# 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:

<table>
<thead>
<tr>
<th>Environmental Category &amp; Description</th>
<th>Details for: SP813LEN-L/TR</th>
</tr>
</thead>
<tbody>
<tr>
<td>**RoHS</td>
<td>Exempt**</td>
</tr>
<tr>
<td><strong>RoHS</strong></td>
<td>If “Y”, then product is RoHS compliant meeting the requirements of Directive (EU) 2015/863 with no exemptions taken. See Appendix B.</td>
</tr>
<tr>
<td><strong>Halogen Free</strong></td>
<td>If “Y”, then product is halogen and lead (Pb) free. Green products meet RoHS requirements plus additional hazardous material restrictions. See Appendix C.</td>
</tr>
<tr>
<td><strong>REACH</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>TSCA</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

MaxLinear, Inc.  
Quality and Reliability  
Oct 19, 2023
Appendix A | RoHS with Exemption

<table>
<thead>
<tr>
<th>Exemption</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7a</td>
<td>Lead in high melting temperature type solders</td>
</tr>
<tr>
<td>7c</td>
<td>Electrical and electronic components containing lead in a glass or ceramic, e.g. piezoelectric devices, or in a glass or ceramic matrix compound.</td>
</tr>
<tr>
<td>15</td>
<td>Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages</td>
</tr>
</tbody>
</table>

Appendix B | RoHS Directive (EU) 2015/863

<table>
<thead>
<tr>
<th>Restricted Substance</th>
<th>Allowable Limit (at homogenous material level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium (Cd)</td>
<td>100 ppm (0.01 weight %)</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Hexavalent Chromium (Cr+6)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Polybrominated biphenyls (PBB)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Polybrominated diphenyl ethers (PBDE)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Bis(2-Ethylhexyl) phthalate (DEHP)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Benzyl butyl phthalate (BBP)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Dibutyl phthalate (DBP)</td>
<td>1000 ppm (0.10 weight %)</td>
</tr>
<tr>
<td>Diisobutyl phthalate (DIBP)</td>
<td>1000 ppm (0.10 weight %)</td>
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</tbody>
</table>

Appendix C | Halogen Free

<table>
<thead>
<tr>
<th>Restricted Substance</th>
<th>Allowable Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bromine (Br)</td>
<td>900 ppm</td>
</tr>
<tr>
<td>Chlorine (Cl)</td>
<td>900 ppm</td>
</tr>
<tr>
<td>Antimony (Sb)</td>
<td>900 ppm</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Date of Inclusion</th>
<th>EC Number</th>
<th>CAS Number</th>
</tr>
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<tbody>
<tr>
<td>June 14, 2023</td>
<td></td>
<td></td>
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<tr>
<td>235</td>
<td>278-355-8</td>
<td>75980-60-8</td>
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<tr>
<td>244</td>
<td>101-247-9</td>
<td>80-07-9</td>
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<tr>
<td>January 17, 2023</td>
<td></td>
<td></td>
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<tr>
<td>233</td>
<td>228-098-2</td>
<td>6130-43-4</td>
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<tr>
<td>232</td>
<td>206-798-9</td>
<td>21049-36-5</td>
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<td>231</td>
<td>243-518-4</td>
<td>20109-59-5</td>
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<td>230</td>
<td>201-615-4</td>
<td>108-78-1</td>
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<td>229</td>
<td>224-208-8</td>
<td>4247-02-3</td>
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<td>228</td>
<td>247-426-5</td>
<td>26040-51-7</td>
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<td>227</td>
<td>121-350-5</td>
<td>80-09-1</td>
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<td>226</td>
<td>201-236-9</td>
<td>79-94-7</td>
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<td>225</td>
<td>253-692-3</td>
<td>37853-59-1</td>
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<tr>
<td>June 10, 2022</td>
<td></td>
<td></td>
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<tr>
<td>244</td>
<td>213-103-2</td>
<td>512-42-5</td>
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<tr>
<td>January 17, 2023</td>
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<tr>
<td>223</td>
<td>401-850-9</td>
<td>25588-91-4</td>
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<td>222</td>
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<td>221</td>
<td>213-914-0</td>
<td>1067-53-4</td>
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<tr>
<td>220</td>
<td>204-337-1</td>
<td>119-47-1</td>
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<tr>
<td>July 08, 2021</td>
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<tr>
<td>219</td>
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<td>218</td>
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<td>217</td>
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<td>216</td>
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<td>-</td>
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<tr>
<td>215</td>
<td>-</td>
<td>-</td>
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<tr>
<td>214</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Our products are sold in accordance with the current version of MaxLinear's standard Terms and Conditions of Sale. This statement is exclusively for our customers and respective competent authorities. It is not intended for use by the general public or for any other purpose.

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Date of Inclusion: January 16, 2020

EC Number | CAS Number
---|---
205 | 143-24-8

Date of Inclusion: January 19, 2021

EC Number | CAS Number
---|---
206 | 1073-63-5

Date of Inclusion: July 16, 2019

EC Number | CAS Number
---|---
201 | 119313-12-1

Date of Inclusion: June 25, 2020

EC Number | CAS Number
---|---
209 | 22673-19-4

Date of Inclusion: June 27, 2018

EC Number | CAS Number
---|---
200 | 98-64-4

Date of Inclusion: January 26, 2021

EC Number | CAS Number
---|---
204 | 71860-09-4

Date of Inclusion: June 27, 2017

EC Number | CAS Number
---|---
203 | 84-41-7

Date of Inclusion: Jan 15, 2018

EC Number | CAS Number
---|---
201 | 556-55-3

Date of Inclusion: July 07, 2017

EC Number | CAS Number
---|---
200 | 56-55-3

Date of Inclusion: Dec 19, 2016

EC Number | CAS Number
---|---
204 | 191-24-2

Date of Inclusion: Jul 07, 2017

EC Number | CAS Number
---|---
203 | 21049-39-8

Date of Inclusion: Jun 20, 2016

EC Number | CAS Number
---|---
204 | 3864-99-1

Date of Inclusion: Dec 17, 2015

EC Number | CAS Number
---|---
205 | 3830-45-3

Date of Inclusion: Jun 15, 2015

EC Number | CAS Number
---|---
206 | 3108-42-7

Date of Inclusion: Dec 17, 2014

EC Number | CAS Number
---|---
207 | 191-24-2

Date of Inclusion: Jun 27, 2018

EC Number | CAS Number
---|---
200 | 110-49-6

Date of Inclusion: Jan 15, 2018

EC Number | CAS Number
---|---
201 | 1718-53-2

Date of Inclusion: Jun 20, 2016

EC Number | CAS Number
---|---
200 | 68-64-4

Date of Inclusion: Dec 27, 2015

EC Number | CAS Number
---|---
206 | 191-24-2

Date of Inclusion: June 27, 2017

EC Number | CAS Number
---|---
203 | 84-41-7

Date of Inclusion: Jan 15, 2018

EC Number | CAS Number
---|---
201 | 556-55-3

Date of Inclusion: Jun 20, 2016

EC Number | CAS Number
---|---
204 | 3864-99-1

Date of Inclusion: Dec 17, 2015

EC Number | CAS Number
---|---
206 | 3108-42-7

Date of Inclusion: Jun 27, 2018

EC Number | CAS Number
---|---
200 | 110-49-6

Date of Inclusion: Jan 15, 2018

EC Number | CAS Number
---|---
201 | 556-55-3

Date of Inclusion: Jun 20, 2016

EC Number | CAS Number
---|---
204 | 3864-99-1
161 2-GH benzoisato-2-yli, 4,6-diterpentaenylphenol (UV-328) 247-384-8 25973-55-1
160 2-benzoisato-2-yli, 4,6-diterpentaenylphenol (UV-320) 223-346-6 3846-71-7
159 2-ethylhexyl 10-ethyl-4,4-dicloetyl-7-oxo-8-oxa-5,5-dithia-4-stannatetradecanoate (DOT) 239-622-4 15571-58-1
158 Cadmium Fluoride 232-221-0 7790-73-6
157 reaction mass of 2-ethylhexyl 10-ethyl-4,4-dicloetyl-7-oxo-8-oxa-5,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-(2-(2-ethylhexyl)oxy)-2-oxothiolio)-4-oxocyclo-8-oxa-8-oxa-5,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and DOTE) - -
156 Cadmium sulphate 233-331-6 10124-36-6
31119-53-6
155 1,2-Benzenedicarbolic acid, diheyl ester, branched and linear 271-093-5 6831-50-4
154 Sodium perborate, perboric acid, sodium salt 234-390-0 11318-47-9
153 Sodium peroxyometaborate 239-172-9 15120-21-5
152 Cadmium chloride 231-356-4 7632-04-4
Date of Inclusion: Jun 16, 2014
EC Number | CAS Number
-----------|------------
151 Cadmium sulphide 215-147-8 1306-2-6
150 Disodium 4-amino-3-[(4,4-diaminopyrazo)]ole[1,1-bisphenyl-4-yizaro]-5-hydroxy 6-(phenylazo)naphta[2,7-disulphoacetone (C.1. Direct Black 38) 217-710-3 1937-37-7
149 Dihexyl phthalate 201-559-5 84-75-3
148 Imidazolinone-2-thione; (2-imidazoline-2-thiol) 202-506-9 96-45-7
147 Hexyl phthalate 246-677-8 15155-23-1
146 Disodium 3,3'[(1,1'-bisphenyl)-4,4'-diylbis(azo)]bis(4-amino naphta[2,1-disulphoacetone (C.1. Direct Red 28) 209-355-8 573-56-0
145 Lead (diacetate) 206-104-4 301-04-2
Date of Inclusion: Jun 20, 2013
EC Number | CAS Number
-----------|------------
144 Cadmium 231-152-8 7440-43-9
143 Ammonium pentadecafluorooctanoate (APFO) 223-320-4 3825-26-1
142 Pentadecafluorooctanoic acid (PFO) 206-397-9 335-67-1
141 Dipentyl phthalate (DPP) 205-017-9 11318-8
140 4-Nonylphenol, branched and linear, ethoxylated 215-146-2 1306-19-0
Date of Inclusion: Dec 19, 2012
EC Number | CAS Number
-----------|------------
139 Cadmium oxide 215-146-2 1306-19-0
138 Trilead dioxide phosphate 235-252-7 12141-20-7
137 Trilead bis(carbonate)dihydroxide 215-290-6 1319-46-6
136 Tricosafluorododecanoic acid 206-203-3 307-55-1
135 Tetralead trioxide sulphate 235-380-9 12202-17-4
134 Tetraethyllead 201-075-4 78-00-2
133 Sulfurous acid, lead salt, dibasic 263-467-1 62228-08-7
132 Silicic acid, lead salt 234-363-6 11120-22-2
131 Silicic acid (H26205), barium salt (TL1), lead-doped 272-271-5 68784-55-8
130 Pyrochlore, antimony lead yellow 232-382-1 8012-00-8
129 Pentalead tetraoxide sulphate 235-067-8 12060-90-6
128 Pentacoctefulurodecanoic acid 276-745-2 72629-98-8
127 Orange lead (lead tetraoxide) 215-235-6 1314-41-6
126 o-Tolidine 202-429-0 95-53-4
125 o-aminoazotoluene 202-591-2 97-56-3
124 N-pentylisopentylphthalate 77627-69-9
123 N-methylcitramellate 201-183-6 79-16-3
122 N,N-dimethylformamide 200-679-5 68-12-2
121 Methyloxirane (Propylene oxide) 200-879-2 73-56-9
120 Methyloctylcarboxylate 210-894-6 623-45-9
119 Lead titanium oxalate 235-727-4 12268-81-1
118 Lead titanium oxide 235-038-9 12060-00-3
117 Lead oxide sulphate 234-853-7 12305-76-9
116 Lead monoxide (lead oxide) 215-267-0 1131-78-8
115 Lead ditinatate 231-245-9 10039-74-8
114 Lead cyanide 244-073-9 20817-86-8
113 Lead (bis(tetrafluoroborate) 237-486-0 13814-96-5
112 Hexahydromethylphthlic anhydride 247-012-0 19438-60-9
111 Heptacosafluorotrdacanoic acid 260-566-1 57110-29-9
110 Henicosafouroundecanoic acid 256-356-4 48122-14-1
109 Furan 230-727-3 110-00-9
108 Acetic acid, cis-18, lead salts 193-966-7 91631-42-8
107 Dioxbis(stearo)trilead 235-702-8 12578-12-0
106 Dinosob (2-sec-butyl)-2-diniterphenol) 201-861-7 88-45-7
105 Dimethyl sulphate 201-058-1 7778-1
104 Disopropylphthalate 210-084-4 605-50-5
103 Diethyl sulphate 200-589-6 64-67-5
102 Dibutynil dichloride (DBTC) 211-670-0 683-16-1
101 Dioane-1,2-dicarboximide (C.1. aoformamide)) 204-650-8 123-77-3
100 Cyclohexane-1,2-dicarboxylic anhydride (Cis-cyclohexane-1,2-dicarboxylic anhydride) 201-604-9 13149-00-3
100 trans-cyclohexane-1,2-dicarboxylic anhydride (Cis and trans-3) isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry 1236-085-3 45-54-7 14166-21-3
99 Bis(pentamethylenemethyl) ether (decabromodiphenyl ether; DecaBDE) 214-604-9 1163-19-5
98 Biphene-4-yiamine 202-177-1 92-67-1
97 Acetic acid, lead salt, basic 257-175-3 51404-69-4
96 Phthalate(2,lldihydroxide 273-688-5 69101-86-8
95 6-methoxy-m-tolidine (p-cresidine) 204-419-1 120-71-8
94 4-Nonylphenol, branched and linear - -

This information is given in good faith but without warranty expressed or implied. The information is provided by MaxLinear without assumption of any liability if any of the above mentioned regulations change after the date of declaration. This declaration extends the validity MaxiMax, reserves the right to withdraw or modify the statement at any time without notice. Our products are sold in accordance with the current version of MaxLinear's standard Terms and Conditions of Sale. This statement is exclusively for our customers and respective competent authorities. It is not intended for reproduction or further printed or electronic form (e.g. via internet) by others. Thus, neither partial nor full reproduction is allowed without written permission from MaxLinear.

Maxlinear, Inc.
5966 La Place Court, Suite 100
Carlsbad, CA 92008
www.maxlinear.com

Page 4 of 6
Disodium tetraborate, anhydrous
Boric acid
Ammonium dichromate
Trichloroethylene
Cobalt(II) carbonate
Chromium trioxide
2-Methoxyethanol
oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid.
Cobalt(II) sulphate
Cobalt(II) diacetate
Hydrazine
2-Ethoxyethyl acetate
1,2,3-Trichloropropane
1-Methyl-2-pyrrolidone
Strontium chromate
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters
Cobalt dichloride
2,2'-dichloro-4,4'-methylenedianiline
Aluminosilicate Refractory Ceramic Fibres
Bis(2-methoxyethyl) phthalate
Zirconia Aluminosilicate Refractory Ceramic Fibres
Lead styphnate
Formaldehyde, oligomeric reaction products with aniline
Potassium hydroxyoctaoxodizincatedichromate
Arsenic acid
Pentazinc chromate octahydroxide
Dichromium tris(chromate)
Calcium arsenate
Lead(II) bis(methanesulfonate)
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)
Diboron trioxide
N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)
4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated
4,4'-methylenedi-o-toluidine
4,4'-oxydianiline and its salts
4-(1,1,3,3-tetramethylbutyl)phenol
4,4'-bis(dimethylamino)benzophenone (Michler's ketone)
1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)
dimethylammonium chloride (C.I. Basic Blue 26)
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)
(EGDME)
chloride (C.I. Basic Violet 3)
[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)]
[with ≥ 0.1% of Michler's ketone (EC No. 202-959-2)]
[with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]
[4-[4-1-naphthyl(4-di(methylamino)phenyl)methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 25)
[with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]
[with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]
[with ≥ 0.1% of Michler's ketone (EC No. 202-959-2)]
[with ≥ 0.1% of Michler's ketone (EC No. 202-959-2)]
[with ≥ 0.1% of Michler's ketone (EC No. 202-959-2)]
| 1  | Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane | 247,148-4 | 221,695-9 |
| 2  | Anthracene | 204,371-1 | 120,127 |
| 3  | Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) | 287,476-5 | 855,35-84-8 |
| 4  | 4,4'-Diaminodiphenylmethane (MDA) | 200,070-4 | 130,3-28-2 |
| 5  | Diarsenic pentaoxide | 234,190-3 | 1058,01-9 |
| 6  | Sodium dichromate | 201,557-4 | 103,7-33-3 |
| 7  | Dibutyl phthalate (DBP) | 215,481-4 | 101,7-77-9 |
| 8  | Triethyl arsenate | 215,116-9 | 15606,95-8 |
| 9  | Bis(butyl)phthalate (BBP) | 201,622-7 | 85,68-7 |
| 10 | Diarsenic trioxide | 201,329-4 | 81,15-2 |
| 11 | 5-tert-Butyl-2,4,6-trinitro-m-xylene (musk xylene) | 204,211-0 | 117,81-7 |
| 12 | Bis (2-ethylhexyl)phthalate (DEHP) | 292,602-7 | 775,8-7-6 |
| 13 | Lead hydrogen arsenate | 295,275-9 | 919,99-9-2 |
| 14 | Lead chromate | 292,604-8 | 906,40-8 |
| 15 | Anthracene oil, anthracene paste, distn. lights | 295,278-5 | 91995,17-4 |
| 16 | Pitch, coal tar, high temp. | 292,603-2 | 90640-81-6 |
| 17 | Anthracene oil, anthracene paste | 295,278-5 | 91995,17-4 |
| 18 | Lead chromate | 292,604-8 | 906,40-8 |
| 19 | Anthracene oil, anthracene paste | 295,275-9 | 919,99-9-2 |
| 20 | Tris(2-chloroethyl)phosphate | 204,118-5 | 115,96-8 |
| 21 | Anthracene oil, anthracene paste, anthracene low | 204,118-5 | 115,96-8 |
| 22 | Anthracene oil, anthracene paste, anthracene fraction | 204,118-5 | 115,96-8 |
| 23 | Anthracene oil, anthracene paste | 204,118-5 | 115,96-8 |
| 25 | Lead chromate molibdate sulphate red (C.I. Pigment Red 104) | 204,118-5 | 115,96-8 |
| 26 | Lead sulfochromate yellow (C.I. Pigment Yellow 34) | 204,118-5 | 115,96-8 |

### Appendix E | REACH Substance intentionally added

(See page 1, Environmental Category & Description, if applicable to this product.)

<table>
<thead>
<tr>
<th>Restricted Substance</th>
<th>Where used</th>
<th>CAS Number</th>
<th>Threshold Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-isopropylidenediphenol (Bisphenol A)</td>
<td>Substrate laminate</td>
<td>80-05-7</td>
<td>&gt;0.1% w/w</td>
</tr>
</tbody>
</table>

### Appendix F | TSCA

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