1.0 Description of threshold levels and short names

Weight = weight of the substance in the homogeneous material that has the biggest content rate of the substance. Inform also the name of the homogeneous material.

Content rate [ppm] = Content rate of the substance in the homogeneous material that has the biggest ppm content of the substance.

Example (RoHS): Lead (Pb) content in lead frame plating [ppm] = 10^6 * (weight of Pb in the leadframe plating material) / (total weight of the leadframe plating material)

Product Total Mass = 180 mg, weight of the lead frame plating = 3.0 mg and weight of Pb in the leadframe plating = 0.03 mg then "Weight [mg]"-field data = "0.03 mg" and "Content rate [ppm]"-field data = "10 000 ppm" (=0.03 mg * 10^6 / 3.0 mg = 1.0 %)

other homogeneous materials (mold compound, lead frame, epoxy, bonding wire, die) do not have lead (Pb) or the content rate is below the RoHS threshold limit.

Weight [mg] = total weight of the substance in the product.

Example (REACH): Lead (Pb, included 27.6.2018 to SVHC), in case of previous example,

"Weight [mg]"-field data = "0.03 mg" and "Content rate [ppm]"-field data = "156.7 ppm" (=0.03 mg * 10^6 / 180 mg =0.01667 %)

and because REACH threshold level for the Pb is 0.1 % Weight (2), then "Weight [mg]", "Content rate [ppm]" and "Additional information..."-fields can be left empty.

0.1 mass % = 1000 ppm, applies also to 0.1 % Weight (1) and 0.1 % Weight (2)

Intentionally added = the substance is deliberately added or included to the product.

Any content = Not contain obviously OR under quantitation limit of accurate analytical method.

NA = Not Applicable.

... or ... = if there are two Threshold Levels, for example "Intentionally added or 0.1 % Weight (2)" then both threshold levels need to be checked. Reporting is required if one or both thresholds are exceeded.
2.0 RoHS
RoHS 1 directive (2002/95/EC), RoHS 2 directive (2011/65/EU) and RoHS 2 amendment (2015/863).

If yes (Y), detailed information of contained substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Above threshold level ?</th>
<th>Y / N</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Cd)</td>
<td></td>
<td>0.01 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hexavalent chromium (Cr⁶⁺)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polybrominated biphenyls (PBB)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polybrominated diphenyl ethers (PBDE)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bis(2-ethylhexyl) phthalate (DEHP)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butyl benzyl phthalate (BBP)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibutyl phthalate (DBP)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diisobutyl phthalate (DIBP)</td>
<td></td>
<td>0.1 % Weight (1)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3.0 REACH List of Substances of Very High Concern (SVHC) – page 1 of 13

https://echa.europa.eu/candidate-list-table

Number of substances on the Candidate List: 235 (last updated: 14.06.2023)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Threshold Level</th>
<th>Above threshold level?</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Content rate [ppm]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethyl arsenate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 427-700-2, CAS Number: 15606-95-8.</td>
</tr>
<tr>
<td>Anthracene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-371-1 CAS Number: 120-12-7. PBT substance</td>
</tr>
<tr>
<td>4,4′-Diaminodiphenylmethane (MDA)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 202-974-4 CAS number: 101-77-9.</td>
</tr>
<tr>
<td>Dibutyl phthalate (DBP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 201-557-4 CAS number: 84-74-2. Article 57 (c)</td>
</tr>
<tr>
<td>Cobalt dichloride</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 231-589-4 CAS number: 7646-79-9. Carcinogenic</td>
</tr>
<tr>
<td>Diarsenic Pentaoxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-116-9 CAS number: 1903-28-2. Article 57 (a)</td>
</tr>
<tr>
<td>Diarsenic Trioxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-481-4 CAS number: 1327-53-3. Article 57 (a)</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 234-190-3 CAS number: 10588-01-9 (dihydrate)</td>
</tr>
<tr>
<td>3,4′-Diaminodiphenylmethane (MDA)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-371-1 CAS Number: 120-12-7. PBT substance</td>
</tr>
<tr>
<td>Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 221-695-9, 247-148-4 CAS number: 3914-55-6,</td>
</tr>
<tr>
<td>Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 292-602-7 CAS number: 90640-80-5. Carcinogenic</td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate (DEHP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-211-0 CAS number: 117-81-7. Equivalent level of concerning</td>
</tr>
<tr>
<td>Bile remainders (TBTO)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 232-064-2 CAS number: 56-35-9. Article 57 (d)</td>
</tr>
<tr>
<td>Anthracene oil, anthracene-paste</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 295-278-5 CAS number: 91995-17-4. Carcinogenic</td>
</tr>
</tbody>
</table>

**Detail 1:** The substance does not meet the criteria for identification as a carcinogen in situations where it contains less than 0.005 % (w/w) benzo[a]pyrene (EINECS No 200-028-5).

**Detail 2:** The substance does not meet the criteria for identification as a carcinogen in situations where it contains less than 0.005 % (w/w) benzo[a]pyrene (EINECS No 200-028-5) and less than 0.1 % (w/w) benzene (EINECS No 200-753-7).

**Detail 3:** The substance does not meet the criteria for identification as a mutagen in situations where it contains less than 0.1 % (w/w) benzene (EINECS No 200-753-7).
### REACH List of Substances of Very High Concern (SVHC) – page 2 of 13

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Above threshold level ? Y / N</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diisobutyl phthalate (DIBP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 201-553-2 CAS number: 84-69-5. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 204-450-0 CAS number: 121-14-2. Carcinogenic (article 57a)</td>
</tr>
<tr>
<td>Lead chromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 231-846-0 CAS number: 7758-97-8. Carcinogenic and toxic for reproduction (articles 57a and c)</td>
</tr>
<tr>
<td>Lead chromate molybdate sulphate red (C.I. Pigment Red 104)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 235-759-9 CAS number: 12656-85-8. Carcinogenic and toxic for reproduction (articles 57a and c)</td>
</tr>
<tr>
<td>Lead sulphochromate yellow (C.I. Pigment Yellow 34)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 266-028-2 CAS number: 65996-93-2. Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e)</td>
</tr>
<tr>
<td>Pitch, coal tar, high temp.</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 204-118-5 CAS number: 115-96-8. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>Tris(2-chloroethyl)phosphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 201-173-7 CAS number: 79-06-1. Carcinogenic and mutagenic (articles 57 a and 57 b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Date of inclusion to SVHC 30.3.2010</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 201-167-4 CAS number: 79-01-6. Carcinogenic (article 57 a)</td>
</tr>
<tr>
<td>Boric acid</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC numbers: 233-139-2, 234-343-4 CAS numbers: 10043-35-3, 11113-50-1. Toxic for reproduction (article 57 c)</td>
</tr>
<tr>
<td>Disodium tetraborate, anhydrous</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC numbers: 233-139-2, 234-343-4 CAS numbers: 10043-35-3, 11113-50-1. Toxic for reproduction (article 57 c)</td>
</tr>
<tr>
<td>Tetraboron disodium heptaoxide, hydrate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 231-846-0 CAS number: 7758-97-8. Carcinogenic and toxic for reproduction (articles 57a and c)</td>
</tr>
<tr>
<td>Potassium dichromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 232-143-1 CAS number: 7789-09-5. Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57 b and 57 c)</td>
</tr>
<tr>
<td>Ammonium dichromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 232-140-5 CAS number: 7789-00-6. Carcinogenic and mutagenic (articles 57 a and 57 b)</td>
</tr>
<tr>
<td>Potassium chromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 231-889-5 CAS number: 7775-11-3. Carcinogenic, mutagenic and toxic for reproduction (articles 57 a, 57 b and 57 c)</td>
</tr>
<tr>
<td>Sodium chromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-334-2 CAS number: 10124-43-3. Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>Cobalt(II) sulphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-139-2 CAS number: 10124-43-3. Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>Cobalt(II) dinitrate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-402-1 CAS number: 10141-05-6. Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>Cobalt(II) carbonate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-139-2 CAS number: 10124-43-3. Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>Cobalt(II) diacetate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-139-2 CAS number: 10124-43-3. Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>Chromium trioxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-139-2 CAS number: 10124-43-3. Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>2-Methoxyethanol</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 203-713-7 CAS number: 109-86-4. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>2-Ethoxyethanol</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 203-804-1 CAS number: 110-80-5. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>Substance</td>
<td>If yes (Y), detailed information of contained substances</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Acids generated from chromium trioxide and their oligomers</td>
<td>a) Chromic acid, b) Oligomers of chromic acid and dichromic acid, c) Dichromic acid. EC number: 251-901-5, - , and 236-681-5, CAS numbers: 7738-94-5, - , and 13530-68-2. Carcinogenic (article 57(a)</td>
<td></td>
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</tr>
<tr>
<td>2-Ethoxyethyl acetate</td>
<td>EC Number: 203-839-2 CAS number: 111-15-9. Toxic for reproduction (article 57(c)</td>
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</tr>
<tr>
<td>Strontium chromate</td>
<td>EC Number: 232-142-6 CAS number: 7789-06-2. Carcinogenic (article 57(a)</td>
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<tr>
<td>1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters</td>
<td>EC Number: 271-084-6 CAS number: 68515-42-4. Toxic for reproduction (article 57(c)</td>
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<tr>
<td>Hydrazine</td>
<td>EC Number: 206-114-9 CAS number: 302-01-2 / 7803-57-8. Carcinogenic (article 57(a)</td>
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<tr>
<td>1-Methyl-2-pyrrolidone (NMP)</td>
<td>EC Number: 212-828-1 CAS number: 872-50-4. Toxic for reproduction (article 57(c)</td>
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</tr>
<tr>
<td>1,2,3-Trichloropropane</td>
<td>EC Number: 202-486-1 CAS number: 96-18-4. Carcinogenic and toxic for reproduction (articles 57(a) and 57(c)</td>
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<tr>
<td>1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich</td>
<td>EC Number: 276-158-1 CAS number: 71888-89-6. Toxic for reproduction (article 57(c)</td>
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<td></td>
</tr>
<tr>
<td>Phenolphthalein</td>
<td>EC Number: 204-826-4, CAS number: 127-19-5, Toxic for reproduction (article 57(c)</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich</td>
<td>EC Number: 140-66-9, Endocrine disrupting properties (Article 57(f) - environment)</td>
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</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich</td>
<td>EC Number: 204-826-4, CAS number: 127-19-5, Toxic for reproduction (article 57(c)</td>
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<tr>
<td>Phenolphthalein</td>
<td>EC Number: 201-004-7. CAS number: 77-09-8. Carcinogenic (article 57(a)</td>
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</tr>
<tr>
<td>1,2-dichloroethane</td>
<td>EC Number: 209-54-2, CAS number: 13424-46-2, Toxic for reproduction (article 57(c),</td>
<td></td>
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<tr>
<td>1,2-dichloroethane</td>
<td>EC Number: 229-335-2. CAS number: 677-64-1. Toxic for reproduction (article 57(c)</td>
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<td></td>
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</tr>
<tr>
<td>1,2-dichloroethane</td>
<td>EC Number: 203-05-1. CAS number: 107-06-2. Carcinogenic (article 57(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calcium arsenate</td>
<td>EC Number: 201-901-5. CAS number: 7778-44-1. Carcinogenic (article 57(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichromium tris(chromate)</td>
<td>EC Number: 246-356-2. CAS number: 24613-89-6. Carcinogenic (article 57(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Methoxyaniline; o-Anisidine</td>
<td>EC Number: 201-963-1. CAS number: 90-04-0. Carcinogenic (article 57(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pentazinc chromate octahydroxide</td>
<td>EC Number: 256-418-0. CAS number: 49663-84-5. Carcinogenic (article 57(a)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Arsenic acid</td>
<td>EC Number: 231-901-9. CAS number: 7776-39-4. Carcinogenic (article 57(a)</td>
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<td></td>
<td></td>
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<tr>
<td>Aluminosilicate Refractory Ceramic Fibres</td>
<td>Carcinogenic (article 57(a), Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number GSO-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfill the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less than 2 standard geometric errors of 6 or less micrometres (µm) c) alkaline oxide and alkaline earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight.</td>
<td></td>
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<tr>
<td>Aluminosilicate Refractory Ceramic Fibres</td>
<td>EC Number: 234-329-8, CAS number: 11103-86-9, Carcinogenic (article 57(a)</td>
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<tr>
<td>Lead styphnate</td>
<td>EC Number: 239-299-0, CAS number: 15245-44-0, Toxic for reproduction (article 57(c)</td>
<td></td>
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</table>

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**Date of inclusion to SVHC 20.6.2011**

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**Date of inclusion to SVHC 19.12.2011**
<table>
<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde, oligomeric reaction products with aniline</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 500-036-1, CAS number: 25214-70-4, Carcinogenic (article 57 a)</td>
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<tr>
<td>Trilead diarsenate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 222-979-5, CAS number: 3687-31-8, Carcinogenic and toxic for reproduction (articles 57 a and 57 c)</td>
</tr>
<tr>
<td>Bis(2-methoxyethyl) phthalate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 204-212-6, CAS number: 117-82-8, Toxic for reproduction (article 57 c)</td>
</tr>
<tr>
<td>Bis(2-methoxyethyl) ether</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 203-924-4, CAS number: 111-96-6, Toxic for reproduction (article 57 c)</td>
</tr>
<tr>
<td>Zirconia Aluminosilicate Refractory Ceramic Fibres</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>Zirconia Aluminosilicate Refractory Ceramic Fibres - are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less than two standard geometric errors of 6 or less micrometres (µm). c) alkaline oxide and alkali earth oxide (Na2O+K2O+CaO+MgO+BaO) content less or equal to 18% by weight . Carcinogenic (article 57 a)</td>
</tr>
<tr>
<td>2,2'-dichloro-4,4’-methyleneedianiline</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 202-918-9, CAS number: 101-14-4, Carcinogenic (article 57 a)</td>
</tr>
<tr>
<td>a,a-Bis(4-(dimethylamino)phenyl)-4-(phenylamino)naphthalene-1-methanol</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>With ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2). EC Number: 229-851-8, CAS number: 6786-83-0, Carcinogenic (Article 57a)</td>
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<tr>
<td>N,N,N’,N’-tetramethyl-4,4’-methyleneedianiline (Michler’s base)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 202-959-2, CAS number: 101-61-1, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>1,3,5-tris(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<td>EC Number: 423-400-0, CAS number: 59653-74-6, Mutagenic (Article 57b)</td>
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<tr>
<td>Diboron trioxide</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 215-125-8, CAS number: 1303-86-2, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 203-977-3 . CAS number: 112-49-2, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>4,4’-bis(dimethylamino)-4’-(methylamino)tolyl alcohol</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>With ≥ 0.1% of Michler’s ketone (EC No. 202-027-5) or Michler’s base (EC No. 202-959-2). EC Number: 209-218-2, CAS number: 561-41-1, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>Lead(II) bis(methanesulfonate)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 401-750-5, CAS number: 17570-76-2, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Formamide</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 200-842-0, CAS number: 75-12-7, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>[4-[4,4’-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidenedimethylammonium chloride (C.I. Basic Violet 3)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>With ≥ 0.1% of Michler’s ketone (EC No. 202-027-5) or Michler’s base (EC No. 202-959-2). EC Number: 208-953-6, CAS number: 548-62-9, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>[4-[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidenedimethylammonium chloride (C.I. Basic Blue 26)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>With ≥ 0.1% of Michler’s ketone (EC No. 202-027-5) or Michler’s base (EC No. 202-959-2). EC Number: 219-943-6, CAS number: 2580-56-5, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>Substance</td>
<td>Category Name</td>
<td>Threshold Level</td>
<td>Above threshold level ? Y / N</td>
<td>Weight [mg]</td>
<td>Content rate [ppm]</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>----------------</td>
<td>------------------------------</td>
<td>-------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
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<tr>
<td>1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinan-2,4,6-trione (TGIC)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>4,4'-bisdimethylamino)benzophenone (Michler’s ketone)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>Hexahydrorutaxiphthalic anhydride</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>6-methoxy-m-toluidine (p-cresidine)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>Cyclohexane-1,2-dicarboxylic anhydride</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Pyrochlore, antimony lead yellow</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Hexencosafluoroundecanoic acid</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Dibutyltin dichloride (DBTC)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Lead bis(tetrafluoroborate)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Silicic acid, lead salt</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>o-Toluidine</td>
<td>0.1 % Weight (2)</td>
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<tr>
<td>Silicic acid (H$_2$Si$_2$O$_5$), barium salt (1:1), lead-doped</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>bis(carbonate)dihydroxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>4,4'-methylene-d-o-toluidine</td>
<td>0.1 % Weight (2)</td>
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<tr>
<td>Diethyl sulphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Dimethyl sulphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>N,N-dimethylformamide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>4-[1,1,3,3-tetramethylbutyl]phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Substance</td>
<td>If yes (Y), detailed information of contained substances</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
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<tr>
<td>4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]</td>
<td>CAS numbers: 17404-66-9, 52427-13-1, 84852-15-3, 142731-63-3, 186825-36-5, 30784-30-6, 104-40-5, 26543-97-5, 186825-39-8, 521947-27-3, 25154-52-3, 90481-04-2 and 11066-49-2. Endocrine disrupting properties (Article 57(f) - environment)</td>
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<tr>
<td>Furan</td>
<td>EC Number: 203-727-3, CAS number: 110-00-9, Carcinogenic (Article 57a)</td>
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<tr>
<td>Lead oxide sulfate</td>
<td>EC Number: 234-853-7, CAS number: 12036-76-6, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Lead titanium trioxide</td>
<td>EC Number: 235-038-9, CAS number: 12060-00-3, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Bis[pentabromophenyl] ether (decabromodiphenyl ether; DecaBDE)</td>
<td>EC Number: 214-604-9, CAS number: 1163-19-5, PBT (Article 57 d); vPvB (Article 57 e)</td>
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<tr>
<td>Dinosel (6-sec-buty1-2,4-dinitrophenol)</td>
<td>EC Number: 201-861-7, CAS number: 88-85-7, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>1,2-Diethoxethane</td>
<td>EC Number: 211-076-1, CAS number: 629-14-1, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>N-methylacetamide</td>
<td>EC Number: 201-182-6, CAS number: 79-16-3, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Tetraelead trioxide sulphate</td>
<td>EC Number: 235-380-9, CAS number: 12202-17-4, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Acetic acid, lead salt, basic</td>
<td>EC Number: 257-175-3, CAS number: 51404-69-4, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>[Phthalato(2-)]dioxotrielead</td>
<td>EC Number: 273-688-5, CAS number: 69011-06-9, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Tetraethyllead</td>
<td>EC Number: 201-075-4, CAS number: 78-00-2, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>N-pentyl-isopentyl phthalate</td>
<td>CAS number: 776297-69-9, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Pentalead tetraoxide sulphate</td>
<td>EC Number: 235-067-7, CAS number: 12065-90-6, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Heptacosafluorotetradecanoic acid</td>
<td>EC Number: 206-803-4, CAS number: 376-06-7 , vPvB (Article 57 e)</td>
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<tr>
<td>Tricosfluorododecanoic acid</td>
<td>EC Number: 206-203-2, CAS number: 307-55-1, vPvB (Article 57 e)</td>
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<tr>
<td>1-bromopropane (n-propyl bromide)</td>
<td>EC Number: 203-445-0, CAS number: 106-94-5, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Dioxo(bis(2-octyl)trilead</td>
<td>EC Number: 235-702-8, CAS number: 12578-12-0, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Pentacoferotetradecanoic acid</td>
<td>EC Number: 235-715-2, CAS number: 72629-94-8, vPvB (Article 57 e)</td>
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<tr>
<td>Methoxyacetic acid</td>
<td>EC Number: 210-894-6, CAS number: 625-45-6, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Methyloxirane (Propylene oxide)</td>
<td>EC Number: 200-879-2, CAS number: 75-56-9, Carcinogenic (Article 57a); Mutagenic (Article 57b)</td>
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<tr>
<td>Trilead dioxide phosphonate</td>
<td>EC Number: 235-252-2, CAS number: 12141-20-7, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>o-aminooazotoluene</td>
<td>EC Number: 202-591-2, CAS number: 97-56-3, Carcinogenic (Article 57a)</td>
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<tr>
<td>4-methyl-o-phenylenediamine (toluene-2,4-diamine)</td>
<td>EC Number: 202-453-1, CAS number: 95-80-7, Carcinogenic (Article 57a)</td>
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<tr>
<td>Diisopentyl phthalate</td>
<td>EC Number: 210-088-4, CAS number: 605-50-5, Toxic for reproduction (Article 57 c)</td>
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<td></td>
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<tr>
<td>1,2-Benzene dicarboxylic acid, dipentyl ester, branched and linear</td>
<td>EC Number: 284-032-2, CAS number: 84777-06-0, Toxic for reproduction (Article 57 c)</td>
<td></td>
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</tbody>
</table>
## REACH List of Substances of Very High Concern (SVHC) – page 7 of 13

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Above threshold level ? Y / N</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biphenyl-4-ylamine</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Fatty acids, C16-18, lead salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>Orange lead (lead tetroxide)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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</tr>
<tr>
<td>4,4'-oxydianiline and its salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Diazene-1,2-di-carboxamidine (C.C-azo(formamide))</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Sulfurous acid, lead salt, dibasic</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
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<tr>
<td>Lead cyanamidate</td>
<td>0.1 % Weight (2)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Cadmium</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>Ammonium pentadecafluoroocantoate (APFO)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4-Nonylphenol, branched and linear, ethoxylated</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pentadecafluorooctanoic acid (PFOA)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Dipentyl phthalate (DPP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium oxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disodium 4-amino-3-[[4'-(2,4-diaminophenyl)azo][1,1'-biphenyl-4-ylazo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)]</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dishexyl phthalate (DHP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imidazolidine-2-thione; (2-imidazoline-2-thiol)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triethyl phosphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disodium 3,3'-(1,1'-biphenyl)-4,4'-dibis(azo)bis(4-amino-naphthalene-1-sulphonate) (C.I. Direct Red 28)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Date of inclusion to SVHC 20.6.2013**

**Date of inclusion to SVHC 16.12.2013**

EC Number: 202-177-1, CAS number: 92-67-1, Carcinogenic (Article 57a)

EC Number: 292-966-7, CAS number: 91031-62-6, Toxic for reproduction (Article 57 c)

EC Number: 215-235-6, CAS number: 1314-41-6, Toxic for reproduction (Article 57 c)

EC Number: 202-977-0 and its salts, CAS number: 101-80-4 and its salts, Carcinogenic (Article 57a); Mutagenic (Article 57b)

EC Number: 202-977-0 and its salts, CAS number: 101-80-4 and its salts, Carcinogenic (Article 57a); Mutagenic (Article 57b)

EC Number: 204-650-8, CAS number: 123-77-3, Respiratory sensitising properties to human health (Article 57 f)

EC Number: 263-467-1, CAS number: 62229-08-7, Toxic for reproduction (Article 57 c)

EC Number: 244-073-9, CAS number: 20837-86-9, Toxic for reproduction (Article 57 c)

EC Number: 231-152-8, CAS Number: 7440-43-9, Carcinogenic (Article 57a); Specific target organ toxicity after repeated exposure (Article 57 f; human health)

EC Number: 223-320-4, CAS Number: 3825-26-1, Toxic for reproduction (Article 57 c); PBT (Article 57 d)

EC Number: 206-397-9, CAS Number: 335-67-1, Toxic for reproduction (Article 57 c); PBT (Article 57 d)

EC Number: 205-017-9, CAS Number: 131-1-80-0, Toxic for reproduction (Article 57 c); PBT (Article 57 d)

EC Number: 209-358-4, CAS Number: 573-58-0, Carcinogenic (Article 57a); Endocrine disrupting properties (Article 57 f; environment)

EC Number: 25537-10-8, 23427-84-3, 26363-48-0, 26027-38-3 26264-02-08 26571-11-09, 27176-93-8 27177-03-03 27177-05-05 27177-08-08, 27986-36-3, 34166-38-6, 37205-87-1, 42173-90-0, 57321-10-5, 65455-69-8, 68412-54-4, 68412-54-4, 7311-27-5, 80605-55-6, 9016-45-9 and 91648-64-5. Endocrine disrupting properties (Article 57 f; environment)

EC Number: 215-146-2, CAS Number: 1906-19-0, Toxic for reproduction (Article 57 f; human health)

EC Number: 215-147-8, CAS Number: 1306-23-6, Carcinogenic (Article 57a); Specific target organ toxicity after repeated exposure (Article 57 f; human health)

EC Number: 217-710-3, CAS Number: 1937-37-7, Carcinogenic (Article 57a)

EC Number: 201-559-5, CAS Number: 84-75-3, Toxic for reproduction (Article 57 c)

EC Number: 202-506-9, CAS Number: 96-45-7, Toxic for reproduction (Article 57 c)

EC Number: 246-677-8, CAS Number: 25155-23-1, Toxic for reproduction (Article 57 c)

EC Number: 209-358-4, CAS Number: 573-58-0, Carcinogenic (Article 57a);
## REACH List of Substances of Very High Concern (SVHC) – page 8 of 13

<table>
<thead>
<tr>
<th>Substance</th>
<th>Threshold Level</th>
<th>Above threshold level ? Y / N</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead di(acetate)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 206-104-4, CAS Number: 301-04-2, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Cadmium chloride</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 233-296-7, CAS Number: 10108-84-2, Carcinogenic (Article 57a); Mutagenic (Article 57b); Specific target organ toxicity after repeated exposure (Article 57 f - human health)</td>
</tr>
<tr>
<td>Sodium peroxometaborate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 231-556-4, CAS Number: 7632-04-4, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Sodium perborate; perboric acid, sodium salt</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>CAS numbers: 11138-47-9, 15120-21-5, 125022-34-6, 90568-23-3, 13517-20-9, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 271-093-5, CAS Number: 68515-50-4, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[2-ethylhexyloxy]-2-oxoethyl(thio)-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Cadmium sulphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 233-331-6, CAS number: 10124-36-4 and 31119-53-6, Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Specific target organ toxicity after repeated exposure (Article 57 f - human health)</td>
</tr>
<tr>
<td>Cadmium fluoride</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 232-222-0, CAS number: 7790-79-6, Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Specific target organ toxicity after repeated exposure (Article 57 f - human health)</td>
</tr>
<tr>
<td>2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 239-622-4, CAS number: 15571-58-1, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>2-benzotriazol-2-yl-4,6-di-tert-butyphenol (UV-320)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 223-346-6, CAS number: 3846-71-7, PBT (Article 57 d); vPvB (Article 57 e)</td>
</tr>
<tr>
<td>2-(2H-benzotriazol-2-yl)-4,6-dilentpentylphenol (UV-328)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 247-384-8, CAS number: 25873-55-1, PBT (Article 57 d); vPvB (Article 57 e)</td>
</tr>
<tr>
<td>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]</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>Covering any of the individual stereoisomers of [1] and [2] or any combination thereof. vPvB (Article 57 e)</td>
</tr>
<tr>
<td>1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>With ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5). EC Numbers: 271-094-0 and 272-013-1, CAS numbers: 68515-51-6 and 68648-93-1, Toxic for reproduction (Article 57 c)</td>
</tr>
</tbody>
</table>
### REACH List of Substances of Very High Concern (SVHC) – page 9 of 13

<table>
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<tr>
<th>Substance</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Perfluorononan-1-oic-acid and its sodium and ammonium salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>CAS Number: 375-95-1, 21049-39-8, 4149-60-4. Toxic for reproduction (Article 57 c) PBT (Article 57 d)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrobenzene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 202-716-0, CAS Number: 98-95-3. Toxic for reproduction (Article 57 c)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-(2H-benzotriazol-2-yl)-4-tert-butyl-6-(sec-butyl)phenol (UV-350)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 253-037-1, CAS Number: 36437-37-3, vPvB (Article 57 e)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,3-propanesultone</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 214-317-9, CAS Number: 1120-71-4, Carcinogenic (Article 57 a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzo[def]chrysene, (Benzo[a]pyrene), BaP</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 200-028-5, CAS Number: 50-32-8, Carcinogenic (Article 57a) Mutagenic (Article 57b) Toxic for reproduction (Article 57c) PBT (Article 57 d) vPvB (Article 57 e).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,4'-isopropylidenediphenol</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 201-245-8, CAS Number: 80-05-7. Common synonyms: BPA, Bisphenol A. Toxic for reproduction (Article 57c) Endocrine disrupting properties (Article 57 f - environment and human health)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-Heptylphenol, branched and linear</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>Substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof. CAS numbers: 7088-02-3, 1987-50-4, 37872-94-0, 30784-31-7, 911371-06-7, 854904-93-1, 911371-07-8, 71945-81-8, 857692-71-1, 861010-65-3, 30784-53-2, 6465-74-3, 6863-24-7, 6465-71-0, 911370-98-4, 102570-52-5, 1139800-98-8, 100532-36-3, 1310480-24-0, 1310480-27-3, 1310480-29-4, 1238995-45-0, 1329895-69-8, 144116-10-9, 1462414-99-0, 153443-35-7, 189274-31-5, 202189-84-2, 213740-81-9, 341548-85-4, 350836-93-0, 41184-65-0, 41242-12-0, 421555-73-9, 421555-74-0, 425670-70-8, 55120-77-9, 70136-72-0, 70233-41-1, 82382-12-5, 866621-50-3, 910606-39-2, 911027-68-4, 911027-69-5, 92793-17-1, 928049-42-7, 1187817-57-7, 108427-55-0, 108427-54-9, 1000597-52-3 and 341035-71-0. vPvB (Article 57 e)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfluoroheptane-1-sulphonic acid and its salts (PFHxS)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>CAS numbers: 355-46-4, 68259-08-5, 70225-15-0, 3871-99-6, 1310480-24-0, 1310480-27-3, 1310480-29-4, 123995-45-0, 1329895-69-8, 144116-10-9, 1462414-99-0, 153443-35-7, 189274-31-5, 202189-84-2, 213740-81-9, 341548-85-4, 350836-93-0, 41184-65-0, 41242-12-0, 421555-73-9, 421555-74-0, 425670-70-8, 55120-77-9, 70136-72-0, 70233-41-1, 82382-12-5, 866621-50-3, 910606-39-2, 911027-68-4, 911027-69-5, 92793-17-1, 928049-42-7, 1187817-57-7, 108427-55-0, 108427-54-9, 1000597-52-3 and 341035-71-0. vPvB (Article 57 e)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>With ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPbl). CAS number: 1471311-26-8, 93925-00-9. Endocrine disrupting properties (Article 57 f - environment)</td>
<td></td>
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<tr>
<td>Chrysene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 205-923-4, CAS number: 218-01-9. Member of Polycyclic-aromatic hydrocarbons (PAH). Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>Category Name</td>
<td>Threshold Level</td>
<td>Above threshold level ? Y / N</td>
<td>Weight [mg]</td>
<td>Additional information on material composition of products</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<td>------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Cadmium nitrate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 233-710-6, CAS number: 10325-94-7, Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57 f - human health).</td>
<td></td>
</tr>
<tr>
<td>Cadmium hydroxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 244-168-5, CAS number: 21041-95-2, Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57 f - human health).</td>
<td></td>
</tr>
<tr>
<td>Cadmium carbonate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 208-168-9, CAS number: 513-78-0, Carcinogenic (Article 57a) Mutagenic (Article 57b) Specific target organ toxicity after repeated exposure (Article 57 f - human health).</td>
<td></td>
</tr>
<tr>
<td>Benz[a]anthracene (BaA)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 200-280-6, CAS number: 56-55-3. Member of Polycyclic-aromatic hydrocarbons (PAH) group. Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>1,6,7,8,9,14,15,16,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (&quot;Dechlorane Plus™&quot;) covering any of its individual anti- and syn-isomers or any combination thereof</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>Terphenyl, hydrogenated</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 262-967-7, CAS number: 61788-32-7, vPvB (Article 57e)</td>
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<tr>
<td>Octamethylcyclotetrasiloxane, (D4)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<td></td>
<td>EC Number: 209-136-7, CAS number: 556-67-2, PBT (Article 57d) vPvB (Article 57e)</td>
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<tr>
<td>Lead</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<td></td>
<td>EC Number: 231-100-4, CAS number: 7439-92-1, Toxic for reproduction (Article 57c)</td>
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<tr>
<td>Ethylenediamine, (EDA)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 203-468-6, CAS number: 107-15-3, Respiratory sensitising properties (Article 57 f - human health)</td>
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</tr>
<tr>
<td>Dodecamethylcyclotetrasiloxane, (D6)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 208-762-8, CAS number: 540-97-6, PBT (Article 57d) vPvB (Article 57e)</td>
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<tr>
<td>Disodium octaborate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 234-541-0, CAS number: 12008-41-2, Toxic for reproduction (Article 57c)</td>
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<tr>
<td>Dicyclohexyl phthalate, (DCHP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 201-545-9, CAS number: 84-61-7, Toxic for reproduction (Article 57c) Endocrine disrupting properties (Article 57 f - human health)</td>
<td></td>
</tr>
<tr>
<td>Decamethylcyclopentasiloxane, (D5)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 208-764-9, CAS number: 541-02-6, PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>Benzol[ghi]perylene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>Substance is a Polycyclic Aromatic Hydrocarbon (PAH). EC Number: 205-883-8, CAS number: 191-24-2, PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>Benzene-1,2,4-tricarboxylic acid 1,2 anhydride</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>Trimellitic anhydride, TMA. EC Number: 209-008-0, CAS number: 552-30-7, Respiratory sensitising properties (Article 57 f - human health)</td>
<td></td>
</tr>
<tr>
<td>Pyrene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 204-927-3, CAS number: 129-00-0, PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 201-581-5, CAS number: 85-01-8, vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>Fluoranthrene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 205-912-4, CAS number: 206-44-0, PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>Benz[a]fluoranthene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 205-916-6, CAS number: 207-08-9, Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
<tr>
<td>2,2-bis(4-hydroxyphenyl)-4-methylpentane</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 401-720-1, CAS number: 6807-17-6, Toxic for reproduction (Article 57c)</td>
<td></td>
</tr>
<tr>
<td>1,7,7-trimethyl-3-(phenylethynylidene)bicyclo[2.2.1]heptan-2-one</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>3-Benzylidine camphor; 3-BC. EC Number: 239-139-9, CAS number: 15087-24-8, Endocrine disrupting properties (Article 57 f - environment)</td>
<td></td>
</tr>
</tbody>
</table>

Date of inclusion to SVHC 27.6.2018

Date of inclusion to SVHC 15.1.2019
### REACH List of Substances of Very High Concern (SVHC) – page 11 of 13

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Above threshold level ? Y / N</th>
<th>Content rate [ppm]</th>
<th>Weight [mg]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tris(4-nonylphenyl, branched and linear) phosphate (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>CAS numbers: 26523-78-4, 3050-88-2, 106599-06-8, 31631-13-7 and tris(4-nonylphenyl, branched) phosphate. Endocrine disrupting properties (Article 57 f - environment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-tert-butylphenol</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 202-679-0, CAS number: 98-54-4, Endocrine disrupting properties (Article 57 f - environment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-methoxyethyl acetate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 203-772-9, CAS number: 110-40-6, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>CAS numbers: 2062-98-8, 13252-13-6, 67118-55-2, 62037-80-3, 75579-40-7, 75579-39-4. Equivalent level of concern having probable serious effects (Article 57 f - human health and environment), Endocrine disrupting properties (Article 57 f - environment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-benzyl-2-dimethylamino-4-morpholinobutylphenone</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>CG 25-369, IRGACURE 369, TK 11-319. EC Number: 404-360-3, CAS number: 119313-12-1, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>ACETOCURE 97, GENOCURE*PMP, IGM 4817, IRGACURE 907, SPEEDCURE 97. EC Number: 400-600-6, CAS number: 71868-10-5, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bis(2,3-dimethylxiphosphazinyl)phosphite (BMP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 278-099-2, CAS number: 71860-09-4, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfluorobutane sulfonic acid (PFBS) and its salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>CAS numbers: 29420-49-3, 375-73-5, 194999-85-4, 220689-12-2, 220133-51-7, 68259-10-9, 144317-44-2, 25628-08-4, 507453-86-3, 131851-65-5, 503155-89-3 and EC number: 468-770-4 (CAS number: -). Equivalent level of concern having probable serious effects to human health and environment (Article 57 f)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-benzyl-1-(2,3-dimethyl-3-oxoallyl)pyridinium</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 401-012-0, CAS number: 1072-63-5, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-methyl-1-(4-methylthiophenyl)propan-1-one</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>ACETOCURE 97, GENOCURE*PMP, IGM 4817, IRGACURE 907, SPEEDCURE 97. EC Number: 400-600-6, CAS number: 71868-10-5, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibutylbis(pentane-2,4-dionato-O,O')tin</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>EC Number: 204-661-8, CAS number: 123-91-1, Carcinogenic (Article 57a), Equivalent level of concern having probable serious effects to human health and environment (Article 57 f)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Date of inclusion to SVHC**

- 16.7.2019
- 16.1.2020
- 25.6.2020
- 19.1.2021
- 8.7.2021

---

**Content rate [ppm]**

**Additional information on material composition of products**

- Tris(4-nonylphenyl, branched and linear) phosphate (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP): Endocrine disrupting properties (Article 57 f - environment).
- 4-tert-butylphenol: EC Number: 202-679-0, CAS number: 98-54-4, Endocrine disrupting properties (Article 57 f - environment).
- 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one: ACETOCURE 97, GENOCURE*PMP, IGM 4817, IRGACURE 907, SPEEDCURE 97. EC Number: 400-600-6, CAS number: 71868-10-5, Toxic for reproduction (Article 57c).
- Bis(2,3-dimethylxiphosphazinyl)phosphite (BMP): EC Number: 278-099-2, CAS number: 71860-09-4, Toxic for reproduction (Article 57c).
- 2-benzyl-1-(2,3-dimethyl-3-oxoallyl)pyridinium: EC Number: 401-012-0, CAS number: 1072-63-5, Toxic for reproduction (Article 57c).
- 2-methyl-1-(4-methylthiophenyl)propan-1-one: ACETOCURE 97, GENOCURE*PMP, IGM 4817, IRGACURE 907, SPEEDCURE 97. EC Number: 400-600-6, CAS number: 71868-10-5, Toxic for reproduction (Article 57c).
- Dibutylbis(pentane-2,4-dionato-O,O')tin: EC Number: 204-661-8, CAS number: 123-91-1, Carcinogenic (Article 57a), Equivalent level of concern having probable serious effects to human health and environment (Article 57 f).
<table>
<thead>
<tr>
<th>Substance</th>
<th>If yes (Y), detailed information of contained substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-bis(bromomethyl)propane-1,1-diol (BMP); 2,2-dimethylprop-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)</td>
<td>2-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA) EC number: 221-967-7, CAS number: 3296-90-0, 2,3-dibromo-1-propanol (2,3-DBPA) EC number: 202-480-9, CAS number: 96-13-9, 2,2-dimethylprop-1-ol, tribromo derivative (TBNPA) EC number: 253-057-0, CAS number: 36483-57-5, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>2,2-dimethylprop-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)</td>
<td>2-(4-tert-butybenzyl)propionaldehyde and its individual stereoisomers</td>
</tr>
<tr>
<td>Orthoboric acid, sodium salt</td>
<td>Boric acid, sodium salt EC number: 215-604-1, CAS number: 1333-73-9, Orthoboric acid, sodium salt EC number: 237-560-2, CAS number: 13840-56-7, boric acid (H2BO3), sodium salt, hydrate CAS number: 25747-83-5, boric acid (H2BO3), sodium salt (1:1) CAS number: 14980-53-0, boric acid (H2BO3), disodium salt CAS number: 22454-04-2, Trisodium orthoborate EC number: 238-253-6, CAS number: 14312-40-4, Toxic for reproduction (Article 57c)</td>
</tr>
<tr>
<td>Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/or combinations thereof (PDDP)</td>
<td>Phenol, 4-dodecyl, branched CAS number: 210555-94-5, 4-isododecylphenol CAS number: 27459-10-5, Phenol, 4-isododecyl- CAS number: 2714-75-7, Phenol, dodecyl-, branched EC number: 121158-58-5, Phenol, (tetrapropenyl) derivatives CAS number: 74499-35-7, Phenol, tetrapropylene- CAS number: 57427-55-1, Toxic for reproduction (Article 57c), Endocrine disrupting properties (Article 57f - human health)</td>
</tr>
<tr>
<td>(±)-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)</td>
<td>(±)-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)</td>
</tr>
</tbody>
</table>
## REACH List of Substances of Very High Concern (SVHC) – page 13 of 13

<table>
<thead>
<tr>
<th>Substance</th>
<th>Threshold Level</th>
<th>Above threshold level ? Y / N</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>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)phosphorochloridate (X4251)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 401-850-9, CAS number: 255881-94-8, PBT (Article 57d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tris(2-methoxyethoxy)vinylsilane</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 213-934-0, CAS number: 1067-53-4, Toxic for reproduction (Article 57c)</td>
<td>Date of inclusion to SVHC 10.6.2022</td>
<td></td>
</tr>
<tr>
<td>N-(hydroxymethyl)acrylamide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 213-103-2, CAS number: 924-42-5, Carcinogenic (Article 57a), Mutagenic (Article 57b)</td>
<td>Date of inclusion to SVHC 17.1.2023</td>
<td></td>
</tr>
<tr>
<td>1,1’-[ethane-1,2-diylbis[oxy]]bis[2,4,6-triiodobenzene]</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 253-692-3, CAS number: 37853-59-1, vPvB (Article 57e)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,2’,6,6’-tetrabromo-4,4’-isopropylidenediphenol</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 201-236-9, CAS number: 79-94-7, Carcinogenic (Article 57a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4,4’-sulphonyldiphenol</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 201-247-9, vPvB (Article 57e)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium diboron tetraoxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 278-355-8, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bis(2-ethylhexyl) tetraiodophthalate covering any of the individual isomers and/or combinations thereof</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 203-615-4, CAS number: 80-09-1, vPvB (Article 57e)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>isoctyl 4-hydroxybenzoate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 224-208-8, CAS number: 4247-02-3, Endocrine disrupting properties (Article 57(f) - human health)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melamine</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 220-615-4, CAS number: 108-78-1, Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health), Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perfluoroheptanoic acid and its salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>Ammonium perfluoroheptanoate EC No.: 228-098-2, CAS No.: 6130-43-4, potassium perfluoroheptanoate CAS No.: 21049-36-5, Perfluoroheptanoic acid EC No.: 220-796-9, CAS No.: 175-85-2, Sodium perfluoroheptanoate EC No.: 243-518-4, CAS No.: 20109-59-5, Toxic for reproduction (Article 57c), PBT (Article 57d), vPvB (Article 57e), Equivalent level of concern having probable serious effects to human health (Article 57(f) - human health), Equivalent level of concern having probable serious effects to the environment (Article 57(f) - environment)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropyl)morpholine and 2,2,3,3,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 473-390-7, vPvB (Article 57e)</td>
<td>Date of inclusion to SVHC 14.6.2023</td>
<td></td>
</tr>
<tr>
<td>bis(4-chlorophenyl) sulphone</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 201-247-9, vPvB (Article 57e)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC number: 278-355-8, Toxic for reproduction (Article 57c)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 4.0 Persistent, Bioaccumulative, and Toxic (PBT) Chemicals under TSCA Section 6(h)

TSCA 2021 chemical restrictions and PIP (3:1). EPA = the U.S. Environmental Protection Agency. TSCA = Toxic Substances Control Act.


<table>
<thead>
<tr>
<th>Substance</th>
<th>If yes (Y), detailed information of contained substances</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Above threshold level? Y/N</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decabromodiphenyl ether (DecaBDE)</td>
<td></td>
<td>Any content</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>CAS number: 1163-19-5. DecaBDE is used as an flame retardant. Further information, see the website presented above this table.</td>
</tr>
<tr>
<td></td>
<td>Exception</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>DecaBDE is contained in plastic shipping pallets manufactured prior to the publication of the final rule that contain DecaBDE until the end of the pallets service lives.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Any content</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>Processing and distribution in commerce for recycling of plastic that contained DecaBDE before the plastic was recycled (i.e., the plastic to be recycled is from articles and products that were originally made with DecaBDE), and the articles and products made from such recycled plastic so long as no new DecaBDE is added during the recycling or production process.</td>
</tr>
<tr>
<td>Phenol, isopropylated phosphate (3:1) (PIP (3:1))</td>
<td></td>
<td>Any content</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>CAS number: 68937-41-7. Further information, see the website presented above this table.</td>
</tr>
<tr>
<td></td>
<td>Exception</td>
<td></td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>Processing and distribution in commerce for use in sealants and adhesives until January 6, 2025</td>
</tr>
<tr>
<td>2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP)</td>
<td></td>
<td>0.3% by weight</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>2,4,6-TTBP (CAS number: 732-26-3) is used as an intermediate/reactant in processing and is incorporated into formulations destined for fuel and fuel-related additives, as well as into formulations intended for the maintenance or repair of motor vehicles and machinery, including in oils and lubricants. Further information, see the website presented above this table.</td>
</tr>
<tr>
<td>Hexachlorobutadiene (HCBD)</td>
<td></td>
<td>Any content</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>HCBD (CAS number: 67-68-3) is used as a halogenated aliphatic hydrocarbon that is produced as a byproduct during the manufacture of chlorinated hydrocarbons, particularly perchloroethylene, trichloroethylene, and carbon tetrachloride and is subsequently burned as a waste fuel.</td>
</tr>
<tr>
<td>Pentachlorothiophenol (PCTP)</td>
<td></td>
<td>1% by weight</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>PCTP (CAS number: 133-49-3) is used to make rubber more pliable in industrial uses.</td>
</tr>
</tbody>
</table>
## 5.0 Material and Substance Declaration (IEC 62474) – page 1 of 5


Version: D27.00  (July 22. 2023)

*) More details (substances and CAS numbers) see Reference Substance List (RSL) at http://std.iec.ch/iec62474

### Substance Declaration Table

<table>
<thead>
<tr>
<th>Substance Description</th>
<th>Threshold Level</th>
<th>Above threshold level</th>
<th>Weight [mg]</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos Intentionally added</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certain azocolourants and azodyes (which form certain aromatic amines)</td>
<td>30 ppm by weight of the finished textile/leather product</td>
<td>NA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beryllium Oxide 0.1 % Weight (2), For Information Only</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brominated flame retardants (other than PBBS, PBDEs, or HBCDD)</td>
<td>0.09 mass% total bromine content in laminate. For Information Only</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brominated flame retardants (other than PBBS, PBDEs, or HBCDD)</td>
<td>0.1 mass% of bromine in plastic materials. For Information Only</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadmium/Cadmium compounds 0.001% by weight of battery</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibutyltin (DBT) compounds 0.1 mass% of tin in the part</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dioctyltin (DOT) compounds 0.1 mass% of tin in the part</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethylfumarate (DMF) 0.00001 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluorinated Greenhouse Gases (PFC, SF6, HFC)</td>
<td>Intentionally added</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formaldehyde 0.0075 mass % of textile</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hexabromocyclododecane (HBCDD) Intentionally added or 0.01 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead/Lead Compounds 0.009 mass% of surface coating material</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead/Lead Compounds 0.03 mass% of surface coating material</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead/Lead Compounds 0.004 mass% of battery</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

- CAS numbers: 818-08-6, 1067-33-0, 77-58-7, 78-04-6 and other dibutyltin compounds, [EU] REACH Regulation (EC) No.1907/2006 ANNEX XVII.
- CAS numbers: 624-49-7, DMF, Dimethyl (E)-butenedioate, 2-Butenedioic acid (2E)-, dimethyl ester. [EU] REACH Regulation (EC) No.1907/2006 ANNEX XVII.
- Consumer products designed or intended primarily for children 12 years of age or younger. [USA] Consumer Product Safety Improvement Act of 2008 PUBLIC LAW 110-314.
- Cables/cords with thermoset or thermoplastic coatings. [USA California] Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
<table>
<thead>
<tr>
<th>Substance</th>
<th>Threshold Level</th>
<th>Above threshold level</th>
<th>Weight [mg]</th>
<th>Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel/Nickel Compounds</td>
<td>Intentionally added</td>
<td>NA</td>
<td>All, where prolonged skin contact is expected. [EU] REACH Regulation (EC) No.1907/2006 ANNEX XVII.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phthalates, Selected Group 2 (DIDP, DINP, DNOP)</td>
<td>0.1 mass%/as the sum of the phthalate concentrations in plasticized material</td>
<td>N</td>
<td>Children's toy or child care article, CAS numbers: 117-81-7, 84-74-2, 84-69-5, [EU] REACH Regulation (EC) No.1907/2006 ANNEX XVII; [USA] Consumer Product Safety Improvement Act of 2008 PUBLIC LAW 110-314.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polychlorinated Terphenyls (PCTs)</td>
<td>0.005 mass%/in material</td>
<td>N</td>
<td>Children's toy or child care article that can be placed in a child's mouth, CAS numbers: 26761-40-0, 68515-49-1, 28553-12-0, 68515-48-0, 117-84-0, [EU] REACH Regulation (EC) No.1907/2006 ANNEX XVII; [USA] Consumer Product Safety Improvement Act of 2008 PUBLIC LAW 110-314.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Addition information on material composition of products:**

- **Material and Substance Declaration (IEC 62474) – page 2 of 5**
- ***) More details (substances and CAS numbers) see Reference Substance List (RSL) at http://std.iec.ch/iec62474**
<table>
<thead>
<tr>
<th>Substance</th>
<th>If yes (Y), detailed information of contained substances</th>
<th>Above threshold level</th>
<th>Weight [mg]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorinated Flame Retardants (CFR)</td>
<td></td>
<td></td>
<td></td>
<td>For plastic materials only, except printed wiring board laminates. CAS numbers: 38051-10-4, 13674-84-5, 66108-37-0, 13674-87-8, 135821-74-8, 135821-03-3 and other Chlorinated Flame Retardants, (Standard) JEDEC J5709</td>
</tr>
<tr>
<td>Di-isodecy phthalate (DIDP)</td>
<td></td>
<td></td>
<td></td>
<td>For Printed Wiring Board (PWB) Laminates only. CAS numbers: 38051-10-4, 13674-84-5, 66108-37-0, 13674-87-8, 135821-74-8, 135821-03-3 and other Chlorinated Flame Retardants, (Standard) IEC 61249-2-21, (Standard) IPC-4101</td>
</tr>
<tr>
<td>Diisononyl phthalate (DiNP)</td>
<td></td>
<td></td>
<td></td>
<td>CAS numbers: 28553-12-0, 68515-48-0, [USA California] Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)</td>
</tr>
<tr>
<td>Benzof[e]chrysene, (Benzof[a]pyrene), BaP</td>
<td></td>
<td></td>
<td></td>
<td>CAS number: 50-32-8. ** Rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact except those for toys or childcare articles. This declarable substance is a polycyclic aromatic hydrocarbon (PAH). [EU] REACH Regulation (EC) No.1907/2006 ANNEX XVII</td>
</tr>
<tr>
<td>Benzopyrene (BeP)</td>
<td></td>
<td></td>
<td></td>
<td>CAS number: 192-97-2  See description ** above</td>
</tr>
<tr>
<td>Benzo[a]anthracene (BaA)</td>
<td></td>
<td></td>
<td></td>
<td>CAS number: 56-55-3  See description ** above</td>
</tr>
<tr>
<td>Chrysene, other name: Chrysene (CHR)</td>
<td></td>
<td></td>
<td></td>
<td>CAS number: 218-01-9  See description ** above</td>
</tr>
<tr>
<td>Substance</td>
<td>Category Name</td>
<td>Threshold Level</td>
<td>Above threshold level ? Y / N</td>
<td>Weight [mg]</td>
</tr>
<tr>
<td>-----------</td>
<td>---------------</td>
<td>-----------------</td>
<td>-----------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Benzo[a]fluoranthene (BbFA)</td>
<td>Benzo[a]fluoranthene (BbFA)</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 205-99-2</td>
</tr>
<tr>
<td>Benzo[j]fluoranthene (BjFA)</td>
<td>Benzo[j]fluoranthene (BjFA)</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 205-82-3</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene (BkFA)</td>
<td>Benzo[k]fluoranthene (BkFA)</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 207-08-9</td>
</tr>
<tr>
<td>Dibenzo[a,h]anthracene (DBAhA)</td>
<td>Dibenzo[a,h]anthracene (DBAhA)</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 53-70-3</td>
</tr>
<tr>
<td>Benzo[def]chrysene, (Benzo[a]pyrene), BaP</td>
<td>Benzo[def]chrysene, (Benzo[a]pyrene), BaP</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 50-32-8</td>
</tr>
<tr>
<td>Benzo[a]pyrene (BeP)</td>
<td>Benzo[a]pyrene (BeP)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 192-97-2</td>
</tr>
<tr>
<td>Benzo[a]anthracene (BaA)</td>
<td>Benzo[a]anthracene (BaA)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 56-55-3</td>
</tr>
<tr>
<td>Chrysen, other name: Chrysene (CHR)</td>
<td>Chrysen, other name: Chrysene (CHR)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 218-01-9</td>
</tr>
<tr>
<td>Benzo[b]fluoranthene (BbFA)</td>
<td>Benzo[b]fluoranthene (BbFA)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 205-99-2</td>
</tr>
<tr>
<td>Benzo[j]fluoranthene (BjFA)</td>
<td>Benzo[j]fluoranthene (BjFA)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 205-82-3</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene (BkFA)</td>
<td>Benzo[k]fluoranthene (BkFA)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 207-08-9</td>
</tr>
<tr>
<td>Dibenzo[a,h]anthracene (DBAhA)</td>
<td>Dibenzo[a,h]anthracene (DBAhA)</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>N</td>
<td>CAS number: 53-70-3</td>
</tr>
<tr>
<td>Perfluorooctane sulfonates (PFOS)</td>
<td>Perfluorooctane sulfonates (PFOS)</td>
<td>Intentionally added or 1 microgram/m2 of coated material</td>
<td>N</td>
<td>Textiles or other coated materials. CAS numbers: 306975-62-2, 2991-51-7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intentionally added or 0.1 mass% of the part (as the sum of PFOS)</td>
<td>N</td>
<td>All except textiles or other coated materials. CAS numbers: 306975-62-2, 2991-51-7</td>
</tr>
<tr>
<td>Mercury/Mercury Compounds</td>
<td>Mercury/Mercury Compounds</td>
<td>0.0005 Weight (1)</td>
<td>NA</td>
<td>Batteries. [Canada] Products containing Mercury Regulations SOR/2014-254</td>
</tr>
<tr>
<td>4,4'-isopropylidenephenol</td>
<td>4,4'-isopropylidenephenol</td>
<td>Intentionally added or 0.1 % Weight (2)</td>
<td>N</td>
<td>CAS number: 80-05-7</td>
</tr>
<tr>
<td>Perfluorooctanoic acid and its salts (PFOA)</td>
<td>Perfluorooctanoic acid and its salts (PFOA)</td>
<td>Intentionally added or 0.0000025 mass% of PFOA including its salts in article or mixture</td>
<td>N</td>
<td>CAS numbers: 335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3</td>
</tr>
</tbody>
</table>
### Substance Declaration (IEC 62474) – page 5 of 5

**Material and Substance Declaration (IEC 62474)**

*More details (substances and CAS numbers) see Reference Substance List (RSL) at http://std.iec.ch/iec62474*

<table>
<thead>
<tr>
<th>Substance</th>
<th>If yes (Y), detailed information of contained substances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category Name</strong></td>
<td><strong>Threshold Level</strong></td>
</tr>
<tr>
<td>PFPA-related compounds</td>
<td>Intentionally added or 0.0001 mass% of one or a combination of PFPA-related compounds, in article or mixture</td>
</tr>
<tr>
<td>Cadmium/Cadmium compounds</td>
<td>0.01 % Weight (1)</td>
</tr>
<tr>
<td>Chromium (VI) Compounds</td>
<td>0.1 % Weight (1)</td>
</tr>
<tr>
<td>Lead/Lead Compounds</td>
<td>0.1 % Weight (1)</td>
</tr>
<tr>
<td>Mercury/Mercury Compounds</td>
<td>0.1 % Weight (1)</td>
</tr>
<tr>
<td>Cobalt/Cobalt compounds</td>
<td>Intentionally added</td>
</tr>
<tr>
<td>Neodymium/Neodymium compounds</td>
<td>Intentionally added</td>
</tr>
<tr>
<td>Per- and poly-fluoroalkyl substances (PFAS)</td>
<td>Intentionally added</td>
</tr>
</tbody>
</table>
### 6.0 Revision history

<table>
<thead>
<tr>
<th>REV:</th>
<th>Date:</th>
<th>Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6</td>
<td>16. Nov. 2022</td>
<td>Chapter 1.0 updated, other Chapters: remove old obsolete requirements and reorganize RoHS, REACH and IEC 62474 to own chapters. Chapter 5.0 IEC 62474 includes the relevant regulations that concern the electronic industry. Please note that the RoHS, REACH and TSCA requirements are not repeated in the Chapter 5.0.</td>
</tr>
</tbody>
</table>