride  | 238-009-9 | 14166-21-3  | 19-Dec-2012       |
| cis-cyclohexane-1,2-dicarboxylic anhydride  | 236-086-3 | 13149-00-3  | 19-Dec-2012       |
| Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)   | 214-604-9 | 1163-19-5   | 19-Dec-2012       |
| Biphenyl-4-ylamine  | 202-177-1 | 92-67-1     | 19-Dec-2012       |
| Acetic acid, lead salt, basic   | 257-175-3 | 51404-69-4  | 19-Dec-2012       |
| [Phthalato(2-)]dioxotrilead   | 273-688-5 | 69011-06-9  | 19-Dec-2012       |
| 6-methoxy-m-toluidine (p-cresidine)   | 204-419-1 | 120-71-8    | 19-Dec-2012       |
| 4-Nonylphenol, branched and linear  | -         | -           | 19-Dec-2012       |
| p-nonylphenol   | 203-199-4 | 104-40-5    | 19-Dec-2012       |
| 4-(1-ethyl-1-methylhexyl)phenol   | 257-907-1 | 52427-13-1  | 19-Dec-2012       |
| p-(1,1-dimethylheptyl)phenol  | 250-339-5 | 30784-30-6  | 19-Dec-2012       |
| p-(1-methyloctyl)phenol   | 241-427-4 | 17404-66-9  | 19-Dec-2012       |
| Phenol, 4-nonyl-, branched  | 284-325-5 | 84852-15-3  | 19-Dec-2012       |
| 4-(1-Ethyl-1,4-dimethylpentyl)phenol  | -         | 142731-63-3 | 19-Dec-2012       |
| 4-(1-Ethyl-1,3-dimethylpentyl)phenol  | -         | 186825-36-5 | 19-Dec-2012       |
| p-isonylphenol  | 247-770-6 | 26543-97-5  | 19-Dec-2012       |
| Isononylphenol  | 234-284-4 | 11066-49-2  | 19-Dec-2012       |
| Phenol, nonyl-, branched  | 291-844-0 | 90481-04-2  | 19-Dec-2012       |
| 4-(3-ethylheptan-2-yl)phenol  | -         | 186825-39-8 | 19-Dec-2012       |
| 4-(1,1,5-Trimethylhexyl)phenol  | -         | 521947-27-3 | 19-Dec-2012       |
| Nonylphenol   | 246-672-0 | 25154-52-3  | 19-Dec-2012       |
| 4-methyl-m-phenylenediamine (toluene-2,4-diamine)   | 202-453-1 | 95-80-7     | 19-Dec-2012       |
| 4-aminoazobenzene   | 200-453-6 | 60-09-3     | 19-Dec-2012       |
| 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated   | -         | -           | 19-Dec-2012       |
| 20-[4-(1,1,3,3-tetramethylbutyl)phenoxy]-3,6,9,12,15,18-hexaoxaicosan-1-ol                                | 219-682-8 | 2497-59-8   | 19-Dec-2012       |
| 2-[2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]ethoxy]ethanol  | -         | 2315-61-9   | 19-Dec-2012       |
| Polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenyl ether  | -         | 9002-93-1   | 19-Dec-2012       |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -[(1,1,3,3-tetramethylbutyl)phenyl]- $\omega$ -hydroxy-                | -         | 9036-19-5   | 19-Dec-2012       |
| 2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]ethanol  | -         | 2315-67-5   | 19-Dec-2012       |
| 4,4'-oxydianiline and its salts   | -         | -           | 19-Dec-2012       |
| 4,4'-oxydianiline   | 202-977-0 | 101-80-4    | 19-Dec-2012       |
| 4,4'-methylenedi-o-toluidine  | 212-658-8 | 838-88-0    | 19-Dec-2012       |
| 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine  | 421-150-7 | 143860-04-2 | 19-Dec-2012       |
| 1-bromopropane (n-propyl bromide)   | 203-445-0 | 106-94-5    | 19-Dec-2012       |
| 1,2-diethoxyethane  | 211-076-1 | 629-14-1    | 19-Dec-2012       |
| 1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear   | 284-032-2 | 84777-06-0  | 19-Dec-2012       |
| $\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) | 229-851-8 | 6786-83-0   | 18-Jun-2012       |
| N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)  | 202-959-2 | 101-61-1    | 18-Jun-2012       |
| Lead(II) bis(methanesulfonate)  | 401-750-5 | 17570-76-2  | 18-Jun-2012       |
| Formamide   | 200-842-0 | 75-12-7     | 18-Jun-2012       |

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|---|-----------|--|-------------------|
| Diboron trioxide  | 215-125-8 | 1303-86-2                              | 18-Jun-2012       |
| [4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) | 219-943-6 | 2580-56-5                              | 18-Jun-2012       |
| [4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)                  | 208-953-6 | 548-62-9                               | 18-Jun-2012       |
| 4,4'-bis(dimethylamino)benzophenone (Michler's ketone)  | 202-027-5 | 90-94-8                                | 18-Jun-2012       |
| 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol   | 209-218-2 | 561-41-1                               | 18-Jun-2012       |
| 1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione ( $\beta$ -TGIC)   | 423-400-0 | 59653-74-6                             | 18-Jun-2012       |
| 1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)  | 219-514-3 | 2451-62-9                              | 18-Jun-2012       |
| 1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)   | 203-977-3 | 112-49-2                               | 18-Jun-2012       |
| 1, 2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)  | 203-794-9 | 110-71-4                               | 18-Jun-2012       |
| Zirconia Aluminosilicate Refractory Ceramic Fibres  | -         | -                                      | 19-Dec-2011       |
| Refractories, fibers, aluminosilicate   | -         | 142844-00-6                            | 19-Dec-2011       |
| Trilead diarsenate  | 222-979-5 | 3687-31-8                              | 19-Dec-2011       |
| Potassium hydroxyoctaoxodizincatedichromate   | 234-329-8 | 11103-86-9                             | 19-Dec-2011       |
| Phenolphthalein   | 201-004-7 | 77-09-8                                | 19-Dec-2011       |
| Pentazinc chromate octahydroxide  | 256-418-0 | 49663-84-5                             | 19-Dec-2011       |
| N,N-dimethylacetamide   | 204-826-4 | 127-19-5                               | 19-Dec-2011       |
| Lead styphnate  | 239-290-0 | 15245-44-0                             | 19-Dec-2011       |
| Lead dipicrate  | 229-335-2 | 6477-64-1                              | 19-Dec-2011       |
| Lead diazide, Lead azide  | 236-542-1 | 13424-46-9                             | 19-Dec-2011       |
| Formaldehyde, oligomeric reaction products with aniline   | 500-036-1 | 25214-70-4                             | 19-Dec-2011       |
| Dichromium tris(chromate)   | 246-356-2 | 24613-89-6                             | 19-Dec-2011       |
| Calcium arsenate  | 231-904-5 | 7778-44-1                              | 19-Dec-2011       |
| Bis(2-methoxyethyl) phthalate   | 204-212-6 | 117-82-8                               | 19-Dec-2011       |
| Bis(2-methoxyethyl) ether   | 203-924-4 | 111-96-6                               | 19-Dec-2011       |
| Arsenic acid  | 231-901-9 | 7778-39-4                              | 19-Dec-2011       |
| Aluminosilicate Refractory Ceramic Fibres   | -         | -                                      | 19-Dec-2011       |
| Refractories, fibers, aluminosilicate   | -         | 142844-00-6                            | 19-Dec-2011       |
| 4-(1,1,3,3-tetramethylbutyl)phenol  | 205-426-2 | 140-66-9                               | 19-Dec-2011       |
| 2-Methoxyaniline, o-Anisidine   | 201-963-1 | 90-04-0                                | 19-Dec-2011       |
| 2,2'-dichloro-4,4'-methylenedianiline   | 202-918-9 | 101-14-4                               | 19-Dec-2011       |
| 1,2-dichloroethane  | 203-458-1 | 107-06-2                               | 19-Dec-2011       |
| Strontium chromate  | 232-142-6 | 7789-06-2                              | 20-Jun-2011       |
| Hydrazine   | 206-114-9 | 302-01-2,<br>7803-57-8                 | 20-Jun-2011       |
| 2-ethoxyethyl acetate   | 203-839-2 | 111-15-9                               | 20-Jun-2011       |
| 1-Methyl-2-pyrrolidone (NMP)  | 212-828-1 | 872-50-4                               | 20-Jun-2011       |
| 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters   | 271-084-6 | 68515-42-4                             | 20-Jun-2011       |
| 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich  | 276-158-1 | 71888-89-6                             | 20-Jun-2011       |
| 1,2,3-trichloropropane  | 202-486-1 | 96-18-4                                | 20-Jun-2011       |
| Cobalt(II) sulphate   | 233-334-2 | 10124-43-3                             | 15-Dec-2010       |
| Cobalt(II) dinitrate  | 233-402-1 | 10141-05-6                             | 15-Dec-2010       |
| Cobalt(II) diacetate  | 200-755-8 | 71-48-7                                | 15-Dec-2010       |
| Cobalt(II) carbonate  | 208-169-4 | 513-79-1                               | 15-Dec-2010       |
| Chromium trioxide   | 215-607-8 | 1333-82-0                              | 15-Dec-2010       |
| Acids generated from chromium trioxide and their oligomers  | -         | -                                      | 15-Dec-2010       |
| Chromic acid  | 231-801-5 | 7738-94-5                              | 15-Dec-2010       |
| Oligomers of chromic acid and dichromic acid  | -         | -                                      | 15-Dec-2010       |
| Dichromic acid  | 236-881-5 | 13530-68-2                             | 15-Dec-2010       |
| 2-methoxyethanol  | 203-713-7 | 109-86-4                               | 15-Dec-2010       |
| 2-ethoxyethanol   | 203-804-1 | 110-80-5                               | 15-Dec-2010       |
| Trichloroethylene   | 201-167-4 | 79-01-6                                | 18-Jun-2010       |
| Tetraboron disodium heptaoxide, hydrate   | 235-541-3 | 12267-73-1                             | 18-Jun-2010       |
| Sodium chromate   | 231-889-5 | 7775-11-3                              | 18-Jun-2010       |
| Potassium dichromate  | 231-906-6 | 7778-50-9                              | 18-Jun-2010       |
| Potassium chromate  | 232-140-5 | 7789-00-6                              | 18-Jun-2010       |
| Disodium tetraborate, anhydrous   | 215-540-4 | 12179-04-3,<br>1303-96-4,<br>1330-43-4 | 18-Jun-2010       |
| Boric acid  | -         | -                                      | 18-Jun-2010       |

| Substance name  | EC No.    | CAS No.                  | Date of inclusion |
|---|-----------|--------------------------|-------------------|
| Boric acid, crude natural                                   | 234-343-4 | 11113-50-1               | 18-Jun-2010       |
| Boric acid  | 233-139-2 | 10043-35-3               | 18-Jun-2010       |
| Ammonium dichromate   | 232-143-1 | 7789-09-5                | 18-Jun-2010       |
| Acrylamide  | 201-173-7 | 79-06-1                  | 30-Mar-2010       |
| Tris(2-chloroethyl) phosphate                               | 204-118-5 | 115-96-8                 | 13-Jan-2010       |
| Pitch, coal tar, high-temp.                                 | 266-028-2 | 65996-93-2               | 13-Jan-2010       |
| Lead sulfochromate yellow (C.I. Pigment Yellow 34)          | 215-693-7 | 1344-37-2                | 13-Jan-2010       |
| Lead chromate molybdate sulphate red (C.I. Pigment Red 104) | 235-759-9 | 12656-85-8               | 13-Jan-2010       |
| Lead chromate   | 231-846-0 | 7758-97-6                | 13-Jan-2010       |
| Diisobutyl phthalate  | 201-553-2 | 84-69-5                  | 13-Jan-2010       |
| Anthracene oil, anthracene-low                              | 292-604-8 | 90640-82-7               | 13-Jan-2010       |
| Anthracene oil, anthracene paste, distn. lights             | 295-278-5 | 91995-17-4               | 13-Jan-2010       |
| Anthracene oil, anthracene paste, anthracene fraction       | 295-275-9 | 91995-15-2               | 13-Jan-2010       |
| Anthracene oil, anthracene paste                            | 292-603-2 | 90640-81-6               | 13-Jan-2010       |
| Anthracene oil  | 292-602-7 | 90640-80-5               | 13-Jan-2010       |
| 2,4-dinitrotoluene  | 204-450-0 | 121-14-2                 | 13-Jan-2010       |
| Triethyl arsenate   | 427-700-2 | 15606-95-8               | 28-Oct-2008       |
| Sodium dichromate   | 234-190-3 | 10588-01-9,<br>7789-12-0 | 28-Oct-2008       |
| Lead hydrogen arsenate                                      | 232-064-2 | 7784-40-9                | 28-Oct-2008       |
| Hexabromocyclododecane (HBCDD)                              | -         | -                        | 28-Oct-2008       |
| gamma-hexabromocyclododecane                                | -         | 134237-52-8              | 28-Oct-2008       |
| beta-hexabromocyclododecane                                 | -         | 134237-51-7              | 28-Oct-2008       |
| 1,2,5,6,9,10-hexabromocyclododecane                         | 221-695-9 | 3194-55-6                | 28-Oct-2008       |
| Hexabromocyclododecane                                      | 247-148-4 | 25637-99-4               | 28-Oct-2008       |
| alpha-hexabromocyclododecane                                | -         | 134237-50-6              | 28-Oct-2008       |
| Dibutyl phthalate (DBP)                                     | 201-557-4 | 84-74-2                  | 28-Oct-2008       |
| Diarsenic trioxide  | 215-481-4 | 1327-53-3                | 28-Oct-2008       |
| Diarsenic pentaoxide  | 215-116-9 | 1303-28-2                | 28-Oct-2008       |
| Cobalt dichloride   | 231-589-4 | 7646-79-9                | 28-Oct-2008       |
| Bis(tributyltin) oxide (TBTO)                               | 200-268-0 | 56-35-9                  | 28-Oct-2008       |
| Bis (2-ethylhexyl)phthalate (DEHP)                          | 204-211-0 | 117-81-7                 | 28-Oct-2008       |
| Benzyl butyl phthalate (BBP)                                | 201-622-7 | 85-68-7                  | 28-Oct-2008       |
| Anthracene  | 204-371-1 | 120-12-7                 | 28-Oct-2008       |
| Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) | 287-476-5 | 85535-84-8               | 28-Oct-2008       |
| 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)          | 201-329-4 | 81-15-2                  | 28-Oct-2008       |
| 4,4'- Diaminodiphenylmethane (MDA)                          | 202-974-4 | 101-77-9                 | 28-Oct-2008       |

Table 4 - REACH Annex XIV

| Substance name   | EC No.    | CAS No.               | Entry No. | Latest appl. date | Sunset Date |
|--|-----------|-----------------------|-----------|-------------------|-------------|
| 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)                         | 201-329-4 | 81-15-2               | 01        | 21-Feb-2013       | 21-Aug-2014 |
| 4,4'- Diaminodiphenylmethane (MDA)   | 202-974-4 | 101-77-9              | 02        | 21-Feb-2013       | 21-Aug-2014 |
| Hexabromocyclododecane (HBCDD)   | -         | -                     | 03        | 21-Feb-2014       | 21-Aug-2015 |
| gamma-hexabromocyclododecane   | -         | 134237-52-8           | 03        | 21-Feb-2014       | 21-Aug-2015 |
| beta-hexabromocyclododecane  | -         | 134237-51-7           | 03        | 21-Feb-2014       | 21-Aug-2015 |
| 1,2,5,6,9,10-hexabromocyclododecane  | 221-695-9 | 3194-55-6             | 03        | 21-Feb-2014       | 21-Aug-2015 |
| Hexabromocyclododecane   | 247-148-4 | 25637-99-4            | 03        | 21-Feb-2014       | 21-Aug-2015 |
| alpha-hexabromocyclododecane   | -         | 134237-50-6           | 03        | 21-Feb-2014       | 21-Aug-2015 |
| Bis(2-ethylhexyl) phthalate (DEHP)   | 204-211-0 | 117-81-7              | 04        | 21-Aug-2013       | 21-Feb-2015 |
| Benzyl butyl phthalate (BBP)   | 201-622-7 | 85-68-7               | 05        | 21-Aug-2013       | 21-Feb-2015 |
| Dibutyl phthalate (DBP)  | 201-557-4 | 84-74-2               | 06        | 21-Aug-2013       | 21-Feb-2015 |
| Diisobutyl phthalate (DIBP)  | 201-553-2 | 84-69-5               | 07        | 21-Aug-2013       | 21-Feb-2015 |
| Diarsenic trioxide   | 215-481-4 | 1327-53-3             | 08        | 21-Nov-2013       | 21-May-2015 |
| Diarsenic pentaoxide   | 215-116-9 | 1303-28-2             | 09        | 21-Nov-2013       | 21-May-2015 |
| Lead chromate  | 231-846-0 | 7758-97-6             | 10        | 21-Nov-2013       | 21-May-2015 |
| Lead sulfochromate yellow  | 215-693-7 | 1344-37-2             | 11        | 21-Nov-2013       | 21-May-2015 |
| Lead chromate molybdate sulfate red  | 235-759-9 | 12656-85-8            | 12        | 21-Nov-2013       | 21-May-2015 |
| Tris(2-chloroethyl) phosphate  | 204-118-5 | 115-96-8              | 13        | 21-Feb-2014       | 21-Aug-2015 |
| 2,4-dinitrotoluene (2,4-DNT)   | 204-450-0 | 121-14-2              | 14        | 21-Feb-2014       | 21-Aug-2015 |
| Trichloroethylene  | 201-167-4 | 79-01-6               | 15        | 21-Oct-2014       | 21-Apr-2016 |
| Chromium trioxide  | 215-607-8 | 1333-82-0             | 16        | 21-Mar-2016       | 21-Sep-2017 |
| Acids generated from chromium trioxide and their oligomers                 | -         | -                     | 17        | 21-Mar-2016       | 21-Sep-2017 |
| Chromic acid   | 231-801-5 | 7738-94-5             | 17        | 21-Mar-2016       | 21-Sep-2017 |
| Oligomers of chromic acid and dichromic acid                               | -         | -                     | 17        | 21-Mar-2016       | 21-Sep-2017 |
| Dichromic acid   | 236-881-5 | 13530-68-2            | 17        | 21-Mar-2016       | 21-Sep-2017 |
| Sodium dichromate  | 234-190-3 | 10588-01-9, 7789-12-0 | 18        | 21-Mar-2016       | 21-Sep-2017 |
| Potassium dichromate   | 231-906-6 | 7778-50-9             | 19        | 21-Mar-2016       | 21-Sep-2017 |
| Ammonium dichromate  | 232-143-1 | 7789-09-5             | 20        | 21-Mar-2016       | 21-Sep-2017 |
| Potassium chromate   | 232-140-5 | 7789-00-6             | 21        | 21-Mar-2016       | 21-Sep-2017 |
| Sodium chromate  | 231-889-5 | 7775-11-3             | 22        | 21-Mar-2016       | 21-Sep-2017 |
| Formaldehyde, oligomeric reaction products with aniline                    | 500-036-1 | 25214-70-4            | 23        | 22-Feb-2016       | 22-Aug-2017 |
| Arsenic acid   | 231-901-9 | 7778-39-4             | 24        | 22-Feb-2016       | 22-Aug-2017 |
| Bis(2-methoxyethyl) ether  | 203-924-4 | 111-96-6              | 25        | 22-Feb-2016       | 22-Aug-2017 |
| 1,2-dichloroethane (EDC)   | 203-458-1 | 107-06-2              | 26        | 22-May-2016       | 22-Nov-2017 |
| 2,2'-dichloro-4,4'-methylenedianiline (MOCA)                               | 202-918-9 | 101-14-4              | 27        | 22-May-2016       | 22-Nov-2017 |
| Dichromium tris(chromate)  | 246-356-2 | 24613-89-6            | 28        | 22-Jul-2017       | 22-Jan-2019 |
| Strontium chromate   | 232-142-6 | 7789-06-2             | 29        | 22-Jul-2017       | 22-Jan-2019 |
| Potassium hydroxyoctaoxodizincatedichromate                                | 234-329-8 | 11103-86-9            | 30        | 22-Jul-2017       | 22-Jan-2019 |
| Pentazinc chromate octahydroxide   | 256-418-0 | 49663-84-5            | 31        | 22-Jul-2017       | 22-Jan-2019 |
| 1-bromopropane (n-propyl bromide)  | 203-445-0 | 106-94-5              | 32        | 04-Jan-2019       | 04-Jul-2020 |
| Diisopentyl phthalate  | 210-088-4 | 605-50-5              | 33        | 04-Jan-2019       | 04-Jul-2020 |
| 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich       | 276-158-1 | 71888-89-6            | 34        | 04-Jan-2019       | 04-Jul-2020 |
| 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters    | 271-084-6 | 68515-42-4            | 35        | 04-Jan-2019       | 04-Jul-2020 |
| 1,2-Benzenedicarboxylic acid, dipentyl ester, branched and linear          | 284-032-2 | 84777-06-0            | 36        | 04-Jan-2019       | 04-Jul-2020 |
| Bis(2-methoxyethyl) phthalate  | 204-212-6 | 117-82-8              | 37        | 04-Jan-2019       | 04-Jul-2020 |
| Dipentyl phthalate   | 205-017-9 | 131-18-0              | 38        | 04-Jan-2019       | 04-Jul-2020 |
| n-pentyl-isopentyl phthalate   | 933-378-9 | 776297-69-9           | 39        | 04-Jan-2019       | 04-Jul-2020 |
| Anthracene oil   | 292-602-7 | 90640-80-5            | 40        | 04-Apr-2019       | 04-Oct-2020 |
| Pitch, coal tar, high-temp.  | 266-028-2 | 65996-93-2            | 41        | 04-Apr-2019       | 04-Oct-2020 |
| 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated                            | -         | -                     | 42        | 04-Jul-2019       | 04-Jan-2021 |
| 20-[4-(1,1,3,3-tetramethylbutyl)phenoxy]-3,6,9,12,15,18-hexaoxaicosan-1-ol | 219-682-8 | 2497-59-8             | 42        | 04-Jul-2019       | 04-Jan-2021 |

| Substance name   | EC No.    | CAS No.      | Entry No. | Latest appl. date | Sunset Date |
|--|-----------|--------------|-----------|-------------------|-------------|
| 2-{2-[4-(2,4,4-trimethylpentan-2-yl)phenoxy]ethoxy}ethanol                                 | 621-341-7 | 2315-61-9    | 42        | 04-Jul-2019       | 04-Jan-2021 |
| Polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenyl ether                               | 618-344-0 | 9002-93-1    | 42        | 04-Jul-2019       | 04-Jan-2021 |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -[(1,1,3,3-tetramethylbutyl)phenyl]- $\omega$ -hydroxy- | 618-541-1 | 9036-19-5    | 42        | 04-Jul-2019       | 04-Jan-2021 |
| 2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]ethanol   | 621-345-9 | 2315-67-5    | 42        | 04-Jul-2019       | 04-Jan-2021 |
| 4-Nonylphenol, branched and linear, ethoxylated  | -         | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (8-EO)  | 931-754-7 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (6.5-EO)  | 931-753-1 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, branched, ethoxylated   | 500-209-1 | 68412-54-4   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 4-Nonylphenol, ethoxylated   | 500-045-0 | 26027-38-3   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated   | 500-024-6 | 9016-45-9    | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-[2-[2-[2-(4-nonylphenoxy)ethoxy]ethoxy]ethoxy]ethanol                                    | 230-770-5 | 7311-27-5    | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (10-EO)   | 931-755-2 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 26-(4-Nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxaheptacosan-1-ol                            | 604-395-6 | 14409-72-4   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, branched, ethoxylated (CAS# 68412-54-4)                                       | 932-688-1 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Poly (oxy-1,2-ethanediyl), alpha - (nonylphenyl)-omega-hydroxy-, branched                  | 932-337-2 | 68412-54-4   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-[2-(4-nonylphenoxy)ethoxy]ethanol  | 243-816-4 | 20427-84-3   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (15-EO)   | 931-756-8 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 20-(4-nonylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol                                      | 248-743-1 | 27942-27-4   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-(isononylphenoxy)ethanol   | 284-987-5 | 85005-55-6   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 3,6,9,12-Tetraoxatetradecan-1-ol, 14-(4-nonylphenoxy)-, branched                           | 293-926-1 | 91648-64-5   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -(nonylphenyl)- $\omega$ -hydroxy- (CAS 9016-45-9)      | 931-562-3 | 9016-45-9    | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 4-Nonylphenol, branched, ethoxylated   | 932-098-4 | 127087-87-0  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenolpolyglycoether  | 932-998-7 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-[4-(3,6-dimethylheptan-3-yl)phenoxy]ethanol  | 687-832-3 | 1119449-37-4 | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-[2-[4-(3,6-dimethylheptan-3-yl)phenoxy]ethoxy]ethanol                                    | 687-833-9 | 1119449-38-5 | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (polymer)   | 938-618-6 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (EO = 4)  | -         | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Nonylphenol, ethoxylated (EO = 10)   | 939-993-9 | -            | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-(4-nonylphenoxy)ethanol  | -         | 104-35-8     | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 4-t-Nonylphenol-diethoxylate   | -         | 156609-10-8  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 3,6,9,12-Tetraoxatetradecan-1-ol, 14-(4-nonylphenoxy)-                                     | -         | 20636-48-0   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 17-(4-nonylphenoxy)-3,6,9,12,15-pentaoxaheptadecan-1-ol                                    | -         | 34166-38-6   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 4-Nonylphenol, branched, ethoxylated   | 500-315-8 | 127087-87-0  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 29-(nonylphenoxy)-3,6,9,12,15,18,21,24,27-nonaoxanonacosanol                               | 248-294-1 | 27177-08-8   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 23-(nonylphenoxy)-3,6,9,12,15,18,21-heptaoxatricosan-1-ol                                  | 248-293-6 | 27177-05-5   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 20-(nonylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol  | 248-292-0 | 27177-03-3   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-[2-(nonylphenoxy)ethoxy]ethanol  | 248-291-5 | 27176-93-8   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 26-(nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxaheptacosan-1-ol                              | 247-816-5 | 26571-11-9   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 14-(nonylphenoxy)-3,6,9,12-tetraoxatetradecan-1-ol   | 247-555-7 | 26264-02-8   | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 20-(isononylphenoxy)-3,6,9,12,15,18-hexaoxaicosan-1-ol                                     | 265-785-6 | 65455-69-8   | 43        | 04-Jul-2019       | 04-Jan-2021 |

| Substance name   | EC No.    | CAS No.     | Entry No. | Latest appl. date | Sunset Date |
|--|-----------|-------------|-----------|-------------------|-------------|
| 44-(nonylphenoxy)-3,6,9,12,15,18,21,24,27,30,33,36,39,42-tetradecaoxatetratetracontanol  | 260-678-0 | 57321-10-5  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 26-(nonylphenoxy)-3,6,9,12,15,18,21,24-octaoxaheptacosan-1-ol  | 255-695-5 | 42173-90-0  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 2-(nonylphenoxy)ethanol  | 248-762-5 | 27986-36-3  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| Isononylphenol, ethoxylated  | 609-346-2 | 37205-87-1  | 43        | 04-Jul-2019       | 04-Jan-2021 |
| 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear   | 271-093-5 | 68515-50-4  | 44        | 27-Aug-2021       | 27-Feb-2023 |
| Dihexyl phthalate  | 201-559-5 | 84-75-3     | 45        | 27-Aug-2021       | 27-Feb-2023 |
| 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters  | -         | -           | 46        | 27-Aug-2021       | 27-Feb-2023 |
| 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters   | 272-013-1 | 68648-93-1  | 46        | 27-Aug-2021       | 27-Feb-2023 |
| 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters  | 271-094-0 | 68515-51-5  | 46        | 27-Aug-2021       | 27-Feb-2023 |
| Trixylyl phosphate   | 246-677-8 | 25155-23-1  | 47        | 27-Nov-2021       | 27-May-2023 |
| Sodium perborate, perboric acid, sodium salt   | -         | -           | 48        | 27-Nov-2021       | 27-May-2023 |
| Perboric acid, sodium salt   | 234-390-0 | 11138-47-9  | 48        | 27-Nov-2021       | 27-May-2023 |
| Sodium perborate   | 239-172-9 | 15120-21-5  | 48        | 27-Nov-2021       | 27-May-2023 |
| Borate(2-), tetrahydroxybis[μ-(peroxy-κO1:κO2)]di-, sodium, hydrate (1:2:6)  | -         | 125022-34-6 | 48        | 27-Nov-2021       | 27-May-2023 |
| Borate(2-), tetrahydroxybis[μ-(peroxy-κO1:κO2)]di-, sodium (1:2)   | -         | 90568-23-3  | 48        | 27-Nov-2021       | 27-May-2023 |
| Perboric acid (H3BO2(O2)), monosodium salt, trihydrate   | 603-902-8 | 13517-20-9  | 48        | 27-Nov-2021       | 27-May-2023 |
| Sodium peroxometaborate  | 231-556-4 | 7632-04-4   | 49        | 27-Nov-2021       | 27-May-2023 |
| 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]   | -         | -           | 50        | 27-Feb-2022       | 27-Aug-2023 |
| Reaction mass of 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane and 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane   | 413-720-9 | -           | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1S,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-   | -         | 676367-06-9 | 50        | 27-Feb-2022       | 27-Aug-2023 |
| Reaction mass of 5-[(2R)-butan-2-yl]-2-[(1R,2R)-2,4-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2R)-butan-2-yl]-2-[(1R,6R)-4,6-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2S)-butan-2-yl]-2-[(1R,2R)-2,4-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2S)-butan-2-yl]-2-[(1S,2R)-2,4-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane and 5-[(2S)-butan-2-yl]-2-[(1S,6R)-4,6-dimethylcyclohex-3-en-1-yl]-5-methyl-1,3-dioxane | 700-927-7 | -           | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane  | -         | -           | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane  | -         | -           | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-(2,4-dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-   | -         | 186309-28-4 | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-   | -         | 676367-05-8 | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-rel-   | -         | 343934-04-3 | 50        | 27-Feb-2022       | 27-Aug-2023 |

| Substance name   | EC No.    | CAS No.      | Entry No. | Latest appl. date | Sunset Date |
|--|-----------|--------------|-----------|-------------------|-------------|
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-   | -         | 676367-09-2  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1R,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-rel-   | -         | 343934-05-4  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1R,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-   | -         | 676367-04-7  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1R,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-   | -         | 676367-08-1  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1S,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-   | -         | 676367-03-6  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1S,2R)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, trans-   | -         | 676367-07-0  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-[(1S,2S)-2,4-dimethyl-3-cyclohexen-1-yl]-5-methyl-5-(1-methylpropyl)-, cis-   | -         | 676367-02-5  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 1,3-Dioxane, 2-(2,4-dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-   | 601-499-3 | 117933-89-8  | 50        | 27-Feb-2022       | 27-Aug-2023 |
| 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)   | 247-384-8 | 25973-55-1   | 51        | 27-May-2022       | 27-Nov-2023 |
| 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)   | 223-383-8 | 3864-99-1    | 52        | 27-May-2022       | 27-Nov-2023 |
| 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)   | 253-037-1 | 36437-37-3   | 53        | 27-May-2022       | 27-Nov-2023 |
| 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)   | 223-346-6 | 3846-71-7    | 54        | 27-May-2022       | 27-Nov-2023 |
| Tetraethyllead   | 201-075-4 | 78-00-2      | 55        | 01-Nov-2023       | 01-May-2025 |
| 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol  | 209-218-2 | 561-41-1     | 56        | 01-Nov-2023       | 01-May-2025 |
| Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)  | -         | -            | 57        | 01-Nov-2023       | 01-May-2025 |
| Formaldehyde, reaction products with phenol heptyl derivs. and 1,3,4-thiadiazolidine-2,5-dithione  | 939-460-0 | 1471311-26-8 | 57        | 01-Nov-2023       | 01-May-2025 |
| Formaldehyde, reaction products with branched and linear heptylphenol, carbon disulfide and hydrazine  | 300-298-5 | 93925-00-9   | 57        | 01-Nov-2023       | 01-May-2025 |
| 2-ethylhexyl 10-ethyl-4,4-diethyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate  | 239-622-4 | 15571-58-1   | 58        | 01-Nov-2023       | 01-May-2025 |
| Reaction mass of 2-ethylhexyl 10-ethyl-4,4-diethyl-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) | 915-270-3 | -            | 59        | 01-Nov-2023       | 01-May-2025 |

**Table 5 - REACH Annex XVII**

(This list refers most used substances and their groups; the full list of substances is available on the ECHA web)

| <b>Substance name</b>  | <b>EC No.</b> | <b>CAS No.</b> | <b>Entry no.</b> |
|--|---------------|----------------|------------------|
| Polychlorinated terphenyls (PCTs)  | -             | -              | 01               |
| Chloroethene   | 200-831-0     | 75-01-4        | 02               |
| Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 (See group members): | -             | -              | 03               |
| Hazard class 4.1   | -             | -              | 03               |
| Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10   | -             | -              | 03               |
| Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F  | -             | -              | 03               |
| Hazard class 5.1.  | -             | -              | 03               |
| Tris (2,3 dibromopropyl) phosphate   | -             | 126-72-7       | 04               |
| Benzene  | 200-753-7     | 71-43-2        | 05               |
| Asbestos fibres  | -             | -              | 06               |
| Actinolite   | -             | 77536-66-4     | 06               |
| Tremolite  | -             | 77536-68-6     | 06               |
| Crocidolite  | -             | 12001-28-4     | 06               |
| Amosite  | -             | 12172-73-5     | 06               |
| Asbestos, chrysotile   | 601-650-3     | 12001-29-5     | 06               |
| Anthophyllite  | -             | 77536-67-5     | 06               |
| Tris(aziridinyl)phosphinoxide  | 208-892-5     | 545-55-1       | 07               |
| Polybromobiphenyls, Polybrominatedbiphenyls (PBB)  | -             | -              | 08               |
| Polybromobiphenyls, Polybrominatedbiphenyls (PBB)  | -             | 59536-65-1     | 08               |
| Polybrominated biphenyls (PBB) except hexabromo-biphenyl   | -             | -              | 08               |
| Nonabromo-1,1'-biphenyl  | 248-637-5     | 27753-52-2     | 08               |
| Tetrabromo(tetrabromophenyl)benzene  | 248-696-7     | 27858-07-7     | 08               |
| Decabromo-1,1'-biphenyl  | 237-137-2     | 13654-09-6     | 08               |
| 4-bromobiphenyl  | 202-176-6     | 92-66-0        | 08               |
| 4,4'-dibromobiphenyl   | 202-198-6     | 92-86-4        | 08               |
| 3-bromobiphenyl  | 218-304-9     | 2113-57-7      | 08               |
| Hexabromo-1,1'-biphenyl  | 252-994-2     | 36355-01-8     | 08               |
| Entry 9  | -             | -              | 09               |
| o-Nitrobenzaldehyde  | 209-025-3     | 552-89-6       | 09               |
| Soap bark powder (Quillaja saponaria) and its derivatives containing saponines   | 273-620-4     | 68990-67-0     | 09               |
| Benzidine and / or its derivatives   | -             | -              | 09               |
| Powder of the roots of Veratrum album and Veratrum nigrum  | -             | -              | 09               |
| Wood powder  | -             | -              | 09               |
| Powder of the roots of Helleborus viridis and Helleborus niger   | -             | -              | 09               |
| Entry 10   | -             | -              | 10               |
| Ammonium polysulphide  | 232-989-1     | 9080-17-5      | 10               |
| Ammonium sulphide  | 235-223-4     | 12135-76-1     | 10               |
| Ammonium hydrogen sulphide   | 235-184-3     | 12124-99-1     | 10               |
| Volatile esters of bromoacetic acids   | -             | -              | 11               |
| Methyl bromoacetate  | 202-499-2     | 96-32-2        | 11               |
| Propyl bromoacetate  | -             | 35223-80-4     | 11               |
| Butyl bromoacetate   | 242-729-9     | 18991-98-5     | 11               |
| Ethyl bromoacetate   | 203-290-9     | 105-36-2       | 11               |
| 2-naphthylamine and its salts  | -             | -              | 12               |
| Salts of 2-naphthylamine   | -             | -              | 12               |
| 2-naphthylamine  | 202-080-4     | 91-59-8        | 12               |
| 2-naphthylammonium chloride  | 210-313-6     | 612-52-2       | 12               |
| 2-naphthylammonium acetate   | 209-030-0     | 553-00-4       | 12               |
| Benzidine and its salts  | -             | -              | 13               |
| Salts of benzidine   | -             | -              | 13               |
| Benzidine  | 202-199-1     | 92-87-5        | 13               |
| 4-Nitrobiphenyl  | 202-204-7     | 92-93-3        | 14               |
| 4-Aminobiphenyl xenylamine and its salts   | -             | -              | 15               |
| 4-Aminobiphenyl xenylamine   | 202-177-1     | 92-67-1        | 15               |
| Lead carbonates  | -             | -              | 16               |
| Trilead-bis(carbonate)-dihydroxide 2PbCO <sub>3</sub> -Pb(OH) <sub>2</sub>   | 215-290-6     | 1319-46-6      | 16               |

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| Neutral anhydrous carbonate (PbCO3 )                                  | 209-943-4 | 598-63-0   | 16        |
| Lead sulphates  | -         | -          | 17        |
| Lead sulphate PbSO4   | 231-198-9 | 7446-14-2  | 17        |
| Sulphuric acid, lead salt Pb <sub>x</sub> SO <sub>4</sub>             | 239-831-0 | 15739-80-7 | 17        |
| Mercury compounds   | -         | -          | 18        |
| Mercury   | 231-106-7 | 7439-97-6  | 18a       |
| Arsenic compounds   | -         | -          | 19        |
| Yttrium arsenide  | 235-507-8 | 12255-48-0 | 19        |
| Tribarium diarsenide  | 235-508-3 | 12255-50-4 | 19        |
| Tricalcium diarsenide   | 235-509-9 | 12255-53-7 | 19        |
| Germanium arsenide  | 235-547-6 | 12271-72-6 | 19        |
| Trisilver arsenide  | 235-652-7 | 12417-99-1 | 19        |
| Arsenic sulfide   | 235-720-6 | 12612-21-4 | 19        |
| Ammonium dihydrogenarsenate   | 236-667-1 | 13462-93-6 | 19        |
| Potassium arsenite  | 236-680-2 | 13464-35-2 | 19        |
| Trisodium arsenite  | 236-681-8 | 13464-37-4 | 19        |
| Trisodium arsenate  | 236-682-3 | 13464-38-5 | 19        |
| Zinc arsenate   | 236-683-9 | 13464-44-3 | 19        |
| Tristrontium diarsenate   | 236-684-4 | 13464-68-1 | 19        |
| Tribarium diarsenate  | 236-762-8 | 13477-04-8 | 19        |
| Trinickel bis(arsenate)   | 236-771-7 | 13477-70-8 | 19        |
| Trilithium arsenate   | 236-773-8 | 13478-14-3 | 19        |
| Trisilver arsenate  | 236-841-7 | 13510-44-6 | 19        |
| Diarsenic ptauxoxide  | 215-116-9 | 1303-28-2  | 19        |
| Arsenic sulfide   | 215-117-4 | 1303-33-9  | 19        |
| Diarsenic triselenide   | 215-119-5 | 1303-36-2  | 19        |
| Diarsenic trioxide  | 215-481-4 | 1327-53-3  | 19        |
| Triethyl arsenite   | 221-543-1 | 3141-12-6  | 19        |
| Trilead diarsenate  | 222-979-5 | 3687-31-8  | 19        |
| Disodium 4-[(o-aronophenyl)azo]-3-hydroxynaphthalene-2,7-disulphonate | 222-993-1 | 3688-92-4  | 19        |
| Diphenyldiarsenic acid  | 224-845-1 | 4519-32-8  | 19        |
| Arsenic   | 231-148-6 | 7440-38-2  | 19        |
| Arsenic acid, sodium salt   | 231-547-5 | 7631-89-2  | 19        |
| Arsenic acid  | 231-901-9 | 7778-39-4  | 19        |
| Disodium hydrogenarsenate   | 231-902-4 | 7778-43-0  | 19        |
| Calcium arsenate  | 231-904-5 | 7778-44-1  | 19        |
| Trisilver arsenite  | 232-048-5 | 7784-08-9  | 19        |
| Arsenic tribromide  | 232-057-4 | 7784-33-0  | 19        |
| Arsenic trichloride   | 232-059-5 | 7784-34-1  | 19        |
| Trifluoroarsine   | 232-060-0 | 7784-35-2  | 19        |
| Pentafluoroarsorane   | 232-061-6 | 7784-36-3  | 19        |
| Mercury hydrogenarsenate  | 232-062-1 | 7784-37-4  | 19        |
| Manganese hydrogenarsenate  | 232-063-7 | 7784-38-5  | 19        |
| Lead hydrogen arsenate  | 232-064-2 | 7784-40-9  | 19        |
| Potassium dihydrogenarsenate  | 232-065-8 | 7784-41-0  | 19        |
| Diammonium hydrogenarsenate   | 232-067-9 | 7784-44-3  | 19        |
| Arsenic triiodide   | 232-068-4 | 7784-45-4  | 19        |
| Sodium dioxaarsenate  | 232-070-5 | 7784-46-5  | 19        |
| Pentahydroxyarsorane  | 232-096-7 | 7786-36-9  | 19        |
| Flue dust, arsenic-contg.   | 232-434-3 | 8028-73-7  | 19        |
| Lead arsenite   | 233-083-9 | 10031-13-7 | 19        |
| Iron arsenate   | 233-274-7 | 10102-49-5 | 19        |
| Iron bis(arsenate)  | 233-275-2 | 10102-50-8 | 19        |
| Arsenic acid, magnesium salt  | 233-285-7 | 10103-50-1 | 19        |
| Arsenic acid, copper salt   | 233-286-2 | 10103-61-4 | 19        |
| Arsenic acid, calcium salt  | 233-287-8 | 10103-62-5 | 19        |
| Strychnine arsenate   | 233-970-0 | 10476-82-1 | 19        |
| Tricopper arsenide  | 234-472-6 | 12005-75-3 | 19        |
| Dysprosium arsenide   | 234-473-1 | 12005-81-1 | 19        |
| Diiron arsenide   | 234-474-7 | 12005-88-8 | 19        |
| Gadolinium arsenide   | 234-475-2 | 12005-89-9 | 19        |
| Holmium arsenide  | 234-476-8 | 12005-92-4 | 19        |
| Lutetium arsenide   | 234-477-3 | 12005-94-6 | 19        |
| Manganese arsenide  | 234-478-9 | 12005-95-7 | 19        |

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|--|-----------|-------------|-----------|
| Terbium arsenide   | 234-479-4 | 12006-08-5  | 19        |
| Thallium arsenide  | 234-481-5 | 12006-09-6  | 19        |
| Thulium arsenide   | 234-482-0 | 12006-10-9  | 19        |
| Ytterbium arsenide   | 234-483-6 | 12006-12-1  | 19        |
| Iron diarsenide  | 234-485-7 | 12006-21-2  | 19        |
| Trizinc diarsenide   | 234-486-2 | 12006-40-5  | 19        |
| Iron arsenide  | 234-947-8 | 12044-16-5  | 19        |
| Digallium arsenide phosphide   | 234-948-3 | 12044-20-1  | 19        |
| Tripotassium arsenide  | 234-949-9 | 12044-21-2  | 19        |
| Trilithium arsenide  | 234-950-4 | 12044-22-3  | 19        |
| Trisodium arsenide   | 234-952-5 | 12044-25-6  | 19        |
| Praseodymium arsenide  | 234-953-0 | 12044-28-9  | 19        |
| Trimagnesium diarsenide  | 234-954-6 | 12044-49-4  | 19        |
| Diarsenic tritelluride   | 234-955-1 | 12044-54-1  | 19        |
| Zinc diarsenide  | 234-956-7 | 12044-55-2  | 19        |
| Nickel diarsenide  | 235-103-1 | 12068-61-0  | 19        |
| Dichromium arsenide  | 235-499-6 | 12254-85-2  | 19        |
| Erbium arsenide  | 235-501-5 | 12254-88-5  | 19        |
| Lanthanum arsenide   | 235-502-0 | 12255-04-8  | 19        |
| Niobium arsenide   | 235-503-6 | 12255-08-2  | 19        |
| Neodymium arsenide   | 235-504-1 | 12255-09-3  | 19        |
| Triantimony arsenide   | 235-505-7 | 12255-36-6  | 19        |
| Samarium arsenide  | 235-506-2 | 12255-39-9  | 19        |
| Tris[(8 $\alpha$ )-6'-methoxycinchonan-9(R)-ol] arsenite                         | 303-002-2 | 94138-87-1  | 19        |
| Gallium zinc triarsenide   | 308-577-3 | 98106-56-0  | 19        |
| Vanadium(4+) diarsenate (1:1)  | 308-917-0 | 99035-51-5  | 19        |
| Strychnidin-10-one, arsenite (1:1)   | 309-388-9 | 100258-44-4 | 19        |
| Slimes and Sludges, copper electrolytic refining, decopperized, arsenic-rich     | 309-772-6 | 100995-81-1 | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), magnesium salt, manganese-doped | 310-019-9 | 102110-21-4 | 19        |
| Slimes and Sludges, copper-lead ore roasting off gas scrubbing, arsenic-contg.   | 310-063-9 | 102110-62-3 | 19        |
| Sodium hexafluoroarsenate(V)   | 624-772-9 | 12005-86-6  | 19        |
| Sodium arsenate dibasic heptahydrate   | 677-900-0 | 10048-95-0  | 19        |
| Sodium cacodylate trihydrate   | 682-793-9 | 6131-99-3   | 19        |
| 2,6-dimethyl-4-(1-naphthyl)pyrylium hexafluoroarsenate                           | 282-682-1 | 84282-36-0  | 19        |
| 2,6-dimethyl-4-phenylpyrylium hexafluoroarsenate                                 | 282-700-8 | 84304-15-4  | 19        |
| 4-cyclohexyl-2,6-dimethylpyrylium hexafluoroarsenate                             | 282-701-3 | 84304-16-5  | 19        |
| Aluminium arsenide   | 245-255-0 | 22831-42-1  | 19        |
| Triammonium arsenate   | 246-428-3 | 24719-13-9  | 19        |
| Tricobalt diarsenate   | 246-429-9 | 24719-19-5  | 19        |
| Cobalt arsenide  | 248-168-6 | 27016-73-5  | 19        |
| Nickel arsenide  | 248-169-1 | 27016-75-7  | 19        |
| Tricalcium diarsenite  | 248-266-9 | 27152-57-4  | 19        |
| Sodium metaarsenate  | 239-171-3 | 15120-17-9  | 19        |
| Copper diarsenite  | 240-574-1 | 16509-22-1  | 19        |
| Potassium hexafluoroarsenate   | 241-102-7 | 17029-22-0  | 19        |
| Hydrogen hexafluoroarsenate  | 241-128-9 | 17068-85-8  | 19        |
| N-(p-arsenosophenyl)-1,3,5-triazine-2,4,6-triamine                               | 244-612-8 | 21840-08-4  | 19        |
| 3-methyl-4-(pyrrolidin-1-yl)benzenediazonium hexafluoroarsenate                  | 248-532-4 | 27569-09-1  | 19        |
| Antimony arsenate  | 249-347-1 | 28980-47-4  | 19        |
| Arsenic acid, copper(2+) salt  | 249-916-4 | 29871-13-4  | 19        |
| Lithium hexafluoroarsenate   | 249-963-0 | 29935-35-1  | 19        |
| Ammonium copper arsenate   | 251-151-6 | 32680-29-8  | 19        |
| Europium arsenide  | 251-206-4 | 32775-46-5  | 19        |
| Tristrontium diarsenide  | 254-407-5 | 39297-24-0  | 19        |
| Triphenylsulphonium hexafluoroarsenate(1-)                                       | 261-009-5 | 57900-42-2  | 19        |
| Zirconium arsenide   | 262-524-8 | 60909-47-9  | 19        |
| Trimanganese arsenide  | 262-667-6 | 61219-26-9  | 19        |
| Disodium 3,6-bis[(o-aronophenyl)azo]-4,5-dihydroxynaphthalene-2,7-disulphonate   | 263-516-7 | 62337-00-2  | 19        |
| Diphenyliodonium hexafluoroarsenate  | 263-638-0 | 62613-15-4  | 19        |
| 4-(ethylamino)-2-methylbenzenediazonium hexafluoroarsenate                       | 264-026-6 | 63217-32-3  | 19        |

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| 4-(diethylamino)-2-ethoxybenzenediazonium hexafluoroarsenate   | 264-027-1 | 63217-33-4  | 19        |
| Antimony arsenic oxide   | 264-904-9 | 64475-90-7  | 19        |
| Arsenic bromide  | 265-296-8 | 64973-06-4  | 19        |
| Cobalt arsenide  | 265-784-0 | 65453-05-6  | 19        |
| Tris(pentane-2,4-dionato-O,O')silicon hexafluoroarsenate   | 266-621-6 | 67251-38-1  | 19        |
| Slimes and Sludges, copper refining  | 266-977-2 | 67712-00-9  | 19        |
| Silicic acid (H4SiO4), zinc salt (1:2), arsenic and manganese-doped  | 271-895-5 | 68611-46-1  | 19        |
| Bis(pentane-2,4-dionato-O,O')boron(1+) hexafluoroarsenate(1-)  | 272-591-5 | 68892-01-3  | 19        |
| Antimony oxide (Sb2O3), mixed with arsenic oxide (As2O3)   | 273-156-2 | 68951-38-2  | 19        |
| Lead alloy, base, dross  | 273-700-9 | 69011-59-2  | 19        |
| Lead, antimonial, dross  | 273-795-7 | 69029-51-2  | 19        |
| Flue dust, lead-refining   | 273-809-1 | 69029-67-0  | 19        |
| Disilver arsenide  | 274-573-2 | 70333-07-2  | 19        |
| Thallium triarsenide   | 281-902-3 | 84057-85-2  | 19        |
| Oxophenarsine  | 206-178-8 | 306-12-7    | 19        |
| Tritium hexafluoroarsenate   | 207-111-5 | 437-15-0    | 19        |
| Neoarsphenamine  | 207-273-7 | 457-60-3    | 19        |
| Oxophenarsine hydrochloride  | 208-682-3 | 538-03-4    | 19        |
| Tris[(8a,9R)-6'-methoxycinchonan-9-ol] bis(arsenate)   | 208-971-4 | 549-59-7    | 19        |
| Sulfarsphenamine   | 210-564-1 | 618-82-6    | 19        |
| Phenylarsine oxide   | 211-275-3 | 637-03-6    | 19        |
| Dimethylarsinic acid   | 200-883-4 | 75-60-5     | 19        |
| Roxarsone  | 204-453-7 | 121-19-7    | 19        |
| Sodium dimethylarsinate  | 204-708-2 | 124-65-2    | 19        |
| 6,6'-dihydroxy-3,3'-diarsene-1,2-diyl)dianilinium dichloride   | 205-386-6 | 139-93-5    | 19        |
| Gallium arsenide   | 215-114-8 | 1303-00-0   | 19        |
| Indium arsenide  | 215-115-3 | 1303-11-3   | 19        |
| Leucomycin V, 9-O-[5-(dimethylamino)tetrahydro-6-methyl-2H-pyran-2-yl]-, [9(5S,6R)]-, [1,2-ethanediylibis(imino-4,1-phenylene)]bis[aronate] (1:1) (salt) | 299-051-1 | 93841-79-3  | 19        |
| (diphenylarsino)dimethylgallium  | 302-587-1 | 94113-53-8  | 19        |
| (4-aminophenyl)arsonic acid, compound with piperazine (1:1)  | 303-952-8 | 94232-26-5  | 19        |
| Sodium hydrogen allylaronate   | 304-710-4 | 94278-22-5  | 19        |
| Disodium p-tolylaronate  | 304-956-2 | 94313-58-3  | 19        |
| Arsonic acid, [4-[[4-(dimethylamino)phenyl]azo]phenyl]-, monohydrochloride   | 620-678-7 | 73688-85-4  | 19        |
| Tetraphenylarsonium Chloride Hydrochloride Hydrate   | 621-302-4 | 123334-18-9 | 19        |
| Silver hexafluoroarsenate  | 624-776-0 | 12005-82-2  | 19        |
| Arsenic sulfide (As2S5)  | 625-728-1 | 1303-34-0   | 19        |
| Arsenic disulfide  | 627-949-9 | 1303-32-8   | 19        |
| Arsenazo III sodium  | 630-782-4 | 138608-19-2 | 19        |
| (Carboxymethyl)trimethylarsonium hydroxide inner salt  | 634-697-3 | 64436-13-1  | 19        |
| Calcium arsenate (CaHAsO4) (6Cl,7Cl)   | 672-782-7 | 15195-00-3  | 19        |
| Aluminium gallium arsenide   | 680-872-2 | 37382-15-3  | 19        |
| Arsine, dichloromethyl-  | 695-189-5 | 593-89-5    | 19        |
| Arsino, thioxo-  | -         | 12044-79-0  | 19        |
| Arsenic acid   | -         | 10102-53-1  | 19        |
| Arsenic acid (H3AsO4), monosodium salt   | -         | 10103-60-3  | 19        |
| Diarsenic acid, sodium salt  | -         | 13464-42-1  | 19        |
| Arsenous acid, zinc salt   | -         | 10326-24-6  | 19        |
| Arsenous acid, lead(2+) salt (1:1)   | -         | 100822-74-0 | 19        |
| Arsenic acid (H3AsO4), lead(4+) salt (3:2)   | -         | 10102-48-4  | 19        |
| Arsenic acid (H3AsO4), copper(2+) salt (4:1)   | -         | 102525-64-4 | 19        |
| Gallium arsenide phosphide   | -         | 106097-61-4 | 19        |
| 4-Aminophenylarsenoxide  | -         | 1122-90-3   | 19        |
| Magnesium arsenate, decahydrate  | -         | 117746-50-6 | 19        |
| Boron arsenide (BAs)   | -         | 12005-69-5  | 19        |
| Boron arsenide (B6As)  | -         | 12005-70-8  | 19        |
| Manganese arsenide (Mn2As)   | -         | 12005-96-8  | 19        |

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| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), lead(2+) salt (2:3), tetrahydrate                     | -      | 120119-64-4 | 19        |
| Tin arsenide (SnAs)  | -      | 12044-32-5  | 19        |
| Cobalt arsenide (CoAs <sub>2</sub> )   | -      | 12044-42-7  | 19        |
| Platinum arsenide (PtAs <sub>2</sub> )   | -      | 12044-52-9  | 19        |
| Cobalt arsenide (CoAs <sub>3</sub> )   | -      | 12256-04-1  | 19        |
| Tetraarsenic tetrasulfide  | -      | 12279-90-2  | 19        |
| Arsenic sulfide (As <sub>2</sub> S <sub>4</sub> )  | -      | 12344-68-2  | 19        |
| Arsenopyrite, cobaltoan  | -      | 12414-94-7  | 19        |
| Arsenous acid, antimony(3+) salt (1:1)   | -      | 12523-20-5  | 19        |
| Arsenic selenide   | -      | 12626-31-2  | 19        |
| Arsorane, pentahydroxy-, copper(2+) salt (1:2)   | -      | 12774-48-0  | 19        |
| Arsenic oxide  | -      | 12777-38-7  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), ammonium salt (2:1)                                   | -      | 127795-79-3 | 19        |
| Nickel arsenide  | -      | 12795-30-1  | 19        |
| Rammelsbergite (NiAs <sub>2</sub> )  | -      | 1303-22-6   | 19        |
| Zinc arsenenate oxide (Zn <sub>5</sub> (AsO <sub>3</sub> ) <sub>4</sub> O <sub>3</sub> ), tetrahydrate | -      | 1303-39-5   | 19        |
| Diarsenic acid   | -      | 13453-15-1  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), copper(2+) salt (1:1)                                 | -      | 13464-31-8  | 19        |
| Arsenic acid, tripotassium salt  | -      | 13464-36-3  | 19        |
| Arsenic acid, calcium salt (1:2)   | -      | 13464-39-6  | 19        |
| Arsionic acid, disodium salt   | -      | 13466-06-3  | 19        |
| Boron arsenate   | -      | 13510-31-1  | 19        |
| Zinc arsenate, octahydrate   | -      | 13510-72-0  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), bismuth salt (1:1)                                    | -      | 13702-38-0  | 19        |
| Arsenous acid  | -      | 13768-07-5  | 19        |
| Ammonium magnesium arsenate  | -      | 14644-70-3  | 19        |
| Arsenous acid, calcium salt (2:1)  | -      | 15194-98-6  | 19        |
| Arsenious acid (HAsO <sub>2</sub> ), strontium salt  | -      | 15195-06-9  | 19        |
| Calcium arsenate fluoride  | -      | 17068-86-9  | 19        |
| Arsenic chloride (AsCl)  | -      | 17522-78-0  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), dipotassium salt                                      | -      | 21093-83-4  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), magnesium salt (2:3)                                  | -      | 21480-65-9  | 19        |
| Arsenic pentachloride  | -      | 22441-45-8  | 19        |
| Arsenous acid, gallium salt (1:1)  | -      | 24343-41-7  | 19        |
| Manganese arsenate   | -      | 27526-45-0  | 19        |
| Arsenous acid, zinc salt (2:3)   | -      | 28837-97-0  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), cobalt(2+) salt                                       | -      | 29871-10-1  | 19        |
| arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), calcium salt(2:3), dihydrate                          | -      | 30621-31-9  | 19        |
| Arsine oxide, dichloro(2-chlorovinyl)-   | -      | 333-25-5    | 19        |
| Arsenous acid, tricopper(1+) salt  | -      | 33382-64-8  | 19        |
| Arsenic acid (H <sub>3</sub> AsO <sub>4</sub> ), lead(4+) salt (2:1), monohydrate                      | -      | 33940-95-3  | 19        |
| Arsonic acid, methyl-, iron salt (9Cl)   | -      | 33972-75-7  | 19        |
| Arsenous acid, nickel(2+) salt   | -      | 33992-49-3  | 19        |
| Arsenous acid, tripotassium salt   | -      | 36267-15-9  | 19        |
| Arsonate   | -      | 36465-76-6  | 19        |
| Arsenic chloride   | -      | 37226-49-6  | 19        |
| Iron arsenide  | -      | 39310-41-3  | 19        |
| Arsine, bis(2-chlorovinyl)chloro-  | -      | 40334-69-8  | 19        |
| Arsine, tris(2-chloroethyl)-   | -      | 40334-70-1  | 19        |
| Arsenic chloride (AsCl <sub>2</sub> )  | -      | 41996-37-6  | 19        |
| Arsenic acid, (H <sub>3</sub> -As-O <sub>4</sub> ), lead(4+) salt (4:3)                                | -      | 53404-12-9  | 19        |
| (2-Chloroethyl)arsonous dichloride   | -      | 541-25-3    | 19        |
| Arsenic sulfide (As <sub>2</sub> S)  | -      | 56320-22-0  | 19        |
| Zinc arsenide  | -      | 56450-43-2  | 19        |
| Arsenous acid, iron(3+) salt (1:1)   | -      | 60168-33-4  | 19        |
| Sodium oxidoarsonous acid  | -      | 60189-99-3  | 19        |
| Arsenic trichloride  | -      | 60646-36-8  | 19        |
| Gallium arsenic phosphide  | -      | 60953-19-7  | 19        |
| Strontium arsenide (SrAs <sub>3</sub> )  | -      | 61462-16-6  | 19        |
| (4-((2-Amino-2-oxoethyl)amino)phenyl)arsonic acid  | -      | 618-25-7    | 19        |
| Arsonic acid, methyl-, compd. with 1-octanamine (1:1)  | -      | 6379-37-9   | 19        |
| Ferric arsenite, basic   | -      | 63989-69-5  | 19        |

| Substance name  | EC No.    | CAS No.     | Entry no. |
|---|-----------|-------------|-----------|
| iron;iron(3+);methyl-dioxido-oxo-\$I\{5)-arsane   | -         | 6585-53-1   | 19        |
| Silicic acid (H4SiO4), magnesium manganese(2+) zinc salt, arsenic and lead-doped                    | -         | 68784-76-9  | 19        |
| Silicic acid (H4SiO4), tetraethyl ester, polymer with arsenic oxide (As2O3)                         | -         | 68957-75-5  | 19        |
| Arsenous acid, silver(1+) salt  | -         | 69507-43-3  | 19        |
| Benzenesulfonic acid, 4-arsenos-, sodium salt   | -         | 71130-50-2  | 19        |
| Benzenesulfonic acid, 4-arsenos-  | -         | 71130-51-3  | 19        |
| Arsenos acid, tricopper(1+) salt, ammoniated  | -         | 37337-11-4  | 19        |
| Arsenic tetrasulfide  | -         | 56729-51-2  | 19        |
| Arsonic acid, monoammonium salt   | -         | 54058-01-4  | 19        |
| Tetraarsenic trisulfide   | -         | 12512-13-9  | 19        |
| Arsenic(5) hexafluoride   | -         | 16973-45-8  | 19        |
| Arsenic tetrachloride fluoride  | -         | 87198-15-0  | 19        |
| Arsonic acid, lead(2+) salt (1:1)   | -         | 109882-46-4 | 19        |
| Arsenous acid, lithium salt   | -         | 72845-34-2  | 19        |
| Arsenos acid, copper(2+) salt, hydrate, (2:3:3)   | -         | 73156-86-2  | 19        |
| Arsenic acid (H3AsO4), lead salt  | -         | 7645-25-2   | 19        |
| Arsenous acid, neodymium(3+) salt   | -         | 76871-63-1  | 19        |
| Arsenous acid, lutetium(3+) salt  | -         | 76871-65-3  | 19        |
| Arsenous acid, cadmium neodymium(3+) salt (5:1:1)   | -         | 76871-66-4  | 19        |
| Arsenic acid (H3AsO4), copper(2+) salt (2:3)  | -         | 76407-89-1  | 19        |
| Arsenous acid, cesium salt  | -         | 82005-78-5  | 19        |
| Arsenous acid, mercury(2+) salt   | -         | 82980-40-3  | 19        |
| Arsenous acid, antimony(3+) salt  | -         | 83877-96-7  | 19        |
| Arsenous acid, cadmium salt   | -         | 84953-43-5  | 19        |
| Arsenous acid, cobalt(2+) salt  | -         | 85561-28-0  | 19        |
| Arsenous acid, manganese(2+) salt   | -         | 85561-29-1  | 19        |
| Arsenous acid, rubidium salt  | -         | 85906-44-1  | 19        |
| Arsenic acid (H3AsO4), calcium salt (7:10)  | -         | 85949-61-7  | 19        |
| Arsenous acid, praseodymium(3+) salt  | -         | 86859-92-9  | 19        |
| Arsenous acid, cerium(3+) salt  | -         | 86859-93-0  | 19        |
| Arsenic acid (H3AsO4), copper(2+) salt (1:1), sesquihydrate   | -         | 88442-64-2  | 19        |
| Arsenic acid (H3AsO4), copper(2+) salt (4:5)  | -         | 89054-01-3  | 19        |
| Arsenic acid (H3AsO4), lead(2+) salt (4:5)  | -         | 89054-03-5  | 19        |
| arsenic acid, calcium salt  | -         | 89054-07-9  | 19        |
| Arsenic acid (H3AsO4), calcium salt (4:5)   | -         | 89067-81-2  | 19        |
| Strontium arsenite (Sr(As2O4))  | -         | 91724-16-2  | 19        |
| Arsenos acid, titanium salt   | -         | 92278-94-9  | 19        |
| Arsonic acid, tin salt  | -         | 93080-00-3  | 19        |
| Arsenous acid, ammonium copper salt   | -         | 94854-78-1  | 19        |
| Arsenous acid, ammonium zinc salt   | -         | 94854-80-5  | 19        |
| ARSENIC ACID (H3ASO4), HEMIHYDRATE  | -         | 7774-41-6   | 19        |
| Arsonic acid, methyl-, calcium salt (1:1)   | -         | 6423-72-9   | 19        |
| trisodium;triodo(oxo)-\$I\{5)-arsane;dodecahydrate  | -         | 13510-46-8  | 19        |
| Arsenic acid (H3AsO4), monopotassium salt, 1/5hydrate   | -         | 164170-84-7 | 19        |
| Tripotassium arsenate 3/2hydrate  | -         | 62702-52-7  | 19        |
| Arsenos acid  | -         | 13464-58-9  | 19        |
| Tin arsenide (Sn4As3)   | -         | 12397-66-9  | 19        |
| Disodium 3,6-bis[[2-[(dihydroxyarsino)oxy]phenyl]azo]-4,5-dihydroxynaphthalene-2,7-disulphonate     | 282-453-6 | 84215-47-4  | 19        |
| Disodium 3-[[2-[(dihydroxyarsino)oxy]phenyl]azo]-4,5-dihydroxynaphthalene-2,7-disulphonate          | 282-454-1 | 84215-48-5  | 19        |
| Dibismuth tris(methylarsonate)  | 286-401-3 | 85237-42-9  | 19        |
| Copper acetoarsenite  | 601-658-7 | 12002-03-8  | 19        |
| Diphenylarsinecarbonitrile  | 245-716-6 | 23525-22-6  | 19        |
| Bis[(2-diphenylarsinoethyl)phenyl]phosphine   | 245-756-4 | 23582-05-0  | 19        |
| [2-(diphenylarsino)ethyl]diphenylphosphine  | 245-758-5 | 23582-06-1  | 19        |
| Disodium hydrogen 2-[[7-[(2-aronophenyl)azo]-1,8-dihydroxy-3,6-disulphonato-2-naphthyl]azo]benzoate | 238-715-7 | 14674-83-0  | 19        |
| 2,2'-[ethylenebis(oxy)]bis[1,3,2-dioxarsolane]  | 238-911-2 | 14849-23-1  | 19        |
| Chlorotris(triphenylarsine)rhodium  | 239-051-0 | 14973-92-3  | 19        |
| Proustite (Ag3(AsS3))   | 239-179-7 | 15122-58-4  | 19        |
| Tetraphenylarsonium (hydrogen dichloride)   | 244-144-4 | 21006-73-5  | 19        |

| Substance name  | EC No.    | CAS No.    | Entry no. |
|---|-----------|------------|-----------|
| Methylenebis(diphenylarsine)  | 244-639-5 | 21892-63-7 | 19        |
| Calcium arsenite  | 258-147-3 | 52740-16-6 | 19        |
| Trisodium 4-[(o-aronophenyl)azo]-3-oxidonaphthalene-2,7-disulphonate                      | 258-693-2 | 53669-45-7 | 19        |
| Acetarsol sodium  | 259-714-8 | 55588-51-7 | 19        |
| 3-formamido-4-hydroxyphenylarsonic acid   | 262-085-2 | 60154-16-7 | 19        |
| Bromo(hydroxytetraphenylarsoranoato)magnesium   | 264-254-6 | 63468-73-5 | 19        |
| Trisodium 3-[(o-aronatophenyl)azo]-4,5-dihydroxynaphthalene-2,7-disulphonate              | 266-069-6 | 66019-20-3 | 19        |
| Tetraphenylarsonium chloride, compound with hydrochloric acid (1:1)                       | 277-208-5 | 73003-83-5 | 19        |
| Strychnidin-10-one, compd. with methylarsonate (1:1)                                      | 279-614-8 | 80879-64-7 | 19        |
| Methyl 17 $\alpha$ -hydroxyohimban-16 $\alpha$ -carboxylate, methylarsonate (1:1)         | 279-628-4 | 80925-03-7 | 19        |
| Tetramethyldiarsine   | 207-440-4 | 471-35-2   | 19        |
| Melarsoprol   | 207-793-4 | 494-79-1   | 19        |
| Tetraphenylarsonium bromide   | 208-069-0 | 507-27-7   | 19        |
| Tetraphenylarsonium chloride  | 208-070-6 | 507-28-8   | 19        |
| Difetarsone disodium  | 208-209-0 | 515-76-4   | 19        |
| Trisodium 2(-hydrogen arsonatophenylazo)-1,8-dihydroxynaphthalene-3,6-disulphonate        | 208-285-5 | 520-10-5   | 19        |
| Acetarsol-diethylamine (1:1)  | 208-597-1 | 534-33-8   | 19        |
| Tryparsamide  | 209-070-9 | 554-72-3   | 19        |
| 10-chloro-5,10-dihydrophenarsazine  | 209-433-1 | 578-94-9   | 19        |
| Sodium hydrogen [4-(acetamido)phenyl]arsonate   | 209-558-1 | 585-54-6   | 19        |
| Allylarsonic acid   | 209-678-4 | 590-34-1   | 19        |
| Methyloxoarsine   | 209-799-2 | 593-58-8   | 19        |
| Trimethylarsine   | 209-815-8 | 593-88-4   | 19        |
| Dichloro(ethyl)arsine   | 209-919-3 | 598-14-1   | 19        |
| Triphenylarsine   | 210-032-9 | 603-32-7   | 19        |
| Triethylarsine  | 210-526-4 | 617-75-4   | 19        |
| 4-acetamidophenylarsonic acid   | 210-541-6 | 618-22-4   | 19        |
| 4-(4-dimethylaminophenylazo)phenylarsonic acid  | 210-750-2 | 622-68-4   | 19        |
| Iododimethylarsine  | 211-630-2 | 676-75-5   | 19        |
| Dichloro(phenyl)arsine  | 211-791-9 | 696-28-6   | 19        |
| Chlorodiphenylarsine  | 211-921-4 | 712-48-1   | 19        |
| Diphenylarsine  | 212-589-3 | 829-83-4   | 19        |
| Methyl 1,2,5,6-tetrahydro-1-methylnicotinate, mono[(3-acetamido-4-hydroxyphenyl)arsonate] | 212-983-5 | 900-77-6   | 19        |
| Methyldiphenylarsine  | 213-414-3 | 945-48-2   | 19        |
| Triphenylarsine oxide   | 214-571-0 | 1153-05-5  | 19        |
| Diphenoxarsin-10-yl oxide   | 200-377-3 | 58-36-6    | 19        |
| Acetarsol   | 202-582-3 | 97-44-9    | 19        |
| Phenylarsonic acid  | 202-631-9 | 98-05-5    | 19        |
| 4-hydroxyphenylarsonic acid   | 202-641-3 | 98-14-6    | 19        |
| Arsanilic acid  | 202-674-3 | 98-50-0    | 19        |
| Nitarsone   | 202-695-8 | 98-72-6    | 19        |
| Propylarsonic acid  | 203-482-2 | 107-34-6   | 19        |
| Glycobiarsol  | 204-143-1 | 116-49-4   | 19        |
| Arsthinol   | 204-361-7 | 119-96-0   | 19        |
| Carbarsone  | 204-484-6 | 121-59-5   | 19        |
| Methylarsonic acid  | 204-705-6 | 124-58-3   | 19        |
| Disodium arsonoacetate  | 204-806-5 | 126-82-9   | 19        |
| Sodium hydrogen 4-aminophenylarsonate   | 204-869-9 | 127-85-5   | 19        |
| 4-[(2-aronophenyl)azo]-3-hydroxynaphthalene-2,7-disulphonic acid                          | 205-058-2 | 132-33-2   | 19        |
| Sodium hydrogen [4-[(hydroxyacetyl)amino]phenyl]arsonate                                  | 205-415-2 | 140-45-4   | 19        |
| Disodium methylarsonate   | 205-620-7 | 144-21-8   | 19        |
| 4-(glycolloylamo)phenylarsonic acid   | 205-643-2 | 144-87-6   | 19        |
| Methyltriphenylarsonium iodide  | 216-108-8 | 1499-33-8  | 19        |
| 2,7-(bis(2-aronophenylazo))-1,8-dihydroxynaphthalene-3,6-disulphonic acid                 | 216-788-6 | 1668-00-4  | 19        |
| o-phenylenediarsonic acid   | 217-154-1 | 1758-48-1  | 19        |
| Sodium p-[[4-[3-(2-arono-4-nitrophenyl)triazen-1-yl]phenyl]azo]benzenesulphonate          | 217-197-6 | 1772-02-7  | 19        |
| 2-aminophenylarsonic acid   | 218-064-5 | 2045-00-3  | 19        |
| 3-amino-4-hydroxyphenylarsonic acid   | 218-494-3 | 2163-77-1  | 19        |
| Sodium methylarsonate   | 218-495-9 | 2163-80-6  | 19        |
| 10-chloro-10H-phenoxarsine  | 220-684-6 | 2865-70-5  | 19        |
| Tri-p-tolylarsine   | 220-776-6 | 2896-10-8  | 19        |
| Disodium 3-[(o-aronophenyl)azo]-4,5-dihydroxynaphthalene-2,7-disulphonate                 | 222-600-3 | 3547-38-4  | 19        |
| Disodium [4-[(4,6-diamino-1,3,5-triazin-2-yl)amino]phenyl]arsonate                        | 222-749-4 | 3599-28-8  | 19        |

| Substance name  | EC No.    | CAS No.     | Entry no. |
|---|-----------|-------------|-----------|
| Difetarsone   | 222-866-0 | 3639-19-8   | 19        |
| 2-[[7-(2-aronophenyl)azo]-1,8-dihydroxy-3,6-disulpho-2-naphthyl]azo]benzoic acid  | 223-216-9 | 3772-44-9   | 19        |
| p-tolylarsonic acid   | 223-588-2 | 3969-54-8   | 19        |
| Ethylenebis(diphenylarsine)   | 224-629-7 | 4431-24-7   | 19        |
| 10-[(dimethylthiocarbamoyl)thio]-5,10-dihydrophenarsazine   | 225-368-1 | 4808-24-6   | 19        |
| 2-nitrophenylarsonic acid   | 226-485-0 | 5410-29-7   | 19        |
| 4-(2-chloroacetamido)phenylarsonic acid   | 226-569-7 | 5425-62-7   | 19        |
| 4-chlorophenylarsonic acid  | 226-622-4 | 5440-04-0   | 19        |
| Calcium bis(dimethylarsinate)   | 227-311-6 | 5785-43-3   | 19        |
| [4-[(4,6-diamino-1,3,5-triazin-2-yl)amino]phenyl]arsonic acid   | 227-365-0 | 5806-89-3   | 19        |
| Sodium hydrogen (3-acetamido-4-hydroxyphenyl)arsonate   | 227-573-1 | 5892-48-8   | 19        |
| Calcium bis(methylarsonate)   | 227-598-8 | 5902-95-4   | 19        |
| Iron tris(dimethylarsinate)   | 227-759-2 | 5968-84-3   | 19        |
| Diiodo(phenyl)arsine  | 228-965-5 | 6380-34-3   | 19        |
| Sodium p-aronobenzenesulphonate   | 229-632-7 | 6634-88-4   | 19        |
| 4-(4-aminophenylazo)phenylarsonic acid  | 230-176-6 | 6966-64-9   | 19        |
| Sodium 4-(glycolloylamino)phenylarsonate  | 231-680-9 | 7681-83-6   | 19        |
| Arsine  | 232-066-3 | 7784-42-1   | 19        |
| Potassium arsonate  | 233-337-9 | 10124-50-2  | 19        |
| Copper arsonate   | 233-644-8 | 10290-12-7  | 19        |
| Strychnine dimethylarsinate   | 233-973-7 | 10476-87-6  | 19        |
| Tricadmium diarsenide   | 234-484-1 | 12006-15-4  | 19        |
| o-phenylenebis(dimethylarsine)  | 236-227-9 | 13246-32-7  | 19        |
| Melarsonyl potassium  | 236-405-6 | 13355-00-5  | 19        |
| Thiobis[methylarsine], anhydrosulphide  | 236-436-5 | 13367-92-5  | 19        |
| Organostannic compounds   | -         | -           | 20        |
| Di- $\mu$ -oxo-di-n-butylstanniohydroxyborane / Dibutyltin hydrogen borate C8H19BO3Sn (DBB)   | 401-040-5 | 75113-37-0  | 21        |
| Cadmium and its compounds   | -         | -           | 23        |
| Monomethyl — tetrachlorodiphenyl methane Trade name: Ugilec 141   | -         | 76253-60-6  | 24        |
| Monomethyl-dichloro-diphenyl methane Trade name: Ugilec 121, Ugilec 21  | -         | -           | 25        |
| [No public or meaningful name is available]   | -         | 99688-47-8  | 26        |
| Nickel and its compounds  | -         | -           | 27        |
| Nickel  | 231-111-4 | 7440-02-0   | 27        |
| Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.   | -         | -           | 28        |
| Carcinogen category 1B (Table 3.1)/ carcinogen category 2 (Table 3.2) listed in Appendix 2  | -         | -           | 28        |
| Carcinogen category 1A (Table 3.1)/ carcinogen category 1 (Table 3.2) listed in Appendix 1  | -         | -           | 28        |
| Substances which are classified as germ cell mutagen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 3 or Appendix 4, respectively.  | -         | -           | 29        |
| Mutagen category 1B (Table 3.1)/ mutagen category 2 (Table 3.2) listed in Appendix 4  | -         | -           | 29        |
| Mutagen category 1A (Table 3.1)/ mutagen category 1 (Table 3.2) listed in Appendix 3  | -         | -           | 29        |
| Substances which are classified as reproductive toxicant category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 5 or Appendix 6, respectively.  | -         | -           | 30        |
| Reproductive toxicant category 1B adverse effects on sexual function and fertility or on development (Table 3.1) or reproductive toxicant category 2 with R60 (May impair fertility) or R61 (May cause harm to the unborn child) (Table 3.2) listed in Appendix 6 | -         | -           | 30        |
| Reproductive toxicant category 1A adverse effects on sexual function and fertility or on development (Table 3.1) or reproductive toxicant category 1 with R60 (May impair fertility) or R61 (May cause harm to the unborn child) (Table 3.2) listed in Appendix 5 | -         | -           | 30        |
| Creosote and Creosote related substances  | -         | -           | 31        |
| Distillates (coal tar), upper; heavy anthracene oil   | 266-026-1 | 65996-91-0  | 31        |
| Distillates (coal tar), naphthalene oils; naphthalene oil   | 283-484-8 | 84650-04-4  | 31        |
| Anthracene oil  | 292-602-7 | 90640-80-5  | 31        |
| Creosote oil, acenaphthene fraction; wash oil   | 292-605-3 | 90640-84-9  | 31        |
| Creosote, wood  | 232-419-1 | 8021-39-4   | 31        |
| Tar acids, coal, crude; crude phenols   | 266-019-3 | 65996-85-2  | 31        |
| Creosote; wash oil  | 232-287-5 | 8001-58-9   | 31        |
| Low temperature tar oil, alkaline; extract residues (coal), low temperature coal tar alkaline   | 310-191-5 | 122384-78-5 | 31        |

| Substance name  | EC No.    | CAS No.     | Entry no. |
|---|-----------|-------------|-----------|
| Creosote oil; wash oil  | 263-047-8 | 61789-28-4  | 31        |
| Chloroform  | 200-663-8 | 67-66-3     | 32        |
| 1,1,2-Trichloroethane   | 201-166-9 | 79-00-5     | 34        |
| 1,1,2,2-Tetrachloroethane   | 201-197-8 | 79-34-5     | 35        |
| 1,1,1,2-Tetrachloroethane   | -         | 630-20-6    | 36        |
| Pentachloroethane   | 200-925-1 | 76-01-7     | 37        |
| 1,1-Dichloroethene  | 200-864-0 | 75-35-4     | 38        |
| Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not | -         | -           | 40        |
| Hexachloroethane  | 200-666-4 | 67-72-1     | 41        |
| Azocolourants and Azodyes   | -         | -           | 43        |
| A mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphthalato)(1-(5-chloro-2-oxidophenylazo)-2-naphthalato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphthalato)chromate(1-)   | 405-665-4 | 118685-33-9 | 43        |
| 4-o-tolylazo-o-toluidine  | 202-591-2 | 97-56-3     | 43        |
| Diphenylether, octabromo derivative C12H2Br8O   | -         | -           | 45        |
| Diphenyl ether, octabromo derivative  | 251-087-9 | 32536-52-0  | 45        |
| Entry 46  | -         | -           | 46        |
| Nonylphenol C6H4(OH)C9H19   | 246-672-0 | 25154-52-3  | 46        |
| Nonylphenol ethoxylates (C2H4O)nC15H24O   | -         | -           | 46        |
| Nonylphenol ethoxylates (C2H4O)nC15H24O   | -         | -           | 46a       |
| Nonylphenol, ethoxylated  | 500-024-6 | 9016-45-9   | 46a       |
| 4-Nonylphenol, ethoxylated  | 500-045-0 | 26027-38-3  | 46a       |
| Isononylphenol, ethoxylated   | 609-346-2 | 37205-87-1  | 46a       |
| 4-Nonylphenol, branched, ethoxylated  | 500-315-8 | 127087-87-0 | 46a       |
| Nonylphenol, branched, ethoxylated  | 500-209-1 | 68412-54-4  | 46a       |
| Chromium VI compounds   | -         | -           | 47        |
| Toluene   | 203-625-9 | 108-88-3    | 48        |
| Trichlorobenzene  | 204-428-0 | 120-82-1    | 49        |
| Polycyclic-aromatic hydrocarbons (PAH)  | -         | -           | 50        |
| Benzo[a]pyrene (BaP)  | -         | 50-32-8     | 50        |
| Dibenz[a,h]anthracene (DBAhA)   | -         | 53-70-3     | 50        |
| Benzo[a]anthracene (BaA)  | -         | 56-55-3     | 50        |
| Chrysene (CHR)  | -         | 218-01-9    | 50        |
| Benzo[j]fluoranthene (BjFA)   | -         | 205-82-3    | 50        |
| Benzo[b]fluoranthene (BbFA)   | -         | 205-99-2    | 50        |
| Benzo[k]fluoranthene (BkFA)   | -         | 207-08-9    | 50        |
| Benzo[e]pyrene (BeP)  | -         | 192-97-2    | 50        |
| Diisobutyl phthalate (DIBP); Dibutyl phthalate (DBP); Benzyl butyl phthalate (BBP); Bis(2-ethylhexyl) phthalate (DEHP)  | -         | -           | 51        |
| Diisobutyl phthalate  | 201-553-2 | 84-69-5     | 51        |
| Bis (2-ethylhexyl) phthalate (DEHP)   | 204-211-0 | 117-81-7    | 51        |
| Benzyl butyl phthalate (BBP)  | 201-622-7 | 85-68-7     | 51        |
| Dibutyl phthalate (DBP)   | 201-557-4 | 84-74-2     | 51        |
| The following phthalates (or other CAS and EC numbers covering the substance) (See group members) [Entry 52]  | -         | -           | 52        |
| Di-n-octyl phthalate (DNOP)   | 204-214-7 | 117-84-0    | 52        |
| Di-“isodecyl” phthalate (DIDP)  | 247-977-1 | 26761-40-0  | 52        |
| 1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich  | 271-091-4 | 68515-49-1  | 52        |
| 1,2-Benzenedicarboxylic acid, di-C8-10-branched alkyl esters, C9-rich   | 271-090-9 | 68515-48-0  | 52        |
| Di-“isononyl” phthalate (DINP)  | 249-079-5 | 28553-12-0  | 52        |
| 2-(2-methoxyethoxy)ethanol (DEGME)  | 203-906-6 | 111-77-3    | 54        |
| 2-(2-butoxyethoxy)ethanol (DEGBE)   | 203-961-6 | 112-34-5    | 55        |
| Methylenediphenyl diisocyanate (MDI) including the following specific isomers (See group members):  | -         | -           | 56        |
| 4,4'-Methylenediphenyl diisocyanate   | 202-966-0 | 101-68-8    | 56        |
| Methylenediphenyl diisocyanate (MDI)  | 247-714-0 | 26447-40-5  | 56        |
| 2,4'-Methylenediphenyl diisocyanate   | 227-534-9 | 5873-54-1   | 56        |
| 2,2'-Methylenediphenyl diisocyanate   | 219-799-4 | 2536-05-2   | 56        |

| Substance name  | EC No.    | CAS No.    | Entry no. |
|---|-----------|------------|-----------|
| Cyclohexane   | 203-806-2 | 110-82-7   | 57        |
| Ammonium nitrate (AN)   | 229-347-8 | 6484-52-2  | 58        |
| Dichloromethane   | 200-838-9 | 75-09-2    | 59        |
| Acrylamide  | 201-173-7 | 79-06-1    | 60        |
| Dimethyl fumarate (DMFu)  | 210-849-0 | 624-49-7   | 61        |
| Entry 62  | -         | -          | 62        |
| Phenylmercury octanoate   | -         | 13864-38-5 | 62        |
| Phenylmercury neodecanoate  | 247-783-7 | 26545-49-3 | 62        |
| Phenylmercury 2-ethylhexanoate  | 236-326-7 | 13302-00-6 | 62        |
| Phenylmercury propionate  | 203-094-3 | 103-27-5   | 62        |
| Phenylmercury acetate   | 200-532-5 | 62-38-4    | 62        |
| Lead and its compounds  | -         | -          | 63        |
| Lead  | 231-100-4 | 7439-92-1  | 63        |
| Lead compounds  | -         | -          | 63        |
| 1,4-Dichlorobenzene   | 203-400-5 | 106-46-7   | 64        |
| Inorganic ammonium salts  | -         | -          | 65        |
| 4,4'-isopropylidenediphenol   | 201-245-8 | 80-05-7    | 66        |
| C9-C14 linear and/or branched perfluorocarboxylic acids (C9-C14 PFCAs), their salts and C9-C14 PFCAs-related substances, perfluorononan-1-oic acid (PFNA); nonadecafluorodecanoic acid (PFDA); henicosfluoroundecanoic acid (PFUnDA); tricosfluorododecanoic acid (PFDoDA); pentacosfluorotridecanoic acid (PFTrDA); heptacosfluorotetradecanoic acid (PFTDA); including their salts and precursors | -         | -          | 68        |
| Tricosfluorododecanoic acid   | 206-203-2 | 307-55-1   | 68        |
| Nonadecafluorodecanoic acid   | 206-400-3 | 335-76-2   | 68        |
| Pentacosfluorotridecanoic acid  | 276-745-2 | 72629-94-8 | 68        |
| Heptacosfluorotetradecanoic acid  | 206-803-4 | 376-06-7   | 68        |
| Henicosfluoroundecanoic acid  | 218-165-4 | 2058-94-8  | 68        |
| Perfluorononan-1-oic acid   | 206-801-3 | 375-95-1   | 68        |
| Methanol  | 200-659-6 | 67-56-1    | 69        |
| Octamethylcyclotetrasiloxane (D4); Decamethylcyclopentasiloxane (D5)  | -         | -          | 70        |
| Octamethylcyclotetrasiloxane  | 209-136-7 | 556-67-2   | 70        |
| Decamethylcyclopentasiloxane  | 208-764-9 | 541-02-6   | 70        |
| 1-methyl-2-pyrrolidone  | 212-828-1 | 872-50-4   | 71        |
| The following substances which are classified as carcinogenic, mutagenic or toxic for reproduction, category 1A or 1B (See group members) [Entry 72]  | -         | -          | 72        |
| (3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)silanetriol and any of its mono-, di- or tri-O-(alkyl) derivatives   | -         | -          | 73        |
| Trimethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)silane   | 288-657-1 | 85857-16-5 | 73        |
| Triethoxy(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoroctyl)silane  | 257-473-3 | 51851-37-7 | 73        |
| Diisocyanates   | -         | -          | 74        |
| Substances in tattoo inks and permanent make up   | -         | -          | 75        |
| N,N-dimethylformamide   | 200-679-5 | 68-12-2    | 76        |
| Formaldehyde and formaldehyde releasers   | -         | -          | 77        |
| Formaldehyde  | 200-001-8 | 50-00-0    | 77        |
| synthetic polymer microparticles  | -         | -          | 78        |

## APPLICABLE REFERENCE DOCUMENTS

- Canadian Environmental Protection Act 1999
- California Proposition 65
- Danish Executive Order No 1113
- Decree No. 2012-232 - Mandatory Reporting of Nanoparticulate Substances Placed on the Market
- Directive 2000/53/EC on the end-of life vehicles.
- Directive 94/62/EC on Packaging and Packaging Waste and subsequent amendments
- Directive 96/29 Euratom – Ionizing Radiation
- EU Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations and its amendments
- EC Regulation No. 850/2004 on persistent organic pollutants – POPs Regulation
- EU Directive 2002/61/EC of July 2002 - restriction of Azo colorants and dyes
- Directive 2011/65/EU on the Restriction of Hazardous Substances in Electrical and Electronic Equipment
- EU Directive 91/338/EEC restrictions on the use of Cadmium and its amendments
- EU regulation No. 995/2010, Obligation of Operator Who Place Timber and Timber Products on the Market
- China RoHS – Administration of the Pollution Control of Electronic Information Products
- Germany Chemicals Prohibition Ordinance (ChemVerbotsV) Japan Industrial Safety and Health Law
- Japan Law on the Regulation of Chemical Substances Joint Industry Guide (JIG), 4th Edition
- Korean packaging waste law Lacey Act; 16 USC 3371-3378
- Montreal Protocol
- Norwegian Product Regulation – Regulated Substances, Preparations and Products
- Nuclear Legislation in OECD and NEA Countries
- Order for the Enforcement of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture
- Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285)
- REACH: Regulation (EC) No 1907/2007 of the European Parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals
- Stockholm Convention on Persistent Organic Pollutants
- Swiss Ordnance 813.11: on Protection against Dangerous Substances and Preparations
- Technical Rules for Hazardous Substances (TRGS) 614 TSCA: US Code of

Toxic Substance Control Act of 1976

- U.S. CFR: United States Code of Federal Regulation
- U.S. Consumer Product Safety Improvement Law
- U.S. EPA Clean Air Act
- U.S. EPA Toxic Air Pollutant
- Additional requirements

## REVISION HISTORY

| Revision | Change Originator | Description of Revision and Reason  | Change Analyst | Effective Date |
|----------|-------------------|---|----------------|----------------|
| O -AB    |                   | Go to document repository ( <a href="#">Doc Server</a> ) for detailed description of revision not listed in this table.   |                |                |
| AC       | Jozef Vavro       | <p>Updated Table C "Substances of Very High Concern under REACH". Added 4 new substances of very high concern (SVHC) included in the ECHA list as of 16 January, 2020. Updated font of date for some items. Into 6.2 inserted:</p> <p>5. For tests on Beryllium required test methods are US EPA 3050B and US EPA 3052.</p> <p>6.2 Changed : (For homogeneous materials to be tested on RoHS restricted substances see Table E), instead of previously listed materials.</p> <p>6.2.Changed order of other points.</p> <p>Updated Table E.</p> <p>ECO-NBOI-242923</p>   | L. Patagan     | 23 Mar 2020    |
| AD       | Rastislav Drska   | <p>Text replacing from "ON Semiconductor active products do not contain any of the Substances of Very High Concern (SVHC) included till July 2019" to "ON Semiconductor active products do not contain substances included in the Candidate List of Substances of Very High Concern (SVHC) included till June 2020" (page 16)</p> <p>Updated Table C renamed from "Substances of Very High Concern under REACH" to more "Candidate List of Substances of Very High Concern (SVHC) under REACH".</p> <p>Added 4 new substances included in the ECHA list as of 25 June, 2020. "Selected Fluorinated greenhouse gases covered by regulation EC No.842/2006" (not valid) replaced by new EC No.517/2014</p> <p>ECO-NBOI-255372</p> | L. Patagan     | 29 Jul 2020    |
| AE       | Rastislav Drska   | <p>No Track changes is applied.</p> <p>Major revision of Product Chemical Content Brochure.</p> <p>Split previous document to two parts, fist is focused to products and second one is for manufacturing and services</p> <p>Updated logo for company rebranding implementation</p> <p>ECO-NBOI-298529</p>  | L. Patagan     | 21 Sept 2021   |
| AF       | Rastislav Drska   | <p>Major revision of Product Chemical Content Brochure – structure of document</p> <p>Added Exemption 10a</p> <p>Packing materials section revision</p> <p>Table 2 – PFOS and PFOA – added to table</p> <p>Table 3 - SVHC – content update</p> <p>Table 4 - REACH Annex XIV – content update</p> <p>Table 5 - REACH Annex XVII – content update</p> <p>No Track changes is applied.</p> <p>ECO-NBOI-330322</p>  | L. Patagan     | 16 Aug 2022    |

| Revision | Change Originator | Description of Revision and Reason  | Change Analyst | Effective Date |
|----------|-------------------|---|----------------|----------------|
| AG       | Rastislav Drska   | Requirements for a third-party analytical test report for RoHS and halogen- free compliance – reports in cured-state will have a two-year expiration.<br>Table 2 – content update<br>Table 3 - SVHC – content update<br>Table 4 - REACH Annex XIV – content update<br>Table 5 - REACH Annex XVII – content update                         | L. Patagan     | 07 Nov 2022    |
| AH       | Rastislav Drska   | Requirements for a third-party analytical test report for RoHS and halogen- free compliance, Sb <sub>2</sub> O <sub>3</sub> test results must show total antimony trioxide concentration below 900 ppm level<br>Table 1, added Decabromodiphenyl Ethane and Dechlorane Plus<br>Table 3 - SVHC – content update<br><br>Per ECO-NBOI-347064 | L. Patagan     | 20 Jan 2023    |
| AJ       | Rastislav Drska   | Tab2b requirements for a third-party analytical test report for Fluorine and Arsenic<br>Table 3 - SVHC – content update<br><br>ECO-NBOI-366025  | L. Patagan     | 02 Aug 2023    |
| AK       | Rastislav Drska   | Table 3 - SVHC – content update<br>Table 5 - REACH Annex XVII – content update<br><br>ECO-NBOI-383082   | L. Patagan     | 31 Jan 2024    |