

## Certificate of Non-Use of Hazardous Substances

MaxLinear, Inc. certifies that as of the date of this Certificate of Non-Use of Hazardous Substances, the MaxLinear product listed below is certified as follows:

| Environmental Category & Description |                                                                                                                                                                                                                                   | Details for:<br>XR20M1172IG28-F |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| RoHS   Exempt                        | If "7a", "7c", or "15", then product contains lead but is compliant meeting the requirements of Directive (EU) 2011/65 pursuant to either exemption 7a, 7c, or 15. See Appendix A.                                                | N                               |
| RoHS                                 | If "Y", then product is RoHS compliant meeting the requirements of Directive (EU) 2015/863 with no exemptions taken. See Appendix B.                                                                                              | Y                               |
| Halogen Free                         | If "Y", then product is halogen and lead (Pb) free. Green products meet RoHS requirements plus additional hazardous material restrictions. See Appendix C.                                                                        | Y                               |
| REACH                                | If "Y", then product does not use any Substances of Very High Concern (SVHC) under REACH requirements. See Appendix D for a list of these substances.<br>If "N", please see Appendix E for SVHC that is contained in this product | Y                               |
| TSCA                                 | If "Y", then product is compliant and does not use any of the Toxic Substance Control Act (TSCA) restricted substances. See Appendix F for a list of these substances.                                                            | Y                               |

MaxLinear, Inc.  
Quality and Reliability  
May 08, 2024

## Appendix A | RoHS with Exemption

| Exemption | Description                                                                                                                                         |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| 7a        | Lead in high melting temperature type solders                                                                                                       |
| 7c        | Electrical and electronic components containing lead in a glass or ceramic, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound. |
| 15        | Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages       |

## Appendix B | RoHS Directive (EU) 2015/863

| Restricted Substance                  | Allowable Limit<br>(at homogenous material level) |
|---------------------------------------|---------------------------------------------------|
| Cadmium (Cd)                          | 100 ppm (0.01 weight %)                           |
| Mercury (Hg)                          | 1000 ppm (0.10 weight %)                          |
| Lead (Pb)                             | 1000 ppm (0.10 weight %)                          |
| Hexavalent Chromium (Cr6+)            | 1000 ppm (0.10 weight %)                          |
| Polybrominated biphenyls (PBB)        | 1000 ppm (0.10 weight %)                          |
| Polybrominated diphenyl ethers (PBDE) | 1000 ppm (0.10 weight %)                          |
| Bis (2-Ethylhexyl) phthalate (DEHP)   | 1000 ppm (0.10 weight %)                          |
| Benzyl butyl phthalate (BBP)          | 1000 ppm (0.10 weight %)                          |
| Dibutyl phthalate (DBP)               | 1000 ppm (0.10 weight %)                          |
| Diisobutyl phthalate (DIBP)           | 1000 ppm (0.10 weight %)                          |

## Appendix C | Halogen Free

| Restricted Substance                            | Allowable Limit |
|-------------------------------------------------|-----------------|
| Bromine (Br)                                    | 900 ppm         |
| Chlorine (Cl)                                   | 900 ppm         |
| Antimony (Sb (Sb <sub>2</sub> O <sub>3</sub> )) | 900 ppm         |

## Appendix D | REACH 235 - Regulation (EC) No 1907/2006 (Threshold Limit 1000ppm (0.1% w/w))

|     | Date of Inclusion: June 14, 2023                                                                                                                                                                                              | EC Number                                | CAS Number                                        |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------|
| 235 | diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide                                                                                                                                                                               | 278-355-8                                | 75980-60-8                                        |
| 234 | bis(4-chlorophenyl) sulphone                                                                                                                                                                                                  | 201-247-9                                | 80-07-9                                           |
|     | Date of Inclusion: January 17, 2023                                                                                                                                                                                           | EC Number                                | CAS Number                                        |
| 233 | reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine                                                                 | 473-390-7                                | -                                                 |
| 232 | Perfluoroheptanoic acid and its salts<br>Ammonium perfluoroheptanoate<br>potassium perfluoroheptanoate<br>Perfluoroheptanoic acid<br>Sodium perfluoroheptanoate                                                               | 228-098-2<br>-<br>206-798-9<br>243-518-4 | 6130-43-4<br>21049-36-5<br>375-85-9<br>20109-59-5 |
| 231 | Melamine                                                                                                                                                                                                                      | 203-615-4                                | 108-78-1                                          |
| 230 | Isobutyl 4-hydroxybenzoate                                                                                                                                                                                                    | 224-208-8                                | 4247-02-3                                         |
| 229 | bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof                                                                                                                      | 247-426-5                                | 26040-51-7                                        |
| 228 | Barium diboron tetraoxide                                                                                                                                                                                                     | 237-222-4                                | 13701-59-2                                        |
| 227 | 4,4'-sulphonyldiphenol                                                                                                                                                                                                        | 201-250-5                                | 80-09-1                                           |
| 226 | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol                                                                                                                                                                              | 201-236-9                                | 79-94-7                                           |
| 225 | 1,1'-(ethane-1,2-diylbisoxo)bis[2,4,6-tribromobenzene]                                                                                                                                                                        | 253-692-3                                | 37853-59-1                                        |
|     | Date of Inclusion: June 10, 2022                                                                                                                                                                                              | EC Number                                | CAS Number                                        |
| 224 | N-(hydroxymethyl)acrylamide                                                                                                                                                                                                   | 213-103-2                                | 924-42-5                                          |
|     | Date of Inclusion: January 17, 2022                                                                                                                                                                                           | EC Number                                | CAS Number                                        |
| 223 | S-(tricyclo(5.2.1.02,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate                                                                            | 401-850-9                                | 255881-94-8                                       |
| 222 | (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)                                                                        | -                                        | -                                                 |
| 221 | tris(2-methoxyethoxy)vinylsilane                                                                                                                                                                                              | 213-934-0                                | 1067-53-4                                         |
| 220 | 6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol                                                                                                                                                                                 | 204-327-1                                | 119-47-1                                          |
|     | Date of Inclusion: July 08, 2021                                                                                                                                                                                              | EC Number                                | CAS Number                                        |
| 219 | Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/or combinations thereof (PDDP)                                            | -                                        | -                                                 |
| 218 | Orthoboric acid, sodium salt                                                                                                                                                                                                  | 237-560-2                                | 13840-56-7                                        |
| 217 | Medium-chain chlorinated paraffins (MCCP) Medium-chain chlorinated paraffins (MCCP) (UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17) | -                                        | -                                                 |
| 216 | Glutaral                                                                                                                                                                                                                      | 203-856-5                                | 111-30-8                                          |
| 215 | 4,4'-(1-methylpropylidene)bisphenol                                                                                                                                                                                           | 201-025-1                                | 77-40-7                                           |
| 214 | 2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers                                                                                                                                                        | -                                        | -                                                 |

|                                            |                                                                                                                                                                                                                                           |                                       |                                                    |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------|
| 213                                        | 2,2-bis(bromomethyl)propane-1,3-diol (BMP);<br>2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA);<br>2,3-dibromo-1-propanol (2,3-DBPA)                                                         | 221-967-7,<br>253-057-0,<br>202-480-9 | 3296-90-0,<br>36483-57-5,<br>1522-92-5,<br>96-13-9 |
| 212                                        | 1,4-dioxane                                                                                                                                                                                                                               | 204-661-8                             | 123-91-1                                           |
| <b>Date of Inclusion: January 19, 2021</b> |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 211                                        | Diocetyl tin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety                              | -                                     | -                                                  |
| 210                                        | Bis(2-(2-methoxyethoxy)ethyl)ether                                                                                                                                                                                                        | 205-594-7                             | 143-24-8                                           |
| <b>Date of Inclusion: June 25, 2020</b>    |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 209                                        | Dibutylbis(pentane-2,4-dionato-O,O')tin                                                                                                                                                                                                   | 245-152-0                             | 22673-19-4                                         |
| 208                                        | Butyl 4-hydroxybenzoate                                                                                                                                                                                                                   | 202-318-7                             | 94-26-8                                            |
| 207                                        | 2-methylimidazole                                                                                                                                                                                                                         | 211-765-7                             | 693-98-1                                           |
| 206                                        | 1-vinylimidazole                                                                                                                                                                                                                          | 214-012-0                             | 1072-63-5                                          |
| <b>Date of Inclusion: January 16, 2020</b> |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 205                                        | Perfluorobutane sulfonic acid (PFBS) and its salts                                                                                                                                                                                        | -                                     | -                                                  |
| 204                                        | Diisohexyl phthalate                                                                                                                                                                                                                      | 276-090-2                             | 71850-09-4                                         |
| 203                                        | 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one                                                                                                                                                                                  | 400-600-6                             | 71868-10-5                                         |
| 202                                        | 2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone                                                                                                                                                                                       | 404-360-3                             | 119313-12-1                                        |
| <b>Date of Inclusion: July 16, 2019</b>    |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 201                                        | 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides                                                                                                                                                  | -                                     | -                                                  |
| 200                                        | 2-methoxyethyl acetate                                                                                                                                                                                                                    | 203-772-9                             | 110-49-6                                           |
| 199                                        | 4-tert-butylphenol                                                                                                                                                                                                                        | 202-679-0                             | 98-54-4                                            |
| 198                                        | Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)                                                                                                                    | -                                     | -                                                  |
| <b>Date of Inclusion: January 15, 2019</b> |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 197                                        | 1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one                                                                                                                                                                             | 239-139-9                             | 15087-24-8                                         |
| 196                                        | Pyrene                                                                                                                                                                                                                                    | 204-927-3                             | 129-00-0                                           |
| 195                                        | Phenanthrene                                                                                                                                                                                                                              | 201-581-5                             | 85-01-8                                            |
| 194                                        | Fluoranthene                                                                                                                                                                                                                              | 205-912-4                             | 206-44-0                                           |
| 193                                        | Benzo[k]fluoranthene                                                                                                                                                                                                                      | 205-916-6                             | 207-08-9                                           |
| 192                                        | 2,2-bis(4'-hydroxyphenyl)-4-methylpentane                                                                                                                                                                                                 | 401-720-1                             | 6807-17-6                                          |
| <b>Date of Inclusion: Jun 27, 2018</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 191                                        | Benzene-1,2,4-tricarboxylic acid 1,2 anhydride                                                                                                                                                                                            | 209-008-0                             | 552-30-7                                           |
| 190                                        | Benzo[ghi]perylene                                                                                                                                                                                                                        | 205-883-8                             | 191-24-2                                           |
| 189                                        | Decamethylcyclopentasiloxane                                                                                                                                                                                                              | 208-764-9                             | 541-02-6                                           |
| 188                                        | Dicyclohexyl phthalate                                                                                                                                                                                                                    | 201-545-9                             | 84-61-7                                            |
| 187                                        | Disodium octaborate                                                                                                                                                                                                                       | 234-541-0                             | 12008-41-2                                         |
| 186                                        | Dodecamethylcyclohexasiloxane                                                                                                                                                                                                             | 234-541-0                             | 540-97-6                                           |
| 185                                        | Ethylenediamine                                                                                                                                                                                                                           | 208-762-8                             | 107-15-3                                           |
| 184                                        | Lead NOTE: Does not exceed threshold levels specified in RoHS Directive (EU) 2015/863                                                                                                                                                     | 203-468-6                             | 7439-92-1                                          |
| 183                                        | Octamethylcyclotetrasiloxane                                                                                                                                                                                                              | 231-100-4                             | 556-67-2                                           |
| 182                                        | Terphenyl, hydrogenated                                                                                                                                                                                                                   | 209-136-7                             | 61788-32-7                                         |
| <b>Date of Inclusion: Jan 15, 2018</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 181                                        | Benz[a]anthracene                                                                                                                                                                                                                         | 200-280-6                             | 56-55-3<br>1718-53-2                               |
| 180                                        | Cadmium carbonate                                                                                                                                                                                                                         | 208-168-9                             | 513-78-0                                           |
| 179                                        | Cadmium hydroxide                                                                                                                                                                                                                         | 244-168-5                             | 21041-95-2                                         |
| 178                                        | Cadmium nitrate                                                                                                                                                                                                                           | 233-710-6                             | 10022-68-1<br>10325-94-7                           |
| 177                                        | Chrysene                                                                                                                                                                                                                                  | 205-923-4                             | 218-01-9<br>1719-03-5                              |
| 176                                        | Dodecachloropentacyclo[12.2.1.16.9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™)                                                                                                                                                   | -                                     | -                                                  |
| 175                                        | Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)                                                                                                                     | -                                     | -                                                  |
| <b>Date of Inclusion: Jul 07, 2017</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 174                                        | Perfluorohexane-1-sulphonic acid and its salts (PFHxS)                                                                                                                                                                                    | 206-587-1                             | 355-46-4                                           |
| <b>Date of Inclusion: Dec 19, 2016</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 173                                        | p-(1,1-dimethylpropyl)phenol                                                                                                                                                                                                              | 201-280-9                             | 80-46-6                                            |
| 172                                        | 4-heptylphenol, branched and linear                                                                                                                                                                                                       | -                                     | -                                                  |
| 171                                        | Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts                                                                                                                                                                      | 206-400-3<br>221-470-5                | 335-76-2<br>3830-45-3<br>3108-42-7                 |
| 170                                        | 4,4'-isopropylidenediphenol (bisphenol A)                                                                                                                                                                                                 | 201-245-8                             | 80-5-7                                             |
| <b>Date of Inclusion: Jun 20, 2016</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 169                                        | Benzo[def]chrysene(Benzo[a]pyrene)                                                                                                                                                                                                        | 200-028-5                             | 50-32-8                                            |
| <b>Date of Inclusion: Dec 17, 2015</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 168                                        | 1,3-propanesultone                                                                                                                                                                                                                        | 214-317-9                             | 1120-71-4                                          |
| 167                                        | 2,4-di-tert-butyl-6-[5-chlorobenzotriazol-2-yl]phenol (UV-327)                                                                                                                                                                            | 223-383-8                             | 3864-99-1                                          |
| 166                                        | 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)                                                                                                                                                                      | 253-037-1                             | 36437-37-3                                         |
| 165                                        | Nitrobenzene                                                                                                                                                                                                                              | 202-716-0                             | 98-95-3                                            |
| 164                                        | Perfluorononan-1-oic-acid and its sodium and ammonium salts                                                                                                                                                                               | 206-801-3                             | 4149-60-4<br>375-95-1<br>21049-39-8                |
| <b>Date of Inclusion: Jun 15, 2015</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |
| 163                                        | 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)                                                           | 272-013-1<br>271-094-0                | 68648-93-1<br>68515-51-5                           |
| 162                                        | 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] | -                                     | -                                                  |
| <b>Date of Inclusion: Dec 17, 2014</b>     |                                                                                                                                                                                                                                           | <b>EC Number</b>                      | <b>CAS Number</b>                                  |

|                                 |                                                                                                                                                                                                                                                                                                   |           |                          |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------|
| 161                             | 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)                                                                                                                                                                                                                                          | 247-384-8 | 25973-55-1               |
| 160                             | 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)                                                                                                                                                                                                                                              | 223-346-6 | 3846-71-7                |
| 159                             | 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)                                                                                                                                                                                                            | 239-622-4 | 15571-58-1               |
| 158                             | Cadmium fluoride                                                                                                                                                                                                                                                                                  | 232-222-0 | 7790-79-6                |
| 157                             | reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)                                      | -         | -                        |
| 156                             | Cadmium sulphate                                                                                                                                                                                                                                                                                  | 233-331-6 | 10124-36-4<br>31119-53-6 |
| Date of Inclusion: Jun 16, 2014 |                                                                                                                                                                                                                                                                                                   | EC Number | CAS Number               |
| 155                             | 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear                                                                                                                                                                                                                                  | 271-093-5 | 68515-50-4               |
| 154                             | Sodium perborate, perboric acid, sodium salt                                                                                                                                                                                                                                                      | 234-390-0 | 11138-47-9               |
| 153                             | Sodium peroxometaborate                                                                                                                                                                                                                                                                           | 239-172-9 | 15120-21-5               |
| 152                             | Cadmium chloride                                                                                                                                                                                                                                                                                  | 231-556-4 | 7632-04-4                |
| Date of Inclusion: Dec 16, 2013 |                                                                                                                                                                                                                                                                                                   | EC Number | CAS Number               |
| 151                             | Cadmium sulphide                                                                                                                                                                                                                                                                                  | 233-296-7 | 10108-64-2               |
| 150                             | 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)                                                                                                                                              | 215-147-8 | 1306-23-6                |
| 149                             | Dihexyl phthalate                                                                                                                                                                                                                                                                                 | 217-710-3 | 1937-37-7                |
| 148                             | Imidazolidine-2-thione; (2-imidazoline-2-thiol)                                                                                                                                                                                                                                                   | 201-559-5 | 84-75-3                  |
| 147                             | Triethyl phosphate                                                                                                                                                                                                                                                                                | 202-506-9 | 96-45-7                  |
| 146                             | Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)                                                                                                                                                                                        | 246-677-8 | 25155-23-1               |
| 145                             | Lead di(acetate)                                                                                                                                                                                                                                                                                  | 209-358-4 | 573-58-0                 |
| Date of Inclusion: Jun 20, 2013 |                                                                                                                                                                                                                                                                                                   | EC Number | CAS Number               |
| 144                             | Cadmium                                                                                                                                                                                                                                                                                           | 206-104-4 | 301-04-2                 |
| 143                             | Ammonium pentadecafluorooctanoate (APFO)                                                                                                                                                                                                                                                          | 231-152-8 | 7440-43-9                |
| 142                             | Pentadecafluorooctanoic acid (PFOA)                                                                                                                                                                                                                                                               | 223-320-4 | 3825-26-1                |
| 141                             | Dipentyl phthalate (DPP)                                                                                                                                                                                                                                                                          | 206-397-9 | 335-67-1                 |
| 140                             | 4-Nonylphenol, branched and linear, ethoxylated                                                                                                                                                                                                                                                   | 205-017-9 | 131-18-0                 |
| 139                             | Cadmium oxide                                                                                                                                                                                                                                                                                     | -         | -                        |
| Date of Inclusion: Dec 19, 2012 |                                                                                                                                                                                                                                                                                                   | EC Number | CAS Number               |
| 138                             | Trilead dioxide phosphonate                                                                                                                                                                                                                                                                       | 215-146-2 | 1306-19-0                |
| 137                             | Trilead bis(carbonate)dihydroxide                                                                                                                                                                                                                                                                 | 235-252-2 | 12141-20-7               |
| 136                             | Tricosafuorodecanoic acid                                                                                                                                                                                                                                                                         | 215-290-6 | 1319-46-6                |
| 135                             | Tetralead trioxide sulphate                                                                                                                                                                                                                                                                       | 206-203-2 | 307-55-1                 |
| 134                             | Tetraethyllead                                                                                                                                                                                                                                                                                    | 235-380-9 | 12202-17-4               |
| 133                             | Sulfurous acid, lead salt, dibasic                                                                                                                                                                                                                                                                | 201-075-4 | 78-00-2                  |
| 132                             | Silicic acid, lead salt                                                                                                                                                                                                                                                                           | 263-467-1 | 62229-08-7               |
| 131                             | Silicic acid (H <sub>2</sub> SiO <sub>5</sub> ), barium salt (1:1), lead-doped                                                                                                                                                                                                                    | 234-363-3 | 11120-22-2               |
| 130                             | Pyrochlore, antimony lead yellow                                                                                                                                                                                                                                                                  | 272-271-5 | 68784-75-8               |
| 129                             | Pentalead tetraoxide sulphate                                                                                                                                                                                                                                                                     | 232-382-1 | 8012-00-8                |
| 128                             | Pentacosafuorotridecanoic acid                                                                                                                                                                                                                                                                    | 235-067-7 | 12065-90-6               |
| 127                             | Orange lead (lead tetroxide)                                                                                                                                                                                                                                                                      | 276-745-2 | 72629-94-8               |
| 126                             | o-Toluidine                                                                                                                                                                                                                                                                                       | 215-235-6 | 1314-41-6                |
| 125                             | o-aminoazotoluene                                                                                                                                                                                                                                                                                 | 202-429-0 | 95-53-4                  |
| 124                             | N-pentyl-isopentylphthalate                                                                                                                                                                                                                                                                       | 202-591-2 | 97-56-3                  |
| 123                             | N-methylacetamide                                                                                                                                                                                                                                                                                 | -         | 776297-69-9              |
| 122                             | N,N-dimethylformamide                                                                                                                                                                                                                                                                             | 201-182-6 | 79-16-3                  |
| 121                             | Methyloxirane (Propylene oxide)                                                                                                                                                                                                                                                                   | 200-679-5 | 68-12-2                  |
| 120                             | Methoxyacetic acid                                                                                                                                                                                                                                                                                | 200-879-2 | 75-56-9                  |
| 119                             | Lead titanium zirconium oxide                                                                                                                                                                                                                                                                     | 210-894-6 | 625-45-6                 |
| 118                             | Lead titanium trioxide                                                                                                                                                                                                                                                                            | 235-727-4 | 12626-81-2               |
| 117                             | Lead oxide sulfate                                                                                                                                                                                                                                                                                | 235-038-9 | 12060-00-3               |
| 116                             | Lead monoxide (lead oxide)                                                                                                                                                                                                                                                                        | 234-853-7 | 12036-76-9               |
| 115                             | Lead dinitrate                                                                                                                                                                                                                                                                                    | 215-267-0 | 1317-36-8                |
| 114                             | Lead cyanamide                                                                                                                                                                                                                                                                                    | 233-245-9 | 10099-74-8               |
| 113                             | Lead bis(tetrafluoroborate)                                                                                                                                                                                                                                                                       | 244-073-9 | 20837-86-9               |
| 112                             | Hexahydromethylphthalic anhydride                                                                                                                                                                                                                                                                 | 237-486-0 | 13814-96-5               |
|                                 |                                                                                                                                                                                                                                                                                                   | 243-072-0 | 19438-60-9               |
|                                 |                                                                                                                                                                                                                                                                                                   | 260-566-1 | 57110-29-9               |
|                                 |                                                                                                                                                                                                                                                                                                   | 256-356-4 | 48122-14-1               |
| 111                             | Heptacosafuorotetradecanoic acid                                                                                                                                                                                                                                                                  | 247-094-1 | 25550-51-0               |
| 110                             | Henicosafuoroundecanoic acid                                                                                                                                                                                                                                                                      | 206-803-4 | 376-06-7                 |
| 109                             | Furan                                                                                                                                                                                                                                                                                             | 218-165-4 | 2058-94-8                |
| 108                             | Fatty acids, C16-18, lead salts                                                                                                                                                                                                                                                                   | 203-727-3 | 110-00-9                 |
| 107                             | Dioxobis(stearato)trilead                                                                                                                                                                                                                                                                         | 292-966-7 | 91031-62-8               |
| 106                             | Dinoseb (6-sec-butyl-2,4-dinitrophenol)                                                                                                                                                                                                                                                           | 235-702-8 | 12578-12-0               |
| 105                             | Dimethyl sulphate                                                                                                                                                                                                                                                                                 | 201-861-7 | 88-85-7                  |
| 104                             | Diisopentylphthalate                                                                                                                                                                                                                                                                              | 201-058-1 | 77-78-1                  |
| 103                             | Diethyl sulphate                                                                                                                                                                                                                                                                                  | 210-088-4 | 605-50-5                 |
| 102                             | Dibutyltin dichloride (DBTC)                                                                                                                                                                                                                                                                      | 200-589-6 | 64-67-5                  |
| 101                             | Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))                                                                                                                                                                                                                                                 | 211-670-0 | 683-18-1                 |
| 100                             | Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry] | 204-650-8 | 123-77-3                 |
|                                 |                                                                                                                                                                                                                                                                                                   | 201-604-9 | 13149-00-3               |
|                                 |                                                                                                                                                                                                                                                                                                   | 236-086-3 | 85-42-7                  |
|                                 |                                                                                                                                                                                                                                                                                                   | 238-009-9 | 14166-21-3               |
| 99                              | Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)                                                                                                                                                                                                                                    | 214-604-9 | 1163-19-5                |
| 98                              | Biphenyl-4-ylamine                                                                                                                                                                                                                                                                                | 202-177-1 | 92-67-1                  |
| 97                              | Acetic acid, lead salt, basic                                                                                                                                                                                                                                                                     | 257-175-3 | 51404-69-4               |
| 96                              | [Phthalato(2-)]dioxotrilead                                                                                                                                                                                                                                                                       | 273-688-5 | 69011-06-9               |
| 95                              | 6-methoxy-m-toluidine (p-cresidine)                                                                                                                                                                                                                                                               | 204-419-1 | 120-71-8                 |
| 94                              | 4-Nonylphenol, branched and linear                                                                                                                                                                                                                                                                | -         | -                        |

|                                        |                                                                                                                                                                                                                                     |                        |                                      |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------|
| 93                                     | 4-methyl-m-phenylenediamine (toluene-2,4-diamine)                                                                                                                                                                                   | 202-453-1              | 95-80-7                              |
| 92                                     | 4-Aminoazobenzene                                                                                                                                                                                                                   | 200-453-6              | 60-09-3                              |
| 91                                     | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated                                                                                                                                                                                     | -                      | -                                    |
| 90                                     | 4,4'-oxydianiline and its salts                                                                                                                                                                                                     | 202-977-0              | 101-80-4                             |
| 89                                     | 4,4'-methylenedi-o-toluidine                                                                                                                                                                                                        | 212-658-8              | 838-88-0                             |
| 88                                     | 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine                                                                                                                                                                                  | 421-150-7              | 143860-04-2                          |
| 87                                     | 1-bromopropane (n-propyl bromide)                                                                                                                                                                                                   | 203-445-0              | 106-94-5                             |
| 86                                     | 1,2-Diethoxyethane                                                                                                                                                                                                                  | 211-076-1              | 629-14-1                             |
| 85                                     | 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear                                                                                                                                                                    | 284-032-2              | 84777-06-0                           |
| <b>Date of Inclusion: Jun 18, 2012</b> |                                                                                                                                                                                                                                     | <b>EC Number</b>       | <b>CAS Number</b>                    |
| 84                                     | α,α-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)]                                              | 229-851-8              | 6786-83-0                            |
| 83                                     | N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)                                                                                                                                                                      | 202-959-2              | 101-61-1                             |
| 82                                     | 1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)                                                                                                                                             | 423-400-0              | 59653-74-6                           |
| 81                                     | Diboron trioxide                                                                                                                                                                                                                    | 215-125-8              | 1303-86-2                            |
| 80                                     | 1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)                                                                                                                                                                                   | 203-977-3              | 112-49-2                             |
| 79                                     | 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)]                                                                                   | 209-218-2              | 561-41-1                             |
| 78                                     | Lead(II) bis(methanesulfonate)                                                                                                                                                                                                      | 401-750-5              | 17570-76-2                           |
| 77                                     | Formamide                                                                                                                                                                                                                           | 200-842-0              | 75-12-7                              |
| 76                                     | [4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]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)]                  | 208-953-6              | 548-62-9                             |
| 75                                     | 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)                                                                                                                                                                         | 203-794-9              | 110-71-4                             |
| 74                                     | [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)] | 219-943-6              | 2580-56-5                            |
| 73                                     | 1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazine-2,4,6-trione (TGIC)                                                                                                                                                                    | 219-514-3              | 2451-62-9                            |
| 72                                     | 4,4'-bis(dimethylamino)benzophenone (Michler's ketone)                                                                                                                                                                              | 202-027-5              | 90-94-8                              |
| <b>Date of Inclusion: Dec 19, 2011</b> |                                                                                                                                                                                                                                     | <b>EC Number</b>       | <b>CAS Number</b>                    |
| 71                                     | 4-(1,1,3,3-tetramethylbutyl)phenol                                                                                                                                                                                                  | 205-426-2              | 140-66-9                             |
| 70                                     | N,N-dimethylacetamide                                                                                                                                                                                                               | 204-826-4              | 127-19-5                             |
| 69                                     | Phenolphthalein                                                                                                                                                                                                                     | 201-004-7              | 77-09-8                              |
| 68                                     | Lead diazide, Lead azide                                                                                                                                                                                                            | 236-542-1              | 13424-46-9                           |
| 67                                     | Lead dipicrate                                                                                                                                                                                                                      | 229-335-2              | 6477-64-1                            |
| 66                                     | 1,2-dichloroethane                                                                                                                                                                                                                  | 203-458-1              | 107-06-2                             |
| 65                                     | Calcium arsenate                                                                                                                                                                                                                    | 231-904-5              | 7778-44-1                            |
| 64                                     | Dichromium tris(chromate)                                                                                                                                                                                                           | 246-356-2              | 24613-89-6                           |
| 63                                     | 2-Methoxyaniline; o-Anisidine                                                                                                                                                                                                       | 201-963-1              | 90-04-0                              |
| 62                                     | Pentazinc chromate octahydroxide                                                                                                                                                                                                    | 256-418-0              | 49663-84-5                           |
| 61                                     | Arsenic acid                                                                                                                                                                                                                        | 231-901-9              | 7778-39-4                            |
| 60                                     | Potassium hydroxyoctaoxodizincatedichromate                                                                                                                                                                                         | 234-329-8              | 11103-86-9                           |
| 59                                     | Formaldehyde, oligomeric reaction products with aniline                                                                                                                                                                             | 500-036-1              | 25214-70-4                           |
| 58                                     | Lead styphnate                                                                                                                                                                                                                      | 239-290-0              | 15245-44-0                           |
| 57                                     | Trilead diarsenate                                                                                                                                                                                                                  | 222-979-5              | 3687-31-8                            |
| 56                                     | Zirconia Aluminosilicate Refractory Ceramic Fibres                                                                                                                                                                                  | -                      | -                                    |
| 55                                     | Bis(2-methoxyethyl) phthalate                                                                                                                                                                                                       | 204-212-6              | 117-82-8                             |
| 54                                     | Aluminosilicate Refractory Ceramic Fibres                                                                                                                                                                                           | -                      | -                                    |
| 53                                     | Bis(2-methoxyethyl) ether                                                                                                                                                                                                           | 203-924-4              | 111-96-6                             |
| 52                                     | 2,2'-dichloro-4,4'-methylenedianiline                                                                                                                                                                                               | 202-918-9              | 101-14-4                             |
| 51                                     | Cobalt dichloride                                                                                                                                                                                                                   | 231-589-4              | 7646-79-9                            |
| <b>Date of Inclusion: Jun 20, 2011</b> |                                                                                                                                                                                                                                     | <b>EC Number</b>       | <b>CAS Number</b>                    |
| 50                                     | 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich                                                                                                                                                                | 276-158-1              | 71888-89-6                           |
| 49                                     | 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters                                                                                                                                                             | 271-084-6              | 68515-42-4                           |
| 48                                     | Strontium chromate                                                                                                                                                                                                                  | 232-142-6              | 7789-06-2                            |
| 47                                     | 1-Methyl-2-pyrrolidone                                                                                                                                                                                                              | 212-828-1              | 872-50-4                             |
| 46                                     | 1,2,3-Trichloropropane                                                                                                                                                                                                              | 202-486-1              | 96-18-4                              |
| 45                                     | 2-Ethoxyethyl acetate                                                                                                                                                                                                               | 203-839-2              | 111-15-9                             |
| 44                                     | Hydrazine                                                                                                                                                                                                                           | 206-114-9              | 302-01-2<br>7803-57-8                |
| <b>Date of Inclusion: Dec 15, 2010</b> |                                                                                                                                                                                                                                     | <b>EC Number</b>       | <b>CAS Number</b>                    |
| 43                                     | Cobalt(II) diacetate                                                                                                                                                                                                                | 200-755-8              | 71-48-7                              |
| 42                                     | Cobalt(II) sulphate                                                                                                                                                                                                                 | 233-334-2              | 10124-43-3                           |
| 41                                     | 2-Ethoxyethanol                                                                                                                                                                                                                     | 203-804-1              | 110-80-5                             |
| 40                                     | 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.                                                     | 231-801-5<br>236-881-5 | 13530-68-2<br>7738-94-5              |
| 39                                     | 2-Methoxyethanol                                                                                                                                                                                                                    | 203-713-7              | 109-86-4                             |
| 38                                     | Chromium trioxide                                                                                                                                                                                                                   | 215-607-8              | 1333-82-0                            |
| 37                                     | Cobalt(II) carbonate                                                                                                                                                                                                                | 208-169-4              | 513-79-1                             |
| 36                                     | Cobalt(II) dinitrate                                                                                                                                                                                                                | 233-402-1              | 10141-05-6                           |
| <b>Date of Inclusion: Jun 18, 2010</b> |                                                                                                                                                                                                                                     | <b>EC Number</b>       | <b>CAS Number</b>                    |
| 35                                     | Trichloroethylene                                                                                                                                                                                                                   | 201-167-4              | 79-01-6                              |
| 34                                     | Potassium dichromate                                                                                                                                                                                                                | 231-906-6              | 7778-50-9                            |
| 33                                     | Tetraboron disodium heptaoxide, hydrate                                                                                                                                                                                             | 235-541-3              | 12267-73-1                           |
| 32                                     | Ammonium dichromate                                                                                                                                                                                                                 | 232-143-1              | 7789-09-5                            |
| 31                                     | Boric acid                                                                                                                                                                                                                          | 233-139-2<br>234-343-4 | 11113-50-1<br>10043-35-3             |
| 30                                     | Sodium chromate                                                                                                                                                                                                                     | 231-889-5              | 7775-11-3                            |
| 29                                     | Disodium tetraborate, anhydrous                                                                                                                                                                                                     | 215-540-4              | 12179-04-3<br>1303-96-4<br>1330-43-4 |
| 28                                     | Potassium chromate                                                                                                                                                                                                                  | 232-140-5              | 7789-00-6                            |
| <b>Date of Inclusion: Mar 30, 2010</b> |                                                                                                                                                                                                                                     | <b>EC Number</b>       | <b>CAS Number</b>                    |

|                                 |                                                                                                                                                                 |                        |                                                                      |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------|
| 27                              | Acrylamide                                                                                                                                                      | 201-173-7              | 79-06-1                                                              |
| Date of Inclusion: Jan 13, 2010 |                                                                                                                                                                 | EC Number              | CAS Number                                                           |
| 26                              | Lead sulfochromate yellow (C.I. Pigment Yellow 34)                                                                                                              | 215-693-7              | 1344-37-2                                                            |
| 25                              | Lead chromate molybdate sulphate red (C.I. Pigment Red 104)                                                                                                     | 235-759-9              | 12656-85-8                                                           |
| 24                              | Anthracene oil                                                                                                                                                  | 292-602-7              | 90640-80-5                                                           |
| 23                              | 2,4-Dinitrotoluene                                                                                                                                              | 204-450-0              | 121-14-2                                                             |
| 22                              | Anthracene oil, anthracene paste, anthracene fraction                                                                                                           | 295-275-9              | 91995-15-2                                                           |
| 21                              | Anthracene oil, anthracene-low                                                                                                                                  | 292-604-8              | 90640-82-7                                                           |
| 20                              | Tris(2-chloroethyl)phosphate                                                                                                                                    | 204-118-5              | 115-96-8                                                             |
| 19                              | Diisobutyl phthalate                                                                                                                                            | 201-553-2              | 84-69-5                                                              |
| 18                              | Lead chromate                                                                                                                                                   | 231-846-0              | 7758-97-6                                                            |
| 17                              | Anthracene oil, anthracene paste                                                                                                                                | 292-603-2              | 90640-81-6                                                           |
| 16                              | Pitch, coal tar, high temp.                                                                                                                                     | 266-028-2              | 65996-93-2                                                           |
| 15                              | Anthracene oil, anthracene paste, distn. lights                                                                                                                 | 295-278-5              | 91995-17-4                                                           |
| Date of Inclusion: Oct 28, 2008 |                                                                                                                                                                 | EC Number              | CAS Number                                                           |
| 14                              | Lead hydrogen arsenate                                                                                                                                          | 232-064-2              | 7784-40-9                                                            |
| 13                              | Benzyl butyl phthalate (BBP)                                                                                                                                    | 201-622-7              | 85-68-7                                                              |
| 12                              | Bis (2-ethylhexyl)phthalate (DEHP)                                                                                                                              | 204-211-0              | 117-81-7                                                             |
| 11                              | 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)                                                                                                              | 201-329-4              | 81-15-2                                                              |
| 10                              | Diarsenic trioxide                                                                                                                                              | 215-481-4              | 1327-53-3                                                            |
| 9                               | Bis(tributyltin)oxide (TBTO)                                                                                                                                    | 200-268-0              | 56-35-9                                                              |
| 8                               | Triethyl arsenate                                                                                                                                               | 427-700-2              | 15606-95-8                                                           |
| 7                               | Diarsenic pentaoxide                                                                                                                                            | 215-116-9              | 1303-28-2                                                            |
| 6                               | Sodium dichromate                                                                                                                                               | 234-190-3              | 10588-01-9                                                           |
| 5                               | Dibutyl phthalate (DBP)                                                                                                                                         | 201-557-4              | 84-74-2                                                              |
| 4                               | 4,4'-Diaminodiphenylmethane (MDA)                                                                                                                               | 202-974-4              | 101-77-9                                                             |
| 3                               | Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)                                                                                                     | 287-476-5              | 85535-84-8                                                           |
| 2                               | Anthracene                                                                                                                                                      | 204-371-1              | 120-12-7                                                             |
| 1                               | Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane | 247-148-4<br>221-695-9 | 25637-99-4<br>134237-52-8<br>3194-55-6<br>134237-50-6<br>134237-51-7 |

**Appendix E | REACH Substance intentionally added** (See page 1, Environmental Category & Description, if applicable to this product.)

| Restricted Substance                      | Where used         | CAS Number | Threshold Limit |
|-------------------------------------------|--------------------|------------|-----------------|
| 4,4'-Isopropylidenediphenol (Bisphenol A) | Substrate laminate | 80-05-7    | >0.1% w/w       |

**Appendix F | TSCA**

| Restricted Substance                            | CAS Number | Threshold Limit |
|-------------------------------------------------|------------|-----------------|
| 2,4,6-Tris(tert-butyl)phenol (2,4,6-TTBP)       | 732-26-3   | >0.3% w/w       |
| Hexachlorobutadiene (HCBD)                      | 87-68-3    | >0% w/w         |
| Pentachlorothiophenol (PCTP)                    | 133-49-3   | >1% w/w         |
| Decabromodiphenyl ether (DecaBDE)               | 1163-19-5  | >0% w/w         |
| Phenol, isopropylated phosphate (3:1) (PIP 3:1) | 68937-41-7 | >0% w/w         |