References of “Threshold level” columns:
1) Report the biggest content rate (ppm) of the substance at the homogeneous material level. Optionally also the total weight of the substance in the product.
Weight = total weight of the substance in the product.
Content rate [ppm] = Content rate of the substance in the homogeneous material that has the biggest ppm content of the substance.
Example: Lead (Pb) content in lead frame plating (ppm) = weight of lead (Pb) in leadframe \[10^{-9} \text{ g}\] / weight of the leadframe [mg]
2) Report the total weight of the substance in the product. Optionally also content rate (ppm) of the substance at the product.
Weight = total weight of the substance in the product.
Content rate [ppm] = Content rate of the substance in the product.
Example: Bismuth weight = Sum of Bismuth weights in each homogeneous material.
3) Any content = Not contain obviously OR under quantitation limit of accurate analytical method.
NA: Not Applicable.
cust.A = Customer from Japan
cust.B = Customer from USA

Material and Substance Declaration (JIG-101 Ed 4.1 and IEC 62474) – page 1 of 6


<table>
<thead>
<tr>
<th>Substance</th>
<th>R (Regulated) JIG Criteria 1</th>
<th>Category Name</th>
<th>Threshold Level – JIG</th>
<th>Threshold Level – cust.A</th>
<th>Threshold Level – cust.B</th>
<th>Above threshold level?</th>
<th>If yes (Y), detailed information of contained substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestos</td>
<td>Intentionally added (1)</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</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>Intentionally Added or 30 ppm (1)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Must be reported only if it is used for leather/fabric products and those parts where they are likely to result in prolong skin contact. 30 ppm in finished textile or leather articles</td>
</tr>
<tr>
<td>Cadmium/Cadmium compounds</td>
<td>100 ppm (1)</td>
<td>20 ppm (resin paint, ink pigment and dying) (1)</td>
<td>20 ppm lead free soldering (1)</td>
<td>75 ppm metals except for lead free soldering (1)</td>
<td>5 ppm (1)</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>5 ppm by weight of battery</td>
<td>Other materials: Any content (1 and 3)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Hexavalent Chromium / Hexavalent Chromium Compounds</td>
<td>1000 ppm (1)</td>
<td>100 ppm Chromate plating (1)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Hexavalent Chromium = Chromium VI, 2011/65/EU (EU/RoHS Directive and its amendments); China Management Measures on EIP Pollution Control; California Electronic Waste Recycling Act SB 20, amended by SB 50 and AB 575; Revised law for Promotion of Effective Utilization of Resources(JMoss); Candidate list for European REACH Regulation No. 1907/2006/EC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other materials: Any content (1 and 3)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arsenic/Arsenic Compounds</td>
<td>see SVHC list</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>JIG: see Diarsenic Pentaoxide and Diarsenic Tetroxide in SVHC list</td>
</tr>
<tr>
<td>Fluorinated greenhouse gases</td>
<td>Intentionally added (1)</td>
<td>NA</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>HFC and PFC. For JIG also SF6. See JIG-101 for detailed CAS-numbers.</td>
</tr>
</tbody>
</table>
**Material and Substance Declaration (JIG-101 Ed 4.1 and IEC 62474) – page 2 of 6**

<table>
<thead>
<tr>
<th>Substance</th>
<th>R (Regulated) JIG Criteria 1</th>
<th>Above threshold level?</th>
<th>If yes (Y), detailed information of contained substances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formaldehyde CAS#50-0-0 (wooden materials and furniture)</strong></td>
<td>Intentionally Added (1) Composite wood products or Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aerial concentration: 0.1 ml/m³ (1)</td>
<td>Select 1 of following: concentration in the air or perforator method or Desiccators method.</td>
<td>Cust.A = DE ChemVerbotsV, AT BGBl. Nr. 194/1990, SE KIFS 1998-8 (9, 20-27 §§) Cust.B: Select 1 of following: concentration in the air: 0.1 ppm (EN 717-1:2004), or perforator method: 6.5 mg/100g particleboard, 7.0 mg/100g fiberboard (both average value during 6 months), 8.0 mg particle/fiberboard one time measurement based EN 120:1992. Or Desiccators method: average content 0.5 mg/l, Maximum content 0.7 mg/l (use N = 2, JIS A 5905 (Fiberboards, JIS A 5908 Particleboards)</td>
</tr>
<tr>
<td><strong>Formaldehyde CAS#50-0-0 (textiles)</strong></td>
<td>75 ppm (2) Textiles</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intentionally Added (1) Composite wood products or Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aerial concentration: 0.1 ml/m³ (1)</td>
<td>Select 1 of following: concentration in the air or perforator method or Desiccators method.</td>
<td>Cust.A = DE ChemVerbotsV, AT BGBl. Nr. 194/1990, SE KIFS 1998-8 (9, 20-27 §§) Cust.B: Select 1 of following: concentration in the air: 0.1 ppm (EN 717-1:2004), or perforator method: 6.5 mg/100g particleboard, 7.0 mg/100g fiberboard (both average value during 6 months), 8.0 mg particle/fiberboard one time measurement based EN 120:1992. Or Desiccators method: average content 0.5 mg/l, Maximum content 0.7 mg/l (use N = 2, JIS A 5905 (Fiberboards, JIS A 5908 Particleboards)</td>
</tr>
<tr>
<td><strong>HBCDD</strong></td>
<td>see SVHC list</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>see SVHC list</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intentionally Added (1) Composite wood products or Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aerial concentration: 0.1 ml/m³ (1)</td>
<td>Select 1 of following: concentration in the air or perforator method or Desiccators method.</td>
<td>Cust.A = DE ChemVerbotsV, AT BGBl. Nr. 194/1990, SE KIFS 1998-8 (9, 20-27 §§) Cust.B: Select 1 of following: concentration in the air: 0.1 ppm (EN 717-1:2004), or perforator method: 6.5 mg/100g particleboard, 7.0 mg/100g fiberboard (both average value during 6 months), 8.0 mg particle/fiberboard one time measurement based EN 120:1992. Or Desiccators method: average content 0.5 mg/l, Maximum content 0.7 mg/l (use N = 2, JIS A 5905 (Fiberboards, JIS A 5908 Particleboards)</td>
</tr>
<tr>
<td><strong>Mercury / Mercury compounds</strong></td>
<td>1000 ppm or Intentionally Added (1)</td>
<td>Intentionally added or 1 ppm by weight of battery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.005 mass% of total Hg in homogenous material of battery, see CA</td>
<td>DIN EN1811: During the testing, flaked nickel should not exceed 0.5 μg/cm²/week</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000 ppm or Intentionally Added (1)</td>
<td>Intentionally added or 1 ppm by weight of battery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.005 mass% of total Hg in homogenous material of battery, see CA</td>
<td>DIN EN1811: During the testing, flaked nickel should not exceed 0.5 μg/cm²/week</td>
<td></td>
</tr>
<tr>
<td><strong>Nickel / Nickel Compounds</strong></td>
<td>Intentionally added (1), if prolonged skin contact is expected:</td>
<td>1000 ppm (1)</td>
<td>Use of nickel or nickel in components and parts designed to be located inside the outer enclosure of a product need not be reported. Cust.B = cust.C.</td>
</tr>
<tr>
<td></td>
<td>1000 ppm (1)</td>
<td>DIN EN1811: During the testing, flaked nickel should not exceed 0.5 μg/cm²/week</td>
<td></td>
</tr>
<tr>
<td><strong>Ozone Depleting Substances – Class I (CFCs, HBCFs, etc.)</strong></td>
<td>Intentionally added (1)</td>
<td>Any content (1 and 3)</td>
<td>California Assembly Bill No. 826 - Perchlorate Contamination Prevention Act; implemented July 1, 2006. The only known application in use today in electronic industry is coin cell batteries.</td>
</tr>
<tr>
<td><strong>Ozone Depleting Substances – Class II (HCFCs)</strong></td>
<td>Intentionally added (1)</td>
<td>Any content (1 and 3)</td>
<td>California Assembly Bill No. 826 - Perchlorate Contamination Prevention Act; implemented July 1, 2006. The only known application in use today in electronic industry is coin cell batteries.</td>
</tr>
<tr>
<td><strong>Perchlorates</strong></td>
<td>6 x 10 ^-7 mass% of battery or product part</td>
<td>1000 ppm (1)</td>
<td>California Assembly Bill No. 826 - Perchlorate Contamination Prevention Act; implemented July 1, 2006. The only known application in use today in electronic industry is coin cell batteries.</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Perfluorooctanesulfonic acid (PFOS)</td>
<td>Intentionally added (1)</td>
<td>1 micrograms/m² in textiles or coated materials. 0.1 weight% (1000 ppm) in semi-finished products or articles. 0.005% (50 ppm) as substance or constituent of preparations (1)</td>
<td>0.1 wt%, textile or other coated materials 1 micrograms/m²² of coated materials. (1)</td>
</tr>
<tr>
<td>Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA</td>
<td>Intentionally added (1) or 1 microgram/m² (as the sum of PFOA). Textiles, photographic coatings applied to films, paper or printing plates and other coated consumer products.</td>
<td>Intentionally added (1) or 0.1 mass% of the part (as the sum of PFOA). All except textiles, photographic coatings applied to films, paper or printing plates and other coated consumer products.</td>
<td></td>
</tr>
<tr>
<td>Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)</td>
<td>Intentionally added (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phthalates</td>
<td>0.1 mass% (1000 ppm) as the sum of the phthalate concentrations in plasticized material (childrens toy that can be placed in a child’s mouth or child care article)</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Phthalates</td>
<td>0.1 mass% (1000 ppm) as the sum of the phthalate concentrations in plasticized material (childrens toy that can be placed in a child’s mouth or child care article)</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Polybrominated Biphenyls (PBB) and specific substitutes</td>
<td>0.1 mass% (1000 ppm) of total PBBs in homogeneous material</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Polybrominated diphenyl ethers (PBDE)</td>
<td>0.1 mass% (1000 ppm) of total PBDEs in homogeneous material</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Deca-Bromodiphenylether (Deca-BDE) (PBDE)</td>
<td>Intentionally added (1) TV and computer housings</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Polychlorinated Biphenyls (PCBs) and specific substitutes</td>
<td>Intentionally added (1)</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Substance</td>
<td>R (Regulated) JIG Criteria 1</td>
<td>Threshold Level – JIG</td>
<td>Threshold Level – cust.A</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
<td>----------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Polychlorinated Terphenyls (PCTs)</td>
<td>0.005% by weight (50 ppm) in material</td>
<td>NA</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Polychlorinated Naphthalenes</td>
<td>Intentionally added (1)</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Radioactive Substances</td>
<td>Intentionally added (1)</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)</td>
<td>Intentionally added or 0.1 mass %</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Certain Tributyl Tin (TBT) and Triphenyl Tin (TPT) compounds</td>
<td>Intentionally added (1)</td>
<td>Any content (1 and 3)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Tributyl Tin Oxide (TBTO)</td>
<td>1000 ppm or Intentionally Added (2)</td>
<td>Any content (1 and 3)</td>
<td>NA</td>
</tr>
<tr>
<td>Antimony/Antimony Compounds</td>
<td>NA</td>
<td>1000 ppm (1)</td>
<td>NA</td>
</tr>
<tr>
<td>Bismuth/Bismuth Compounds (JIG: only Beryllium Oxide)</td>
<td>1000 ppm (2) criteria 3 – I (for information only)</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Brominated Flame Retardants (other than PBBs or PBDEs)</td>
<td>1000 ppm (2) criteria 3 – I (for information only)</td>
<td>1000 ppm (1)</td>
<td>1000 ppm (1)</td>
</tr>
<tr>
<td>Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)</td>
<td>Industry Standards IEC 61249-2-21 and IPC-4101</td>
<td>0.09 mass% total bromine content in laminate. Criteria 3 – I (for information only)</td>
<td>NA</td>
</tr>
<tr>
<td>Selenium/Selenium Compounds</td>
<td>NA</td>
<td>1000 ppm (1)</td>
<td>NA</td>
</tr>
<tr>
<td>Polyvinyl Chloride (PVC) and PVC Copolymers</td>
<td>1000 ppm (2) criteria 3 – I (for information only)</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
</tr>
<tr>
<td>Dibutyltin (DBT) compounds</td>
<td>0.1 % by weight (1000 ppm) of tin in a material</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
## Substance Declaration (JIG-101 Ed 4.1 and IEC 62474) – page 5 of 6

<table>
<thead>
<tr>
<th>Category Name</th>
<th>Threshold Level – JIG</th>
<th>Threshold Level – cust.A</th>
<th>Threshold Level – cust.B</th>
<th>Above threshold level?</th>
<th>If yes (Y), detailed information of contained substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dioctyltin (DOT) compounds</td>
<td>0.1 % by weight (1000 ppm) of tin in a material *)</td>
<td>NA</td>
<td>NA</td>
<td>N N N N N</td>
<td>ANNEX XVII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 276/2010</td>
</tr>
<tr>
<td>Tri-substituted organostannic compounds</td>
<td>Intentionally added (1) or 0.1 % by weight (1000 ppm) of tin in a material *)</td>
<td>NA</td>
<td>NA</td>
<td>N N N N</td>
<td>ANNEX XVII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 276/2010; Japan Law concerning the evaluation of chemical substances Norwegian product regulation</td>
</tr>
<tr>
<td>Chlorinated flame retardants (CFR)</td>
<td>IPC-4101 and IEC 61249-2-21</td>
<td>0.09 mass% total chlorine content in laminate (Printed Wiring Board (PWB) Laminates). Criteria 3 - I (for information only)</td>
<td>NA</td>
<td>N N N N</td>
<td>A printed wiring board laminate refers to the layered board materials excluding surface finishing and components. See IEC 62474 Reference Substance worksheet for more details (CAS Numbers and/or EC Numbers, etc.)</td>
</tr>
<tr>
<td>Chlorinated flame retardants (CFR)</td>
<td>0.1% total chlorine content by weight (1 000 ppm) in the plastic material – I (for information only)</td>
<td>NA</td>
<td>NA</td>
<td>N N N N</td>
<td>JS709, see Annex B of JIG-101 for detailed Substance Lists with CAS Numbers and/or EC Numbers.</td>
</tr>
<tr>
<td>Benzo[def]chrysene, (Benzo[a]pyrene), BaP</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 50-47-8. 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). ANNEX XVII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 1272/2013</td>
</tr>
<tr>
<td>Benzo[e]pyrene (BeP)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS#192-97-2. See description above (Rubber or ....skin or oral...)</td>
</tr>
<tr>
<td>Benzo[a]anthracene (BaA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 56-55-3. IUPAC names: Benz[a]anthracene, benzo[a]anthracene, Benz[a]anthracene, tetraphene. Member of Polycyclic-aromatic hydrocarbons (PAH) group. See description above (Rubber or ....skin or oral...)</td>
</tr>
<tr>
<td>Chrysene, other name: Chrysene (CHR)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 218-01-9. IUPAC names: 1,2,5,6-Dibenzoazaphalen, Benz[a]phenanthrene, Chrysene. Member of Polycyclic-aromatic hydrocarbons (PAH). See description above (Rubber or ....skin or oral...)</td>
</tr>
<tr>
<td>Benzo[b]fluoranthene (BbFA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 205-99-2. See description above (Rubber or ....skin or oral...)</td>
</tr>
<tr>
<td>Benzo[j]fluoranthene (BjFA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 205-82-3. See description above (Rubber or ....skin or oral...)</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene (BkFA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 207-06-9. See description above (Rubber or ....skin or oral...)</td>
</tr>
<tr>
<td>Dibenzo[a,h]anthracene (DBAhA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.0001 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N N N N</td>
<td>CAS# 53-70-3. See description above (Rubber or ....skin or oral...)</td>
</tr>
</tbody>
</table>
### Material and Substance Declaration (JIG-101 Ed 4.1 and IEC 62474) – page 6 of 6

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<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level – JIG</th>
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<th>Threshold Level – cust.B</th>
<th>Above threshold level?</th>
<th>If yes (Y), detailed information of contained substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzo[def]chrysene, (Benzo[a]pyrene), BaP</td>
<td>CAS# 50-32-8: Rubber or plastic parts of toys and childcare articles that come into direct, prolonged or repetitive skin or oral cavity contact. This declarable substance is a polycyclic aromatic hydrocarbon (PAH). ANNEX VII of REACH Regulation (EC) No 1907/2006 and Commission Regulation (EU) No 1272/2013.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzo[e]pyrene (BeP)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Benzo[a]anthracene (BaA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Chrysen, other name: Chrysene (CHR)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Benzo[b]fluoranthene (BbFA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Benzo[j]fluoranthene (BjFA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Benzo[k]fluoranthene (BkFA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Dibenzo[a,h]anthracene (DBAhA)</td>
<td>IEC 62474 date 24.9.2014</td>
<td>0.00005 mass% of the plastic or rubber part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene</td>
<td>IEC 62474 date 8.4.2015</td>
<td>Intentionally added. Reportable applications: All</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Perfluorooctanoic acid and its salts</td>
<td>IEC 62474 date 21.7.2019</td>
<td>0.0000025 mass% of PFOA including its salts in article or mixture</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>PFOA-related substances</td>
<td>IEC 62474 date 21.7.2019</td>
<td>0.0001 mass% of one or a combination of PFOA-related substances, in article or mixture</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

See also SVHC list in the end of this document!
## Additional Material and Substance Declarations:

<table>
<thead>
<tr>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Threshold Level – cust.B</th>
<th>Level (Y/N)</th>
<th>Level cust.B (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>Cobalt Chloride</td>
<td>0.01 weight% (100 ppm) (1)</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>As for the service parts, the professional products, and the transportation parts, when the content exceeds 100ppm to less than 10000ppm display the text &quot;Restricted to professional user&quot; to the cobalt chloride inclusion quality wrapping. Directives of EU: 2003/34/EC, 98/98/EC and 2004/73/EC.</td>
</tr>
<tr>
<td>Phthalate esters</td>
<td>1000 ppm (1)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>See also “Phthalates” in previous table of this document.</td>
</tr>
<tr>
<td>Hydrofluorocarbon (HFC), Perfluorocarbon (PFC)</td>
<td>Any content (3)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>IEC 61249-2-21:2003</td>
</tr>
<tr>
<td>Halogen-Bromine (Br)</td>
<td>&gt;900 ppm (1)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>IEC 61249-2-21:2003</td>
</tr>
<tr>
<td>Halogen-Chlorine (Cl)</td>
<td>&gt;900 ppm (1)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>IEC 61249-2-21:2003</td>
</tr>
<tr>
<td>Total Halogen Br + Cl</td>
<td>&gt;1500 ppm (1)</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>IEC 61249-2-21:2003</td>
</tr>
<tr>
<td>Halogenated aromatic substances</td>
<td>500 ppm for mono- or 50 ppm for poly-halogenated aromatic substances.</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Halogenated diphenyl methanes</td>
<td>Any content (3)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>JIG-101 (PCB+PCT) includes CAS# 76253-60-6, CAS# 99688-47-8 and Ugilec121, Ugilec 21.</td>
</tr>
<tr>
<td>Brominated dioxins/furans and Chlorinated dioxins/furans</td>
<td>10 ppb (1)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>ChemVerbotsV, information source “2008 GADSL Version 2.0”</td>
</tr>
<tr>
<td>Specific benzotriazole</td>
<td>Any content (3)</td>
<td>Any content (3)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>Japan, Law Concerning the Examination and Regulation of Manufacture of Chemical Substances, Class I.</td>
</tr>
<tr>
<td>Organic tin compounds (excluding TBT, TPT, TBTO)</td>
<td>1000 ppm (1) also JIG criteria 1 R.</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>Including Dibutyltin compounds. See also TBT, TPT and TBTO in one of the previous tables of this document.</td>
</tr>
<tr>
<td>Certain Glycol Ethers see list in the end of this doc</td>
<td>use in manufacture of semiconductors, 1000 ppm (1)</td>
<td>5 ppm (1)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>EU-D 67/548/EEC, information source “2008 GADSL Version 2.0”</td>
</tr>
<tr>
<td>Dimethyl Fumarate (DMF)</td>
<td>(0.1 ppm) 0.000001 mass% of the part</td>
<td>NA</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>CAS# 624-49-7; DMF, Dimethyl (E)-butenedioate; 2-Butenediolic acid (2E)-, dimethyl ester.</td>
</tr>
<tr>
<td>Red phosphorous</td>
<td>Intentionally added (1)</td>
<td>1000 ppm (1)</td>
<td>N</td>
<td>N</td>
<td></td>
<td></td>
<td>Red phosphorous CAS 7723-14-0 should not be used to substitute Brominated Flame Retradants due to historical industry experience with reliability concerns.</td>
</tr>
</tbody>
</table>

### Semiconductor industry voluntary banned the use of certain ethylene glycol ethers in manufacture of semiconductors.

**Certain Glycol Ethers**

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Ethoxyethanol (or Ethylene glycol monoethyl ether)</td>
<td>110-89-5</td>
</tr>
<tr>
<td>2-Ethoxyethyl acetate</td>
<td>111-15-9</td>
</tr>
<tr>
<td>2-Methoxyethanol (or Ethylene glycol monomethyl ether)</td>
<td>109-88-4</td>
</tr>
<tr>
<td>2-Methoxyethyl acetate</td>
<td>110-49-6</td>
</tr>
<tr>
<td>Diethylene glycol dimethyl ether</td>
<td>111-98-6</td>
</tr>
</tbody>
</table>
### REACH List of Substances of Very High Concern (SVHC) – page 1 of 12

**Number of substances on the Candidate List: 205 (last updated: 16.01.2020)**

<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>Triethyl arsenate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 427-700-2, CAS Number: 15606-95-8. Article 57(a) of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Anthracene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-371-1 CAS Number: 120-12-7. PBT substance according to Article 57 (d) of Regulation (EC) No 1907/2006 (REACH).</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>EC Number: 202-974-4 CAS number: 101-77-9. Article 57(a) of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Dibutyl phthalate (DBP)</td>
<td>0.1 % Weight (1) (IEC 62474, 2015-12-17)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 201-557-4 CAS number: 84-74-2. Article 57 (c) of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Cobalt dichloride</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 231-589-4 CAS number: 7846-79-9. Carcinogenic and toxic for reproduction (articles 57 a and 57 c).</td>
</tr>
<tr>
<td>Diarsenic Pentaoxide</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-116-9 CAS number: 1303-28-2. Article 57 (a) of Regulation (EC) No 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Diarsenic Trioxide</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-481-4 CAS number: 1327-53-3. Article 57 (a) of Regulation (EC) No 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 234-190-3 CAS number: 10588-01-9 (anhydrous) 7789-12-0 (dihydrate). Article 57(a), (b) and (c) of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
<tr>
<td>5-tbutyl – 2,4,8-trinitro-m-xylene (musk xylene)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 201-329-4 CAS number: 81-15-2. Article 57(e) of Regulation (EC) No 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Bis(2-ethylhexyl)phthalate (DEHP)</td>
<td>0.1 % Weight (1) (IEC 62474, 2015-12-17)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-211-0 CAS number: 117-81-7. Article 57 (c) of Regulation (EC) 1907/2006 (REACH). Equivalent level of concern having probable serious effects to the environment (Article 57 f). Toxic for reproduction (article 57(c) (REACH updated 2014/12/17).</td>
</tr>
<tr>
<td>Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified</td>
<td>0.1 % Weight (2), IEC 62474: Intentionally added or 0.01 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 221-695-9, 247-148-4 CAS number: 3194-55-6, 25637-99-4. Names of the major diastereoisomers identified: alpha-hexabromocyclododecane CAS No 134237-50-6 beta-hexabromocyclododecane CAS No 134237-51-7 gamma-hexabromocyclododecane CAS No 134237-52-8. Article 57 (d) of Regulation (EC) No 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 200-268-0 CAS number: 56-35-9. Article 57 (d) of Regulation (EC) No 1907/2006 (REACH).</td>
</tr>
<tr>
<td>Bis(tributyltin) oxide (TBTO)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-450-0 CAS# 121-14-2. Carcinogenic (article 57a).</td>
</tr>
<tr>
<td>Benzyl butyl phthalate (BBP)</td>
<td>0.1 % Weight (1) (IEC 62474, 2015-12-17)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 201-622-7 CAS number: 85-68-7. Article 57 (c) of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
<tr>
<td>2,4-Dinitrotoluene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>Carcinogenic (article 57a). 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 and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less 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.</td>
</tr>
<tr>
<td>Aluminosilicate Refractory Ceramic Fibres</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### REACH List of Substances of Very High Concern (SVHC) – page 2 of 12

<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>Anthracene oil</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 292-602-7 CAS# 90640-80-5. Carcinogenic (see Detail 1) below, PBT and vPvB (articles 57a, 57d and 57e).</td>
</tr>
<tr>
<td>Anthracene oil, anthracene-low</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number:292-604-8 CAS# 90640-82-7. Carcinogenic (see Detail 2), mutagenic (see Detail 3 below), PBT and vPvB (articles 57a, 57d and 57e).</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>EC number:292-603-2 CAS# 90640-81-6. Carcinogenic (see Detail 2), mutagenic (see Detail 3 below), PBT and vPvB (articles 57a, 57d and 57e).</td>
</tr>
<tr>
<td>Anthracene oil, anthracene paste, anthracene fraction</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 295-275-9 CAS# 91995-15-2. Carcinogenic (see Detail 2), mutagenic (see Detail 3 below), PBT and vPvB (articles 57a, 57b, 57d and 57e).</td>
</tr>
<tr>
<td>Anthracene oil, anthracene paste,distn. Lights</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 295-276-5 CAS#91995-17-4. Carcinogenic (see Detail 2), mutagenic (see Detail 3 below), PBT and vPvB (articles 57a, 57b, 57d and 57e).</td>
</tr>
<tr>
<td>Diisobutyl phthalate (DIBP)</td>
<td>0.1 % Weight (1) (IEC 62474, 2015-12-17)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 201-553-2 CAS# 84-69-5. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>Lead chromate</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 231-846-0 CAS# 7758-97-6. 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) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 235-759-9 CAS# 12656-85-8. Carcinogenic and toxic for reproduction (articles 57a and c)</td>
</tr>
<tr>
<td>Lead sulfochromate yellow (C.I. Pigment Yellow 34)</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 215-693-7 CAS# 1344-37-2. Carcinogenic and toxic for reproduction (articles 57a and c)</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: 266-028-2 CAS# 65996-93-2. Carcinogenic, PBT and vPvB (articles 57a, 57d and 57e).</td>
</tr>
<tr>
<td>Tris(2-chloroethyl)phosphosphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 204-118-5 CAS# 115-96-8. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>Zirconia Aluminoisilicate Refractory Ceramic Fibres</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>Zirconia Aluminoisilicate 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 on classification, labelling and packaging of substances and mixtures, and fullfil 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 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 57a)</td>
</tr>
<tr>
<td>Acrylamide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 201-173-7 CAS# 79-06-1. Carcinogenic and mutagenic (articles 57 a and 57 b)</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# 79-01-6. Carcinogenic (article 57 a)</td>
</tr>
<tr>
<td>Boric acid</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 233-139-2 / 234-343-4 CAS# 10043-35-3 / 11113-50-1. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>Disodium tetraborate, anhydrous</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 215-541-3 CAS# 12267-73-1. Toxic for reproduction (article 57c)</td>
</tr>
<tr>
<td>Tetraboron disodium heptaoxide, hydrate</td>
<td>0.1 % Weight (2) (also JIG criteria 1 R)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC number: 204-118-5 CAS# 115-96-8. Toxic for reproduction (article 57c)</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: 231-906-6 CAS# 7778-50-9. Carcinogenic, mutagenic and toxic for reproduction (articles 57a, 57b and 57c)</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>
<td>EC number</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>------------------------------</td>
<td>-------------</td>
<td>--------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Ammonium dichromate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chromate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium chromate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobalt(II) sulphate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobalt(II) dinitrate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobalt(II) carbonate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobalt(II) diacetate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Methoxyethanol</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Ethoxyethanol</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium trioxide</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Chromic acid, b) Oligomers of</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c) Dichromic acid</td>
<td></td>
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<tr>
<td>2-Ethoxyethyl acetate</td>
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<td>Strontium chromate</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>1,2-Benzenedicarboxylic acid, d</td>
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<tr>
<td>C7-11-branched and linear alkyl</td>
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<tr>
<td>esters (DHNUP)</td>
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<tr>
<td>Hydrazine</td>
<td></td>
<td>0.1 % Weight (2)</td>
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<tr>
<td>1-Methyl-2-pyrrolidone</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>1,2,3-Trichloropropane</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>1,2-Benzenedicarboxylic acid, d</td>
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<td>C6-8-branched alkyl esters, C7-</td>
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<td>rich (DIHP)</td>
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<tr>
<td>4-(1,1,3,3-tetramethylbutyl)phenol</td>
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<td>N,N-dimethylacetamide</td>
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<td>0.1 % Weight (2)</td>
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<td>Phenolphthalein</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>Lead diazide, Lead azide</td>
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<td>0.1 % Weight (2)</td>
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<td>1,2-dichloroethane</td>
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<td>0.1 % Weight (2)</td>
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<td>Calcium arsenate</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>Dichromium tri(chromate)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>2-Methoxyaniline; α-Anisidine</td>
<td></td>
<td>0.1 % Weight (2)</td>
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<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>
<td>EC Number</td>
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<tr>
<td>Pentazinc chromate octahydroxide</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>Arsenic acid</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>Potassium hydroxyoctaoxodizincate-dichromate</td>
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<td>0.1 % Weight (2)</td>
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<tr>
<td>Formaldehyde, oligomeric reaction products with aniline</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
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<td>Lead styphnate</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Trilead diarsenate</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Bis(2-methoxyethyl) phthalate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>Bis(2-methoxyethyl) ether</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>2,2'-dichloro-4,4'-methyleneedianiline</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<tr>
<td>a,a-Bis[(4-dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</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>
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</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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<tr>
<td>Diboron trioxide</td>
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<td>0.1 % Weight (2)</td>
<td>N</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>
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<tr>
<td>4,4''-bis(dimethylamino)-4''-(methylamino)trityl alcohol with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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</tr>
<tr>
<td>Lead(II) bis(methanesulfonate)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
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<tr>
<td>Formamid</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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</tbody>
</table>
### REACH List of Substances of Very High Concern (SVHC) – page 5 of 12

<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>[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-yldiene]dimethylammonium chloride (C.I. Basic Violet 3) (with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2))</td>
<td>0.1 % Weight (2) (also JIG criteria A)</td>
<td>N</td>
<td>EC Number: 208-953-6, CAS number: 548-62-9, Carcinogenic (Article 57a)</td>
<td></td>
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</tr>
<tr>
<td>1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 203-794-9, CAS number: 110-71-4, Toxic for reproduction (Article 57 c)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[4-[4-anilino-1-naphthyl][4-[(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-yldiene]dimethylammonium chloride (C.I. Basic Blue 26) (with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2))</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 219-943-6, CAS number: 2580-56-5, Carcinogenic (Article 57a)</td>
<td></td>
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<tr>
<td>1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 219-514-3, CAS number: 2451-62-9, Mutagenic (Article 57b)</td>
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<tr>
<td>4,4'-bis(dimethylamino)benzophenone (Michler's ketone)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 202-027-5, CAS number: 90-94-8, Carcinogenic (Article 57a)</td>
<td></td>
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</tr>
<tr>
<td>Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans-stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 247-094-1, 243-072-0, 256-356-4, 260-566-1, CAS number: 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9, Equivalent level of concern having probable serious effects to human health (Article 57 f)</td>
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<tr>
<td>6-methoxy-m-toluidine (p-cresidine)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 204-419-1, CAS number: 120-71-8, Carcinogenic (Article 57a)</td>
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<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>
<td>Additional information on material composition of products</td>
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<tr>
<td>Pyrochlore, antimony lead yellow</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 232-382-1, CAS number: 8012-00-8, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Henicosfluoroundecanoic acid</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 218-165-4, CAS number: 2058-94-8, vPvB (Article 57 e)</td>
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<tr>
<td>4-Aminoazobenzene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 200-453-6, CAS number: 60-09-3, Carcinogenic (Article 57 a)</td>
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<tr>
<td>Silicic acid, lead salt</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 234-363-3, CAS number: 11120-22-2, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Lead titanium zirconium oxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 235-727-4, CAS number: 12626-81-2, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Lead monoxide (lead oxide)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 215-267-0, CAS number: 1317-36-8, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>o-Toluidine</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 202-429-0, CAS number: 95-53-4, Carcinogenic (Article 57 a)</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>
<td>EC Number: 421-150-7, CAS number: 143860-04-2, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Dibutyltin dichloride (DBTC)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 211-670-0, CAS number: 683-18-1, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Lead dinitrate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 237-486-0, CAS number: 13814-96-5, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Silicic acid (H$_2$Si$_2$O$_5$), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for toxicity for reproduction/Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 272-271-5, CAS number: 68784-75-8, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Trilead bis(carbonate)dihydroxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 215-290-6, CAS number: 1319-46-6, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>4,4'-methylenedi-o-toluidine</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 212-658-4, CAS number: 838-88-0, Carcinogenic (Article 57 a)</td>
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<tr>
<td>Diethyl sulphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 200-589-6, CAS number: 64-67-5, Carcinogenic (Article 57 a); Mutagenic (Article 57 b)</td>
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<td>Dimethyl sulphate</td>
<td>0.1 % Weight (2)</td>
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<td>EC Number: 201-058-1, CAS number: 77-78-1, Carcinogenic (Article 57 a)</td>
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<tr>
<td>N,N-dimethylformamide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td>EC Number: 200-679-5, CAS number: 68784-75-8, Toxic for reproduction (Article 57 c)</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>Equivalent level of concern having probable serious effects to the environment (Article 57 f)</td>
<td></td>
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<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>
<td>Additional information on material composition of products</td>
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</tr>
<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 UV CB- and well-defined substances which include any of the individual isomers or a combination thereof</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>Equivalent level of concern having probable serious effects to the environment (Article 57 f)</td>
</tr>
<tr>
<td>Furan</td>
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<td>0.1 % Weight (2)</td>
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<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>
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<td>0.1 % Weight (2)</td>
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<td>EC Number: 234-853-7, CAS number: 12036-76-9, Toxic for reproduction (Article 57 c)</td>
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<tr>
<td>Lead titanium trioxide</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 235-038-9, CAS number: 12060-00-3, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 214-604-9, CAS number: 1163-19-5, PBT (Article 57 d), vPvB (Article 57 e)</td>
</tr>
<tr>
<td>Bisphenol, diphenyl ether (decabromodiphenyl ether; DecaBDE)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<td></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>1,2-Diethoxyethane</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 201-075-4, CAS number: 78-00-2, Toxic for reproduction (Article 57 c)</td>
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<td>N-methylacetamide</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<td></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>Tetralead trioxide sulphate</td>
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<td>0.1 % Weight (2)</td>
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<td>EC Number: 235-038-9, CAS number: 12032-17-4, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Acetic acid, lead salt, basic</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></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>Diphenyl (2)-dioxotridean</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
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<td></td>
<td>EC Number: 273-688-5, CAS number: 69011-06-9, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Tetraethyllead</td>
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<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 201-075-4, CAS number: 78-00-2, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>N-pentyl-isopentylphthalate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>CAS number: 776297-69-9, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Pentalead tetraoxide sulphate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 235-067-7, CAS number: 12065-90-6, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Heptacosfluorotetradecanoic acid</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 206-803-4, CAS number: 376-06-7, vPvB (Article 57 e)</td>
</tr>
<tr>
<td>Tricosafluorododecanoic acid</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 206-203-2, CAS number: 307-55-1, vPvB (Article 57 e)</td>
</tr>
<tr>
<td>1-bromopropane (n-propyl bromide)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 203-445-0, CAS number: 106-94-5, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Dioxibis(stearato)trilead</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 235-702-8, CAS number: 12678-12-0, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Pentacosfluorotridecanoic acid</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 276-745-2, CAS number: 72629-94-8, vPvB (Article 57 e)</td>
</tr>
<tr>
<td>Methoxyacetic acid</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 210-894-6, CAS number: 625-45-6, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Methylisoxirane (Propylene oxide)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 200-879-2, CAS number: 75-56-9, Carcinogenic (Article 57a); Mutagenic (Article 57b)</td>
</tr>
<tr>
<td>Tributyl diisocyanate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 235-252-2, CAS number: 12141-20-7, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>o-aminoazotoluene</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 202-591-2, CAS number: 97-56-3, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>4-methyl-4-phenylenenediamine (toluene-2,4-diamine)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 202-453-1, CAS number: 95-80-7, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>Diisononyl phthalate</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 210-088-4, CAS number: 605-50-5, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>1,2-Benzene dicarboxylic acid, dipentylester, branched and linear</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 284-032-2, CAS number: 84777-06-0, Toxic for reproduction (Article 57 c)</td>
</tr>
</tbody>
</table>
## REACH List of Substances of Very High Concern (SVHC) – page 8 of 12

<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>
<td></td>
<td></td>
<td>EC Number: 202-177-1, CAS number: 92-67-1, Carcinogenic (Article 57a)</td>
</tr>
<tr>
<td>Fatty acids, C16-18, lead salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 292-968-7, CAS number: 91031-62-8, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Orange lead (lead tetroxide)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-235-6, CAS number: 1314-41-8, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>4,4'-oxydianiline and its salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 202-977-0, CAS number: 101-80-4, Carcinogenic (Article 57a); Mutagenic (Article 57b)</td>
</tr>
<tr>
<td>Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 204-650-8, CAS number: 123-77-3, Equivalent level of concern having probable serious effects to human health (Article 57 f)</td>
</tr>
<tr>
<td>Sulfurous acid, lead salt, dibasic</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 263-467-1, CAS number: 62229-08-7, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td>Lead cyanamidate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 244-073-9, CAS number: 20837-86-9, Toxic for reproduction (Article 57 c)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Date of inclusion to SVHC 20.6.2013</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 231-152-8, CAS Number: 7440-43-9, Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)</td>
</tr>
<tr>
<td>Ammonium pentadecafluoroctanoate (APFO)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 223-320-4, CAS Number: 3825-26-1, Toxic for reproduction (Article 57 c); PBT (Article 57 d)</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>
<td>4-Nonylphenol, branched and linear, ethoxylated substances with a linear and/or branched alky chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof, Equivalent level of concern having probable serious effects to the environment (Article 57 f)</td>
</tr>
<tr>
<td>Pentadecafluoroocanolic acid (PFOA)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 206-397-9, CAS Number: 335-67-1, Toxic for reproduction (Article 57 c); PBT (Article 57 d)</td>
</tr>
<tr>
<td>Dipentyl phthalate (DPP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 205-017-9, CAS Number: 131-16-0, Toxic for reproduction (Article 57 c);</td>
</tr>
<tr>
<td>Cadmium oxide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-146-2, CAS Number: 1306-19-0, Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Date of inclusion to SVHC 16.12.2013</td>
</tr>
<tr>
<td>Cadmium sulphide</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 215-147-8, CAS Number: 1306-23-6, Carcinogenic (Article 57a); Equivalent level of concern having probable serious effects to human health (Article 57 f)</td>
</tr>
<tr>
<td>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)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 217-710-3, CAS Number: 1937-37-7, Carcinogenic (Article 57a);</td>
</tr>
<tr>
<td>Dihexyl phthalate (DnHP)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 201-559-5, CAS Number: 84-75-3, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Imidazo[l]imidazole-2-thione; (2-imidazoline-2-thiol)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 202-506-9, CAS Number: 96-45-7, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Trisxylyl phosphate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 206-677-8, CAS Number: 25155-23-1, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>Disodium 3,3'-[[1,1'-biphenyl]-4,4'-dilyl][biso(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>EC Number: 209-358-4, CAS Number: 573-58-0, Carcinogenic (Article 57a);</td>
</tr>
<tr>
<td>Lead di(acetate)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td>EC Number: 206-104-4, CAS Number: 301-04-2, Toxic for reproduction (Article 57 c).</td>
</tr>
</tbody>
</table>
## REACH List of Substances of Very High Concern (SVHC) – page 9 of 12

<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>Cadmium chloride</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 233-296-7, CAS Number: 10108-64-2, Carcinogenic (Article 57a); Mutagenic (Article 57b); Toxic for reproduction (Article 57c); Equivalent level of concern having probable serious effects to human health (Article 57 f)</td>
</tr>
<tr>
<td>Sodium peroxometaborate</td>
<td></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></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 239-172-9; 234-390-0, Toxic for reproduction (Article 57 c).</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC 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-ethylhexyl]oxy]-2-oxoethylthio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)</td>
<td></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></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 233-331-6, CAS number: 10124-38-4 and 31119-53-6, Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f).</td>
</tr>
<tr>
<td>Cadmium fluoride</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 232-222-6, CAS number: 7790-79-6, Carcinogenic (Article 57 a); Mutagenic (Article 57 b); Toxic for reproduction (Article 57 c); Equivalent level of concern having probable serious effects to human health (Article 57 f).</td>
</tr>
<tr>
<td>2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)</td>
<td></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-butylphenol (UV-320)</td>
<td></td>
<td>Intentionally added or 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), Japan (Law Concerning the Examination and Regulation of Manufacture); Candidate list for European REACH Regulation No. 1907/2006/EC.</td>
</tr>
<tr>
<td>2-(2H-benzotriazol-2-yl)-4,6-dihydroxyphenil (UV-328)</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 247-384-8, CAS number: 25973-55-1 ,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] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]</td>
<td></td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td>vPvB (Article 57 e)</td>
<td>vPvB (Article 57 e)</td>
</tr>
</tbody>
</table>

**Date of inclusion to SVHC**
- Cadmium chloride: 16.6.2014
- Sodium peroxometaborate: 16.6.2014
- Sodium perborate; perboric acid, sodium salt: 16.6.2014
- 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear: 16.6.2014
- 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-ethylhexyl]oxy]-2-oxoethylthio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE): 17.12.2014
- 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE): 17.12.2014
- 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]: 15.6.2015
- 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320): 15.6.2015
- 2-(2H-benzotriazol-2-yl)-4,6-dihydroxyphenil (UV-328): 15.6.2015
- 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] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]: 15.6.2015
## REACH List of Substances of Very High Concern (SVHC) – page 10 of 12

<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>1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters: 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>Perfluorononan-1-oic-acid and its sodium and ammonium salts</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>Nitrobenzene</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>4,4'-isopropylidenediphenol</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>4-Heptylphenol, branched and linear</td>
<td>0.1 % Weight (2) or Intentionally added</td>
</tr>
<tr>
<td>Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>p-(1,1-dimethylpropyl)phenol</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>Perfluorohexane-1-sulphonic acid and its salts (PFHxS)</td>
<td>0.1 % Weight (2)</td>
</tr>
<tr>
<td>Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) with ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPbl)</td>
<td>0.1 % Weight (2)</td>
</tr>
</tbody>
</table>
### REACH List of Substances of Very High Concern (SVHC) – page 11 of 12

<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>Date of inclusion to SVHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chrysene, other name: Chrysen (CHR)</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 205-923-4, CAS no.: 218-01-9, 1719-03-5, IUPAC names: 1,2,5,6-Dibenzonaphthalen, Benz[a]phenanthrene, Chrysen, Member of Polycyclic-aromatic hydrocarbons (PAH). Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)</td>
<td>27.6.2018</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 no.: 10022-68-1, 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 no.: 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 no.: 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>Benzo[a]anthracene</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 200-280-6, CAS no.: 56-55-3, 1718-53-2. IUPAC names: Benzo[a]anthracene, benzo[a]anthracene, Benz[a]anthracene, tetraphene. Member of Polycyclic-aromatic hydrocarbons (PAH) group. Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e)</td>
<td></td>
</tr>
</tbody>
</table>
| 1,6,7,8,9,14,15,16,17,18,18'-Dodecachloropentacyclo[12.2.1.1
6,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus™") covering any of its individual anti- and syn-isomers or any combination thereof | 0.1 % Weight (2) | N | | | vPvB (Article 57e) | |
| Terphenyl, hydrogenated | 0.1 % Weight (2) | N | | | EC Number: 262-967-7, CAS no.: 61788-32-7, vPvB (Article 57e) | 27.6.2018 |
| Octamethylcyclotetrasiloxane, D4 | 0.1 % Weight (2) | N | | | EC Number: 209-136-7, CAS no.: 556-67-2, PBT (Article 57d) vPvB (Article 57e) | |
| Lead | 0.1 % Weight (2) | N | | | EC Number: 231-100-4, CAS no.: 7439-92-1. Toxic for reproduction (Article 57c) | |
| Ethylenediamine, EDA | 0.1 % Weight (2) | N | | | EC Number: 203-468-6, CAS no.: 107-19-3. Respiratory sensitising properties (Article 57(f) - human health) | |
| Dodecamethylcyclohexasiloxane, D6 | 0.1 % Weight (2) | N | | | EC Number: 208-762-8, CAS no.: 540-97-6, PBT (Article 57d) vPvB (Article 57e) | |
| Disodium octaborate | 0.1 % Weight (2) | N | | | EC Number: 234-541-0, CAS no.: 12008-41-2. Toxic for reproduction (Article 57c) | |
| Dicyclohexyl phthalate, DCHP | 0.1 % Weight (2) | N | | | EC Number: 201-545-9, CAS no.: 84-61-7. Toxic for reproduction (Article 57c) Endocrine disrupting properties (Article 57(f) - human health) | |
| Decamethylcyclopentasiloxane, D5 | 0.1 % Weight (2) | N | | | EC Number: 208-764-9, CAS no.: 541-02-6, PBT (Article 57d) vPvB (Article 57e) | |
| Benzo[ghi]perylene | 0.1 % Weight (2) | N | | | EC Number: 205-883-8, CAS no.: 191-24-2. PBT (Article 57d) vPvB (Article 57e), substance is a polycyclic aromatic hydrocarbon (PAH). | |
| Benzene-1,2,4-tricarboxylic acid 1,2 anhydride, trimellitic anhydride, TMA | 0.1 % Weight (2) | N | | | EC Number: 209-008-0, CAS no.: 552-30-7. Respiratory sensitising properties (Article 57(f) - human health) | 15.1.2019 |
| Pyrene | 0.1 % Weight (2) | N | | | EC Number: 204-927-3, CAS no.: 129-00-0, 1718-52-1. PBT (Article 57d) vPvB (Article 57e) | |
| Phenanthrene | 0.1 % Weight (2) | N | | | EC Number: 201-581-5, CAS no.: 85-01-8, vPvB (Article 57e) | |
| Fluoranthen | 0.1 % Weight (2) | N | | | EC Number: 205-912-4, CAS no.: 206-44-0, 93951-69-0. PBT (Article 57d) vPvB (Article 57e) | |
| Benzo[k]fluoranthene | 0.1 % Weight (2) | N | | | EC Number: 205-916-6, CAS no.: 207-08-9. Carcinogenic (Article 57a) PBT (Article 57d) vPvB (Article 57e) | |
| 2,2-bis(4-hydroxyphenyl)4-methylpentane | 0.1 % Weight (2) | N | | | EC Number: 401-720-1, CAS no.: 6807-17-6. Toxic for reproduction (Article 57c) | |
## REACH List of Substances of Very High Concern (SVHC) – page 12 of 12

<table>
<thead>
<tr>
<th>Substance</th>
<th>Category Name</th>
<th>Threshold Level</th>
<th>Above threshold level ? Y / N</th>
<th>Weight [mg] Content rate [ppm]</th>
<th>Additional information on material composition of products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one, benzylidene camphor, 3-BC</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 239-139-9, CAS no.: 15087-24-8, Endocrine disrupting properties (Article 57(f) - environment)</td>
</tr>
<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></td>
<td>EC Number: ---, CAS no.: ---, Endocrine disrupting properties (Article 57(f) - environment)</td>
</tr>
<tr>
<td>2-methoxyethyl acetate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 203-772-9, CAS no.: 110-49-6, Toxic for reproduction (Article 57c)</td>
</tr>
<tr>
<td>2.3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides covering any of their individual isomers and combinations thereof</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: ---, CAS no.: ---, 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>
</tr>
<tr>
<td>2-benzyl-2-dimethylamino-4-morpholinobutyrophone</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 404-360-3, CAS no.: 119313-12-1, Toxic for reproduction (Article 57c)</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></td>
<td>EC Number: 400-600-6, CAS no.: 71868-10-5, Toxic for reproduction (Article 57c)</td>
</tr>
<tr>
<td>Diisodecyl phthalate</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: 278-090-2, CAS no.: 71850-09-4, Toxic for reproduction (Article 57c)</td>
</tr>
<tr>
<td>Perfluorobutane sulfonic acid (PFBS) and its salts</td>
<td>0.1 % Weight (2)</td>
<td>N</td>
<td></td>
<td></td>
<td>EC Number: ---, CAS no.: ---, 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>
</tr>
<tr>
<td>REV:</td>
<td>Date</td>
<td>Description</td>
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<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>1.4</td>
<td>17.3.2010</td>
<td>A) Changes due to JIG–101 Ed 2.0:</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>- LEVEL A and B replaced by criteria 1 – R Regulated (R), criteria 2 – A (for assessment only) and criteria 3 – I (for information only)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Minor changes: JIG Asbestos, threshold level changed from &quot;Any content (2 and 3)&quot; to &quot;Intentionally added&quot;.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>JIG: Beryllium and Beryllium compounds, only Beryllium Oxide included. Cust.A and Cust.B requirements include all Beryllium and Beryllium compounds.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>JIG: Brominated flame retardants exclude Hexabromocyclododecane(HBCDD), because it is separated to SVHC list.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>JIG: requirement of Arsenic/Arsenic compounds covers only Diarsenic Pentaoxide and Diarsenic Trioxide.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>JIG: Cadmium threshold level changed from 75 ppm to 100 ppm, 5 ppm threshold level added for battery.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>JIG: requirements for Formaldehyde added.</td>
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<tr>
<td></td>
<td></td>
<td>JIG: new requirements for Lead/lead compounds.</td>
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<tr>
<td></td>
<td></td>
<td>JIG: Mercury/mercury compounds, requirement added for battery.</td>
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<tr>
<td></td>
<td></td>
<td>JIG: Nickel, threshold level changed from &quot;0.5 micrograms/sq cm/week&quot; to &quot;Intentionally added&quot;.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>JIG: Ozone Depleting Substances, threshold level changed from &quot;Any content (2 and 3)&quot; to &quot; Intentionally added&quot;.</td>
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<td></td>
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<td>JIG: requirements for PFOS added.</td>
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<td></td>
<td></td>
<td>JIG: requirements for Certain Phthalates more detailed (see Phthalates)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>JIG: extra requirement for Deca-BDE (see PBDE)</td>
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<tr>
<td></td>
<td></td>
<td>JIG: Shortchain Chlorinated Paraffins (C10 – C13), threshold level changed from &quot;1000 ppm or Intentionally Added (1)&quot; to &quot;1000 ppm (2)&quot;</td>
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<tr>
<td></td>
<td></td>
<td>JIG: Tributyl Tin Oxide (TBT0), threshold level changed from &quot;Intentionally Added (2)&quot; to &quot;1000 ppm or Intentionally Added (2)&quot;</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>JIG: Antimony, Bismuth and Selenium requirements added from JIG.</td>
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<tr>
<td></td>
<td></td>
<td>- Added new substances: JIG: Fluorinated greenhouse gases</td>
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<td></td>
<td></td>
<td>JIG: Perchlorates</td>
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<td></td>
<td></td>
<td>JIG: Phenol.2-(2H-benzotriazol-2-yl)-4,6-bis(1, 1-dimethylethyl) CAS# 3846-71-7</td>
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<td></td>
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<td>JIG: Tris (2-chloroethyl) phosphate (TCEP)</td>
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<tr>
<td></td>
<td></td>
<td>B) Changes due list of SVHC 13.1.2010: 14 substances added (last 14 on the table)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>C) No changes to cust.A and cust.B requirements.</td>
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<tr>
<td></td>
<td></td>
<td>D) Lead/lead compounds RoHS exemption items removed.</td>
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</tr>
<tr>
<td>1.5</td>
<td>22.3.2011</td>
<td>A) Changes due to JIG–101: no changes.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>B) Changes due list of SVHC 15.12.2010: 17 substances added (last 17 on the table)</td>
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<tr>
<td></td>
<td></td>
<td>C) No changes to cust.A and cust.B requirements.</td>
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</tr>
<tr>
<td>1.6</td>
<td>24.5.2011</td>
<td>A) Changes to &quot;Additional Material and Substance Declarations&quot; table:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Comment added for Organic tin compounds: &quot;Including Dibutyltin compounds.&quot;</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>New regulated substance added &quot;Dimethyl fumarate (DMF)&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7</td>
<td>8.8.2011</td>
<td>A) Changes due to JIG–101: no changes.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>B) Changes due list of SVHC 20.6.2011: 7 substances added (last 7 on the table) and more details added for Cobalt Dichloride.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>C) No changes to cust.A and cust.B requirements.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1.8</td>
<td>12.9.2012</td>
<td>A) Changes due to JIG–101 Ed. 4.0</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>C) No changes to cust.A and cust.B requirements.</td>
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<tr>
<td>Date</td>
<td>Changes</td>
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<td>------------</td>
<td>-------------------------------------------------------------------------</td>
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</tr>
</tbody>
</table>
| 28.11.2013 | A) Changes due to JIG–101 Ed.4.1: Addresses publication of JS709 that defines “low halogen”, see “Brominated Flame Retardants”, “Polyvinyl Chloride (PVC) and PVC Copolymers” and “Chlorinated flame retardants”.  
C) No changes to cust.A and cust.B requirements. |
| 15.5.2014  | A) Changes due to JIG–101: no changes.  
B) Changes due list of SVHC 16.12.2013: substances added (7 rows on the table)  
C) No changes to cust.A and cust.B requirements. |
| 27.11.2014 | A) JIG–101 Ed.4.1 is old and will be replaced by IEC 62474 (http://std.iec.ch/iec62474). Updates due to IEC 62474:  
- Added: Brominated flame retardants (other than PBBs, PBDEs, or HBCDD): 0.09 mass% total bromine content in laminate  
- Added: Chlorinated Flame Retardants (CFR): 0.09 mass% total chlorine content in laminate  
- Added: Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA  
- Minor change to descriptions and threshold limit of Perchlorates  
- Change the threshold of Lead/Lead Compounds (0.01 mass%, products designed or intended primarily for children 12).  
- Minor change to threshold of Mercury / Mercury compounds (Batteries): add "Intentionally added or ..."  
- Added: thresholds to rubber or plastic parts that come into direct, prolonged or repetitive skin or oral cavity contact, CAS No: 50-32-8, 192-97-2, 56-55-3, 218-01-9, 205-99-2, 205-82-3, 207-08-9 and 53-70-3.  
B) Changes due list of SVHC 16.6.2014: substances added (4 rows on the table)  
C) No changes to cust.A and cust.B requirements. |
| 23.3.2015  | A) IEC 62474 (http://std.iec.ch/iec62474). No changes.  
B) Changes due list of SVHC 17.12.2014: substances added (6 rows on the table), 1 updated (DEHP: Reason for inclusion updated).  
C) No changes to cust.A and cust.B requirements. |
| 6.8.2015   | A) IEC 62474 (http://std.iec.ch/iec62474), updates 8.4. and 15.7.2015: updated CAS No: 3846-71-7, Alkanes, C10-13, Hexabromocyclododecane (HBCDD), Added: CAS No: 68921-45-9 and Canadian regulation for mercury: SOR/2014-254 (0.0005 mass% of total Hg in homogenous material of battery).  
B) Changes due list of SVHC 15.6.2015: substances added (2 rows on the table), Added threshold level to HBCDD (IEC 62474: Intentionally added or 0.1 mass%).  
C) No changes to cust.A and cust.B requirements. |
| 12.1.2016  | A) IEC 62474 (http://std.iec.ch/iec62474), updates 2015-12-17: Hexavalent Chromium / Hexavalent Chromium Compounds, "BasicDescription" added to "Additional information..." column.  
Threshold levels 0.1 mass% in homogenous material – added to SVHC list for: Bis(2-ethylhexyl)phthalate (DEHP), Dibutyl phthalate (DBP), Benzyl butyl phthalate (BBP), Diisobutyl phthalate (DIBP).  
B) Changes due list of SVHC 17.12.2015: substances added (5 rows on the table), Threshold levels for 4 materials listed in A).  
C) No changes to cust.A and cust.B requirements. |
| 23.8.2016  | A) IEC 62474 (http://std.iec.ch/iec62474). Reporting level added for: Lead 0.03 mass% of surface coating material - Cables/cords with thermoset or thermoplastic coatings.  
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) Intentionally added (SVHC-list page 7). Minor additions: clarifications to some substance names.  
B) Changes due list of SVHC 20.6.2016: one substance added (EC Number: 200-028-5).  
C) No changes to cust.A and cust.B requirements. |
### 2.6 16.1.2017

A) IEC 62474 (http://std.iec.ch/iec62474). 12.1.2017 added: Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts (CAS No: 335-76-2, 3830-45-3 and 3108-42-7) and 4,4'-isopropylidenediphenol (CAS No: 80-05-7). All these are also added 12.1.2017 to SVHC list, so these were added only to SVHC-list.
B) Changes due list of SVHC 12.1.2017: 4 substance added.
C) No changes to cust.A and cust.B requirements.

### 2.7 27.7.2017

A) IEC 62474 (http://std.iec.ch/iec62474). No changes.
B) Changes due list of SVHC 7.7.2017: one substance added (PFHxS).
C) No changes to cust.A and cust.B requirements.

### 2.8 31.8.2018

REACH = 191 substances

Jan. 15. 2018 details added to Boric Acid (already in SVHC list), threshold level of HBCDD updated (see SVHC list), details added: Zirconia Aluminosilicate Refractory Ceramic Fibres (already in SVHC list), details added: Silicic acid (H2Si2O5) (already in SVHC list), details added: Hexahydromethylphthalic anhydride (already in SVHC list), details added: 4-Nonylphenol, branched and linear (already in SVHC list), Benz[a]anthracene / Benz[a]anthracene (see also 15.1.2018 SVHC list), Chrysene / Chrysene (see also 15.1.2018 SVHC list), details added: CAS No: 68515-51-6, 68648-93-1 (see 15.6.2015 SVHC list), details added: CAS No: 80-05-7 (see 12.1.2017 SVHC list), added: Cas No: 21041-95-2 and Dechlorane Plus™ (see 15.1. 2018 SVHC list), details added: PCB, July 8. 2018 added: DHCAP, Lead and CAS No: 191-24-2, 556-67-2, 541-02-6, 540-97-6, 12008-41-2 and 61788-32-7. (see 27.6. 2018 SVHC list)
B) Changes due list of SVHC 15.1.2018: 7 substances added and 27.6.2018: 10 substances added. Due to IEC 62474 threshold level of HBCDD updated (Intentionally added or 0.01 mass % of article)
C) No changes to cust.A and cust.B requirements.

### 2.81

A) no changes
B) Added: make more clear the location and naming of REACH list of SVHC.
C) No changes to cust.A and cust.B requirements.

### 2.9 28.6.2019

REACH = 197 substances

A) IEC 62474 (http://std.iec.ch/iec62474), added 5 substances, see 15.1.2019 SVHC list (excluding CAS no.: 15087-24-8).
B) Changes due list of SVHC 15.1.2019: 6 substance added: CAS no.: 129-00-0, 85-01-8, (206-44-0; 93951-69-0), 207-08-9, 6807-17-6 and 15087-24-8.
C) No changes to cust.A and cust.B requirements.

### 3.0 14.8.2019

REACH = 201 substances

A) IEC 62474 (http://std.iec.ch/iec62474), DMF, PBB, PBDE, Phthalates, Polychlorinated naphthalenes : Description updated, threshold limit more clear.
Description on DBT simplified, CAS numbers added. Substance name updated: added short name (BaP) to CAS no: 50-32-8, (BeP) to CAS No: 191-24-2, (BaA) to CAS No: 556-67-2, (BbFA) to CAS No: 205-99-2, (BjFA) to CAS no: 207-08-9, (DBAhA) to CAS No: 53-70-3. Substances removed: CAS No: 115-96-8 (see SVHC list, 2 of 12), New substance (TNPP) included, see SVHC list, 12 of 12, New substances added: "Perfluorooctanoic acid and its salts" and "PFoA-related substances", see "IEC 62474 date 21.7.2019".
B) Changes due list of SVHC 16.7.2019: 4 substance added: CAS no.: 98-54-4 and 110-49-6, and TNPP and 2,3,3,3-tetrafluoro-2-(heptfluoroproxy)propionic acid.
C) No changes to cust.A and cust.B requirements.

### 3.1 5.2.2020

A) IEC 62474 (http://std.iec.ch/iec62474) updated 16.1.2020: (CAS no: 218-01-9, 56-55-3) substances aligned to REACH (were already only in SVHC table at this document.)
Names more detailed: CAS: 50-32-8, Description of PCBs updated. Substances added (see SVHC list) CAS no: 71850-09-4 and PFOA.
B) Changes due list of SVHC 16.1.2020: 4 substance added. Due to IEC 62474 description "substance is a polycyclic aromatic hydrocarbon (PAH)" added to CAS no: 191-24-2
C) No changes to cust.A and cust.B requirements.