



REACH - Declaration of Compliance

We hereby declare and guarantee that all products have been designed and manufactured in compliance with the EU directive 2015/863 on the restriction of the use of following chemicals substances.

- Are in compliance with European Union regulation 1907/2006 on **Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)**, Annex XVII.
- Do not contain **Substances of Very High Concern (SVHCs)**, or if there are any SVHCs the content within the article is less than the 0.1% (wt/wt) as defined by REACH Article 57, Annex XIV Directive 67/548/EEC.
- Do not contain **Substances** listed in Authorization-list--annex-XIV, or if there are any of these substances they are allowed for a specific use as provided in the authorization list.
- Do not contain **Substances** listed in Restriction-list--annex-XVII.
 - Not applicable where RoHS exemptions 7(a) and/or 7(c)-1 are granted.
 - Not applicable where nickel is used as a plating or is part of lead frame composition.
- Do not contain any substance(s) meant for intentional release.

Substances of High Concern

| | Substance Name | CAS Number |
|----|---|----------------------------------|
| 1 | 4,4'-Diaminodiphenylmethane | 101-77-9 |
| 2 | 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene) | 81-15-2 |
| 3 | Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) | 85535-84-8 |
| 4 | Anthracene | 120-12-7 |
| 5 | Bis (2-ethyl(hexyl)phthalate) (DEHP) | 117-81-7 |
| 6 | Bis(tributyltin)oxide (TBTO) | 56-35-9 |
| 7 | Benzyl Butyl Phthalate | 85-68-7 |
| 8 | Cobalt Dichloride | 7646-79-9 |
| 9 | Diarsenic pentaoxide | 1303-28-2 |
| 10 | Diarsenic Trioxide | 1327-53-3 |
| 11 | Dibutyl Phthalate (DBP) | 84-74-2 |
| 12 | Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: | 25637-99-4 |
| | Alpha-hexabromocyclododecane | 3194-55-6 |
| | Beta-hexabromocyclododecane | 134237-50-6 |
| | Gamma-hexabromocyclododecane | 134237-51-7 |
| 13 | Lead Hydrogen Arsenate | 134237-52-8 |
| 14 | Sodium Dichromate, | 7784-40-9 |
| | Dihydrate | 7789-12-0 |
| 15 | Triethyl Arsenate | 10588-01-9 |
| 16 | Anthracene Oil | 15606-95-8 |
| 17 | Anthracene Oil, Anthracene Paste, Distn. Lights | 90640-80-5 |
| 18 | Anthracene Oil, Anthracene Paste, Anthracene Fraction | 91995-17-4 |
| 19 | Anthracene Oil, Anthracene-Low | 91995-15-2 |
| 20 | Anthracene Oil, Anthracene Paste | 90640-82-7 |
| 21 | Coal Tar Pitch, High Temperature | 90640-81-6 |
| 22 | Aluminosilicate, Refractory Ceramic Fibers | 65996-93-2 |
| 23 | Zirconia Aluminosilicate, Refractory Ceramic Fibers | From EC Index no. 650-017-00-8 |
| 24 | 2,4,-Dinitrotoluene | From EC Index no. 650-017-00-8 |
| 25 | Diisobutyl Phthalate | 121-14-2 |
| 26 | Lead Chromate | 84-69-5 |
| 27 | Lead Chromate Molybdate Sulfate Red (C.I. Pigment Red 104) | 7758-97-6 |
| 28 | Lead Sulfochromate Yellow (C.I. Pigment Yellow 34) | 12656-85-8 |
| 29 | Tris(2-chloroethyl)phosphate | 1344-37-2 |
| 30 | Acrylamide | 115-96-8 |
| 31 | Trichloroethylene | 79-06-1 |
| 32 | Boric Acid | 79-01-6 |
| 33 | Disodium tetraborate, anhydrous | 10043-35-3, 11113-50-1 |
| 34 | Tetraboron disodium heptaoxide, hydrate | 1330-43-4, 12179-04-3, 1303-96-4 |
| 35 | Sodium chromate | 12267-73-1 |
| 36 | Potassium chromate | 7775-11-3 |
| 37 | Ammonium dichromate | 7789-00-6 |
| 38 | Potassium dichromate | 7789-09-5 |
| 39 | Cobalt(II) Sulfate | 7778-50-9 |
| 40 | Cobalt(II) Dinitrate | 10124-43-3 |
| | | 10141-05-6 |

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| 41 | Cobalt(II) Carbonate | 513-79-1 |
| 42 | Cobalt(II) Diacetate | 71-48-7 |
| 43 | 2-Methoxyethanol | 109-86-4 |
| 44 | 2-Ethoxyethanol | 110-80-5 |
| 45 | Chromium Trioxide | 1333-82-0 |
| 46 | Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid | 7738-94-5 13530-68-2 |
| 47 | 2-ethoxyethyl acetate | 111-15-9 |
| 48 | Strontium Chromate | 7789-06-2 |
| 49 | 1,2-Benzenedicarboxylic Acid, di-C7-11-branched and linear alkyl esters (DHNUP) | 68515-42-4 |
| 50 | Hydrazine | 302-01-2 7803-57-8 |
| 51 | 1-methyl-2-pyrrolidone | 872-50-4 |
| 52 | 1,2,3-trichloropropane | 96-18-4 |
| 53 | 1,2-Benzenedicarboxylic Acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) | 71889-89-6 |
| 54 | Calcium arsenate | 7778-44-1 |
| 55 | Bis(2-methoxyethyl ether) | 111-96-6 |
| 56 | Potassium hydroxyoctaoxodizinecatedi-chromate | 11103-86-9 |
| 57 | Lead dipicrate | 6477-64-1 |
| 58 | N-N-dimethylacetamide | 127-19-5 |
| 59 | Arsenic Acid | 7778-39-4 |
| 60 | 2-methoxyaniline; o-anisidine | 90-04-0 |
| 61 | Trilead diarsenate | 3687-31-8 |
| 62 | 1,2-dichloroethane | 107-06-2 |
| 63 | Pentazinc chromate octahydroxide | 49663-84-5 |
| 64 | Formaldehyde, oligomeric reaction products with aniline | 25214-70-4 |
| 65 | Bis(2-methoxyethyl) phthalate | 117-82-8 |
| 66 | 4-(1,1,3,3-tetramethylbutyl)phenol | 140-66-9 |
| 67 | Lead diazide, Lead azide | 13424-46-9 |
| 68 | Phenolphthalein | 77-09-8 |
| 69 | Dichromium tris(chromate) | 24613-89-6 |
| 70 | Lead styphnate | 15245-44-0 |
| 71 | 2,2'-dichloro-4,4'-methylenedianiline | 101-14-4 |
| 72 | α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 6786-83-0 |
| 73 | N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base) | 101-61-1 |
| 74 | 1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β -TGIC) | 59653-74-6 |
| 75 | Diboron trioxide | 1303-86-2 |
| 76 | 1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme) | 112-49-2 |
| 77 | 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 561-41-1 |
| 78 | Lead(II) bis(methanesulfonate) | 17570-76-2 |
| 79 | Formamide | 75-12-7 |
| 80 | [4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with $\geq 0.1\%$ of | 548-62-9 |

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| | Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | |
| 81 | 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) | 110-71-4 |
| 82 | [4-[[4-anilino-1-naphthyl]][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | 2580-56-5 |
| 83 | 1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC) | 2451-62-9 |
| 84 | 4,4'-bis(dimethylamino)benzophenone (Michler's ketone) | 90-94-8 |
| 85 | Bis(pentabromophenyl) ether (DecaBDE) | 1163-19-5 |
| 86 | Pentacosafuorotridecanoic acid | 72629-94-8 |
| 87 | Tricosafuorododecanoic acid | 307-55-1 |
| 88 | Henicosafuoroundecanoic acid | 2058-94-8 |
| 89 | Heptacosafuorotetradecanoic acid | 376-06-7 |
| 90 | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - [covering well-defined substances and UVCB substances, polymers and homologues] | |
| 91 | 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] | |
| 92 | Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) | 123-77-3 |
| 93 | Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA) | 85-42-7 |
| 94 | Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride | 25550-51-0 19438-60-9 48122-14-1 57110-29-9 |
| 95 | Methoxy acetic acid | 625-45-6 |
| 96 | 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear | 84777-06-0 |
| 97 | Diisopentylphthalate (DIPP) | 605-50-5 |
| 98 | N-pentyl-isopentylphthalate | 776297-69-9 |
| 99 | 1,2-Diethoxyethane | 629-14-1 |
| 100 | N,N-dimethylformamide; dimethyl formamide | 68-12-2 |
| 101 | Dibutyltin dichloride (DBT) | 683-18-1 |
| 102 | Acetic acid, lead salt, basic | 51404-69-4 |
| 103 | Basic lead carbonate (trileadbis(carbonate)dihydroxide) | 1319-46-6 |
| 104 | Lead oxide sulfate (basic lead sulfate) | 12036-76-9 |
| 105 | [Phthalato(2-)]dioxotrilead (dibasic lead phthalate) | 69011-06-9 |
| 106 | Dioxobis(stearato)trilead | 12578-12-0 |
| 107 | Fatty acids, C16-18, lead salts | 91031-62-8 |
| 108 | Lead bis(tetrafluoroborate) | 13814-96-5 |
| 109 | Lead cyanamidate | 20837-86-9 |
| 110 | Lead dinitrate | 10099-74-8 |
| 111 | Lead oxide (lead monoxide) | 1317-36-8 |
| 112 | Lead tetroxide (orange lead) | 1314-41-6 |
| 113 | Lead titanium trioxide | 12060-00-3 |
| 114 | Lead Titanium Zirconium Oxide | 12626-81-2 |
| 115 | Pentalead tetraoxide sulphate | 12065-90-6 |
| 116 | Pyrochlore, antimony lead yellow | 8012-00-8 |
| 117 | Silicic acid, barium salt, lead-doped | 68784-75-8 |

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| 118 | Silicic acid, lead salt | 11120-22-2 |
| 119 | Sulfurous acid, lead salt, dibasic | 62229-08-7 |
| 120 | Tetraethyllead | 78-00-2 |
| 121 | Tetralead trioxide sulphate | 12202-17-4 |
| 122 | Trilead dioxide phosphonate | 12141-20-7 |
| 123 | Furan | 110-00-9 |
| 124 | Propylene oxide; 1,2-epoxypropane; methyloxirane | 75-56-9 |
| 125 | Diethyl sulphate | 64-67-5 |
| 126 | Dimethyl sulphate | 77-78-1 |
| 127 | 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine | 143860-04-2 |
| 128 | Dinoseb | 88-85-7 |
| 129 | 4,4'-methylenedi-o-toluidine | 838-88-0 |
| 130 | 4,4'-oxydianiline and its salts | 101-80-4 |
| 131 | 4-Aminoazobenzene; 4-Phenylazoaniline | 60-09-3 |
| 132 | 4-methyl-m-phenylenediamine (2,4-toluene-diamine) | 95-80-7 |
| 133 | 6-methoxy-m-toluidine (p-cresidine) | 120-71-8 |
| 134 | Biphenyl-4-ylamine | 92-67-1 |
| 135 | o-aminoazotoluene | 97-56-3 |
| 136 | o-Toluidine; 2-Aminotoluene | 95-53-4 |
| 137 | N-methylacetamide | 79-16-3 |
| 138 | 1-bromopropane; n-propyl bromide | 106-94-5 |
| 139 | Cadmium | 7440-43-9 |
| 140 | Cadmium oxide | 1306-19-0 |
| 141 | Ammonium pentadecafluorooctanoate (APFO) | 3825-26-1 |
| 142 | Pentadecafluorooctanoic acid (PFOA) | 335-67-1 |
| 143 | Dipentyl phthalate (DPP) | 131-18-0 |
| 144 | 4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCBand well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof] | |
| 145 | Cadmium sulphide | 1306-23-6 |
| 146 | Diethyl phthalate | 84-75-3 |
| 147 | Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) | 573-58-0 |
| 148 | Disodium 4-amino-3'-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38) | 1937-37-7 |
| 149 | Imidazolidine-2-thione; 2-imidazoline-2-thiol | 96-45-7 |
| 150 | Lead di(acetate) | 301-04-2 |
| 151 | Trixylyl phosphate | 25155-23-1 |
| 152 | 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear | 68515-50-4 |
| 153 | Sodium perborate; perboric acid, sodium salt | 7632-04-4 |
| 154 | Sodium peroxometaborate | |
| 155 | Cadmium chloride | 10108-64-2 |
| 156 | 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) | 3846-71-7 |
| 157 | 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) | 15571-58-1 |
| 158 | Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]- | |

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| | 2-oxoethyl[thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE) | |
| 159 | 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) | 25973-55-1 |
| 160 | Cadmium fluoride | 7790-79-6 |
| 161 | Cadmium sulphate | 10124-36-4, 31119-53-6 |
| 162 | 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with \geq 0.3% of dihexyl phthalate (EC No. 201-559-5) | 68515-51-5 68648-93-1 |
| 163 | 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] | |
| 164 | 1,3-propanesultone | 1120-71-4 |
| 165 | 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) | 3864-99-1 |
| 166 | 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) | 36437-37-3 |
| 167 | Nitrobenzene | 98-95-3 |
| 168 | Perfluorononan-1-oic-acid and its sodium and ammoniumsalts | 375-95-1 21049-39-8 4149-60-4 |
| 169 | Benzo[def]chrysene (Benzo[a]pyrene) | 50-32-8 |
| 170 | 4,4'-isopropylidenediphenol (bisphenol A; BPA) | 80-05-7 |
| 171 | Nonadecafluorodecanoic acid (PFDA) and its sodium/ammonium salts | 335-76-2, 3830-45-3, 3108-42-7 |
| 172 | 4-Heptylphenol (branched and linear) | |
| 173 | p-(1,1-dimethylpropyl) phenol | 80-46-6 |

| Restriction list (annex XVII) | | |
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| Name | CAS no. | Entry |
| Polychlorinated terphenyls (PCTs) | - | 1 |
| Chloroethene, Chloroethylene (Vinyl chloride) | 75-01-4 | 2 |
| Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008 (See group members): | - | 3 |
| Hazard class 4.1 | - | 3 |
| Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10 | - | 3 |
| Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F | - | 3 |
| Hazard class 5.1. | - | 3 |
| Tris (2,3 dibromopropyl) phosphate | 126-72-7 | 4 |
| Benzene | 71-43-2 | 5 |
| Asbestos fibres | - | 6 |
| Actinolite | 77536-66-4 | 6 |
| Tremolite | 77536-68-6 | 6 |
| Crocidolite | 12001-28-4 | 6 |
| Amosite | 12172-73-5 | 6 |
| Chrysotile | 12001-29-5, 132207-32-0 | 6 |
| Anthophyllite | 77536-67-5 | 6 |
| Tris(aziridinyl)phosphin oxide | 545-55-1 | 7 |
| Polybromobiphenyls, Polybrominatedbiphenyls (PBB) | - | 8 |
| Polybromobiphenyls, Polybrominatedbiphenyls (PBB) | 59536-65-1 | 8 |
| Entry 9 | - | 9 |
| Soap bark powder (Quillaja saponaria) and its derivatives containing saponines | 68990-67-0 | 9 |
| Benzidine and / or its derivatives | - | 9 |
| o-Nitrobenzaldehyde | 552-89-6 | 9 |
| Powder of the roots of Veratrum album and Veratrum nigrum | - | 9 |
| Wood powder | - | 9 |
| Powder of the roots of Helleborus viridis and Helleborus niger | - | 9 |
| Entry 10 | - | 10 |
| Ammonium polysulphide | 9080-17-5 | 10 |
| Ammonium sulphide | 12135-76-1 | 10 |
| Ammonium hydrogen sulphide | 12124-99-1 | 10 |
| Volatile esters of bromoacetic acids | - | 11 |
| Methyl bromoacetate | 96-32-2 | 11 |
| Butyl bromoacetate | 18991-98-5 | 11 |
| Propyl bromoacetate | 35223-80-4 | 11 |