

# **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:

Environment	Details for: SPX3819M5-L-3-3/TR	
RoHS   Exempt	If "7a", "7(c)I", or "15a", then product contains lead but is compliant meeting the requirements of Directive (EU) 2011/65 pursuant to either exemption 7a, 7(c)I, or 15a. 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.  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.	Υ

MaxLinear, Inc. Quality and Reliability May 21, 2025



# Appendix A | RoHS with Exemption

Exemption	Description
7a	Lead in high melting temperature type solders
7(c)I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.
15a	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies:
	a semiconductor technology node of 90 nm or larger
	<ul> <li>a single die of 300 mm2 or larger in any semiconductor technology node;</li> </ul>
	<ul> <li>stacked die packages with die of 300 mm2 or larger, or silicon interposers of 300 mm2 or larger</li> </ul>

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

Restricted Substance	Allowable Limit (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	1500 T-+-!
Chlorine (CI)	900 ppm	1500 ppm Total
Antimony (Sb (Sb <sub>2</sub> O <sub>3</sub> )	900 ppm	

### Appendix D | REACH 247 - Regulation (EC) No 1907/2006 (Threshold Limit 1000ppm (0.1% w/w))

	Date of Inclusion: January 21, 2025	EC Number	CAS Number
247	reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	421-820-9	192268-65-8
246	Perfluamine	206-420-2	338-83-0
245	Octamethyltrisiloxane	203-497-4	107-51-7
244	O,O,O-triphenyl phosphorothioate	209-909-9	597-82-0
243	6-[(C10-C13)-alkyl-(branched, unsaturated)-2,5-dioxopyrrolidin-1-yl]hexanoic acid	701-118-1	2156592-54- 8
	Date of Inclusion: November 7, 2024	EC Number	CAS Number
242	Triphenyl phosphate	204-112-2	115-86-6
	Date of Inclusion: June 27, 2024	EC Number	CAS Number
241	Bis (a, a-dimethylbenzyl) peroxide	201-279-3	80-43-3
	Date of Inclusion: January 23, 2024	EC Number	CAS Number
240	Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol	700-960-7	-
239	Bumetrizole (UV-326)	223-445-4	3896-11-5
238	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	438-340-0	119344-86-4
237	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol	221-573-5	3147-75-9
236	2,4,6-tri-tert-butylphenol	211-989-5	732-26-3
	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	-



	Perfluoroheptanoic acid and its salts		
	Ammonium perfluoroheptanoate	228-098-2	6130-43-
232	potassium perfluoroheptanoate		21049-36
	Perfluoroheptanoic acid	206-798-9	375-85-9
	Sodium perfluoroheptanoate	243-518-4	20109-59
231	Melamine	203-615-4	108-78-
230	Isobutyl 4-hydroxybenzoate	224-208-8	4247-02
229	bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or	247-426-5	26040-51
229	combinations thereof	247-420-3	26040-31
228	Barium diboron tetraoxide	237-222-4	13701-59
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-diylbisoxy]bis[2,4,6-tribromobenzene]	253-692-3	37853-59
	Date of Inclusion: June 10, 2022	EC Number	CAS Numb
224	N-(hydroxymethyl)acrylamide	213-103-2	924-42-
	Date of Inclusion: January 17, 2022	EC Number	CAS Numb
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	255881-9
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
220	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	204-327-1	119-47-
	Date of Inclusion: July 08, 2021	EC Number	CAS Numb
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
24-	Medium-chain chlorinated paraffins (MCCP) Medium-chain chlorinated paraffins (MCCP) (UVCB		
217	substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain	-	-
216	lengths within the range from C14 to C17)	202 057 5	111 20
216	Glutaral 4.4' (1 mathylarapylidana) hisphanal	203-856-5 201-025-1	111-30-
215 214	4,4'-(1-methylpropylidene)bisphenol	201-025-1	77-40-7
214	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers 2,2-bis(bromomethyl)propane1,3-diol (BMP);		3296-90-
	2,2-bis(bromomethyl)propane1,3-diol (BMP); 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol	221-967-7,	36483-57
213	(TBNPA);	253-057-0,	1522-92-
	2,3-dibromo-1-propanol (2,3-DBPA)	202-480-9	96-13-9
212	1,4-dioxane	204-661-8	123-91-
	Date of Inclusion: January 19, 2021	EC Number	CAS Numb
	Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane,		
211	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-
	Date of Inclusion: June 25, 2020	EC Number	CAS Numb
209	Dibutylbis(pentane-2,4-dionato-0,0')tin	245-152-0	22673-19
208	Butyl 4-hydroxybenzoate	202-318-7	94-26-8
207	2-methylimidazole	211-765-7	693-98-
206	1-vinylimidazole	214-012-0	1072-63
	Date of Inclusion: January 16, 2020	EC Number	CAS Numb
205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	-
204	Diisohexyl phthalate	276-090-2	71850-09
203	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	400-600-6	71868-10
202	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	404-360-3	119313-1
	Date of Inclusion: July 16, 2019	EC Number	CAS Numb
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-
199	4-tert-butylphenol	202-679-0	98-54-4
198	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP)		-
10=	Date of Inclusion: January 15, 2019	EC Number	CAS Numb
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	239-139-9	15087-24
196	Pyrene	204-927-3	129-00-
195	Phenanthrene	201-581-5	85-01-8
194	Fluoranthene Benzo(kifiuoranthene	205-912-4	206-44-
193 192	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	205-916-6 401-720-1	207-08- 6807-17
132			
	Date of Inclusion: Jun 27, 2018	EC Number	CAS Numb
191	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride	209-008-0	552-30-
190	Benzo[ghi]perylene	205-883-8	191-24-
189	Decamethylcyclopentasiloxane	208-764-9	541-02-
188	Dicyclohexyl phthalate	201-545-9	84-61-7
187	Disodium octaborate	234-541-0	12008-41
186	Dodecamethylcyclohexasiloxane	234-541-0	540-97-
185	Ethylenediamine	208-762-8	107-15-
184	Lead NOTE: Does not exceed threshold levels specified in RoHS Directive (EU) 2015/863	203-468-6	7439-92
183	Octamethylcyclotetrasiloxane Tamba and budanasa dad	231-100-4	556-67-
182	Terphenyl, hydrogenated	209-136-7	61788-32
	Date of Inclusion: Jan 15, 2018	EC Number	CAS Numb
181	Benz[a]anthracene	200-280-6	56-55-3
			1718-53
100	Cadmium carbonate	208-168-9	513-78-
180	Cadmium hydroxide	244-168-5	21041-95
180 179	addinantifyat onide		
	Cadmium nitrate	233-710-6	
179 178	Cadmium nitrate Cadmium nitrate		10022-68 10325-94
179		233-710-6	



174 173 172 171 170	Date of Inclusion: Jul 07, 2017		-
173 172 171 170	'	EC Number	CAS Numb
172 171 170	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	206-587-1	355-46-4
172 171 170	Date of Inclusion: Dec 19, 2016	EC Number	CAS Numb
171 170	p-(1,1-dimethylpropyl)phenol	201-280-9	80-46-6
170	4-heptylphenol, branched and linear	-	-
170		206-400-3	335-76-2
	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	221-470-5	3830-45-
			3108-42-
169	4,4'-isopropylidenediphenol (bisphenol A)	201-245-8	80-5-7
169	Date of Inclusion: Jun 20, 2016	EC Number	CAS Numb
	Benzo[def]chrysene(Benzo[a]pyrene)	200-028-5	50-32-8
	Date of Inclusion: Dec 17, 2015	EC Number	CAS Numb
168	1,3-propanesultone	214-317-9	1120-71-
167	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37
165	Nitrobenzene	202-716-0	98-95-3
			4149-60
164	Perfluorononan-1-oic-acid and its sodium and ammonium salts	206-801-3	375-95-
			21049-39
	Date of Inclusion: Jun 15, 2015	EC Number	CAS Numb
4.60	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl	272-013-1	68648-93
163	and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	271-094-0	68515-51
	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-	. =	1111001
162	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]		
	Date of Inclusion: Dec 17, 2014	EC Number	CAS Numb
161	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55
160	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71
159	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58
			_
158	Cadmium fluoride	232-222-0	7790-79
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-		
157		-	-
	octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)		
156	Cadmium sulphate	233-331-6	10124-36
			31119-53
	Date of Inclusion: Jun 16, 2014	EC Number	CAS Numb
155	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50
154	Sodium perborate, perboric acid, sodium salt	234-390-0	11138-47
10.	Source personale, personale and, source source	239-172-9	15120-21
153	Sodium peroxometaborate	231-556-4	7632-04
152	Cadmium chloride	233-296-7	10108-64
	Date of Inclusion: Dec 16, 2013	EC Number	CAS Numb
151	Cadmium sulphide	215-147-8	1306-23
150	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-	217-710-3	1937-37-
130	(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	217-710-5	1337-37
149	Dihexyl phthalate	201-559-5	84-75-3
148	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	202-506-9	96-45-7
147	Trixylyl phosphate	246-677-8	25155-23
116	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I.	200 250 4	572.50
146	Direct Red 28)	209-358-4	573-58-
145	Lead di(acetate)	206-104-4	301-04-
	Date of Inclusion: Jun 20, 2013	EC Number	CAS Numb
144	Cadmium	231-152-8	7440-43
	Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-
143	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-
143	Dipentyl phthalate (DPP)	205-017-9	131-18-
142	4-Nonylphenol, branched and linear, ethoxylated	-	131-10-
142 141	Cadmium oxide	215-146-2	1306-19
142 141 140			
142 141	Date of Inclusion: Dec 19, 2012	FC Number	_
142 141 140 139	Date of Inclusion: Dec 19, 2012	EC Number	CAS Numb
142 141 140 139	Trilead dioxide phosphonate	235-252-2	CAS Numb 12141-20
142 141 140 139 138 137	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide	235-252-2 215-290-6	12141-20 1319-46
142 141 140 139 138 137 136	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid	235-252-2 215-290-6 206-203-2	CAS Numb 12141-20 1319-46- 307-55-
142 141 140 139 138 137 136 135	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate	235-252-2 215-290-6 206-203-2 235-380-9	CAS Numb 12141-20 1319-46- 307-55- 12202-17
142 141 140 139 138 137 136 135 134	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4	CAS Numb 12141-20 1319-46- 307-55- 12202-17 78-00-2
142 141 140 139 138 137 136 135 134	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1	CAS Numb 12141-20 1319-46- 307-55- 12202-17 78-00-2 62229-08
142 141 140 139 138 137 136 135 134 133	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3	CAS Numb 12141-20 1319-46- 307-55- 12202-17 78-00-2 62229-08 11120-22
142 141 140 139 138 137 136 135 134	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1	CAS Numb 12141-20 1319-46- 307-55- 12202-17 78-00-2 62229-08 11120-22
142 141 140 139 138 137 136 135 134 133	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75
142 141 140 139 138 137 136 135 134 133 132	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00-
142 141 140 139 138 137 136 135 134 133 132 131	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90
142 141 140 139 138 137 136 135 134 133 132 131 130 129	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-99
142 141 140 139 138 137 136 135 134 133 132 131 130 129 128	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-91 1314-41
142 141 140 139 138 137 136 135 135 134 133 132 131 130 129 128	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide)	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6	CAS Numb 12141-20 1319-46 307-55- 78-00-2 6229-08 11120-22 68784-75 8012-00 12065-90 1314-41
142 141 140 139 138 137 136 135 134 133 132 131 130 129 129 128 127	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) o-Toluidine	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90 72629-94 1314-41 95-53-4 97-56-3
142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid, lead salt Orange lead (le2si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) O-Toluidine O-aminoazotoluene N-pentyl-isopentylphthalate	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2	CAS Numb 12141-2C 1319-46- 307-55- 12202-17 78-00-2 62229-08 11120-22 8012-00 12065-9C 72629-94 1314-41- 95-53-4 97-56-3 776297-6
142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid (H2Si2OS), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) o-Toluidine o-aminoazotoluene N-pentyl-isopentylphthalate N-methylacetamide	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90 72629-94 1314-41 95-53-4 97-56-3 776297-6
142 141 140 139 138 137 136 135 135 131 130 122 128 127 126 125 124 123 122	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) O-Toluidine O-aminoazotoluene N-pentyl-isopentylphthalate N-methylacetamide N,N-dimethylformamide	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2 201-182-6 200-679-5	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90 72629-94 1314-41 95-53-4 97-56-3 776297-6 79-16-3 68-12-2
142 141 140 139 138 137 136 135 135 134 132 131 130 129 128 127 126 125 124 124 123 122 121	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) o-Toluidine o-aminoazotoluene N-pentyl-isopentylphthalate N-methylacetamide N,N-dimethylformamide Methyloxirane (Propylene oxide)	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2 	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90 72629-94 1314-41 95-53-4 97-56-3 776297-66 79-16-3 68-12-2 75-56-9
142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) o-Toluidine o-aminoazotoluene N-pentyl-isopentylphthalate N-methylacetamide N,N-dimethylformamide Methyloxirane (Propylene oxide) Methoxyacetic acid	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2 	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90 72629-94 1314-41 95-53-4 97-56-3 776297-6 79-16-3 68-12-2 75-56-9 625-45-
142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 127 126 127 127 129 129 129 129 120 121 121 120 119	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid, lead salt Orange lead (leasizoos), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) O-Toluidine O-aminoazotoluene N-pentyl-isopentylphthalate N-methylacetamide N,N-dimethylformamide Methyloxirane (Propylene oxide) Methoxyacetic acid Lead titanium zirconium oxide	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2 	CAS Numb 12141-2C 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8812-00 12065-9C 72629-94 1314-41 95-53-4 97-56-3 776297-6 79-16-3 68-12-2 75-56-9 625-45-
142 141 140 139 138 137 136 135 134 133 132 131 130 129 128 127 126 125 124 123 122 121 120	Trilead dioxide phosphonate Trilead bis(carbonate)dihydroxide Tricosafluorododecanoic acid Tetralead trioxide sulphate Tetraethyllead Sulfurous acid, lead salt, dibasic Silicic acid, lead salt Silicic acid, lead salt Silicic acid (H2Si2O5), barium salt (1:1), lead-doped Pyrochlore, antimony lead yellow Pentalead tetraoxide sulphate Pentacosafluorotridecanoic acid Orange lead (lead tetroxide) o-Toluidine o-aminoazotoluene N-pentyl-isopentylphthalate N-methylacetamide N,N-dimethylformamide Methyloxirane (Propylene oxide) Methoxyacetic acid	235-252-2 215-290-6 206-203-2 235-380-9 201-075-4 263-467-1 234-363-3 272-271-5 232-382-1 235-067-7 276-745-2 215-235-6 202-429-0 202-591-2 	CAS Numb 12141-20 1319-46 307-55- 12202-17 78-00-2 62229-08 11120-22 68784-75 8012-00 12065-90 72629-94 1314-41 95-53-4 97-56-3 776297-6 79-16-3 68-12-2 75-56-9 625-45-



115	Lead dinitrate	233-245-9	10099-74-8
114	Lead cyanamidate	244-073-9	20837-86-9
113	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5
		243-072-0	19438-60-9
112	Hexahydromethylphthalic anhydride	260-566-1	57110-29-9
112	nexanyurometnyipittiant annyuride	256-356-4	48122-14-1
		247-094-1	25550-51-0
111	Heptacosafluorotetradecanoicacid	206-803-4	376-06-7
110	Henicosafluoroundecanoic acid	218-165-4	2058-94-8
109	Furan	203-727-3	110-00-9
108	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
107	Dioxobis(stearato)trilead	235-702-8	12578-12-0
106	Dinoseb (6-sec-butyl-2,4-dinitrophenol)		
		201-861-7	88-85-7
105	Dimethyl sulphate	201-058-1	77-78-1
104	Diisopentylphthalate	210-088-4	605-50-5
103	Diethyl sulphate	200-589-6	64-67-5
102	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1
101	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3
	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2],	201-604-9	13149-00-3
100	trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer	236-086-3	85-42-7
100	substances and all possible combinations of the cis- and trans-isomers [1] are covered by this		
	entry]	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
	, ,		69011-06-9
96	[Phthalato(2-)]dioxotrilead	273-688-5	_
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-Aminoa zobenzene	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
	Date of Inclusion: Jun 18, 2012	EC Number	CAS Number
84	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue	229-851-8	6786-83-0
04	4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	225-031-0	0780-83-0
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
	4,4'-bis(dimethylamino)-4"-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No.	203 377 3	112 43 2
79	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 3
			17570-76-2
77	Formamide	200-842-0	75-12-7
	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-		
76	ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No.	208-953-6	548-62-9
	202-027-5) or Michler's base (EC No. 202-959-2)]		
75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]		
74	dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-	219-943-6	2580-56-5
	027-5) or Michler's base (EC No. 202-959-2)]		
73	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-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
	Date of Inclusion: Dec 19, 2011	EC Number	CAS Number
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
			6477-64-1
67	Lead dipicrate	229-335-2	
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
	2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4
57	Cobalt dichloride	231-589-4	7646-79-9
52 51			
52 51	Data of Inclusion, Iva 20, 2011		
51	Date of Inclusion: Jun 20, 2011	EC Number	CAS Number
51 50	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6
51	· ·		
51 50 49 48	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6
51 50 49	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	276-158-1 271-084-6	71888-89-6 68515-42-4



45	2-Ethoxyethyl acetate	203-839-2	111-15-9
44	Hydrazine	206-114-9	302-01-2
• •			7803-57-8
42	Date of Inclusion: Dec 15, 2010	EC Number	CAS Number
43	Cobalt(II) diacetate	200-755-8	71-48-7
42	Cobalt(II) sulphate  2-Ethoxyethanol	233-334-2 203-804-1	10124-43-3 110-80-5
41	Acids generated from chromium trioxide and their oligomers. Names of the acids and their	231-801-5	13530-68-2
40	oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid.	236-881-5	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
	Date of Inclusion: Jun 18, 2010	EC Number	CAS Number
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	11113-50-1
31	DOTIC &CIU	234-343-4	10043-35-3
30	Sodium chromate	231-889-5	7775-11-3
			12179-04-3
29	Disodium tetraborate, anhydrous	215-540-4	1303-96-4
			1330-43-4
28	Potassium chromate	232-140-5	7789-00-6
27	Date of Inclusion: Mar 30, 2010	EC Number	CAS Number
27	Acrylamide	201-173-7	79-06-1
26	Date of Inclusion: Jan 13, 2010  Lead sulfochromate yellow (C.I. Pigment Yellow 34)	EC Number 215-693-7	CAS Number 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 7789-12-0
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
			25637-99-4
1	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-	247-148-4	134237-52-8
1	hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	221-695-9	3194-55-6
_	nexabiomocyclododecane Beta-nexabiomocyclododecane Gamma-nexabiomocyclododecane	221-033-3	134237-50-6

# 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

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