



Chiplus Semiconductor Corp.

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Jul.10th, 2017

Declaration of RoHS (including PFOS & REACH) Compliance

Chiplus hereby declares that all our lead free products satisfy the following requirements/conditions:

- 1) Complying with the RoHS (RoHS is EU Directive entitled “Restriction on the use of certain Hazardous Substances 2011/65/EU, and 2006/122/EC”) for following 7 substances.

	<u>Concentration Values</u>
Pb, Hg, Cr (VI), PBB, PBDE and PFOS	$< 0.1\%$ by weight per homogeneous material
Cd	$< 0.01\%$ by weight per homogeneous material

- 2) Complying with the IPC/JEDEC J-STD-020C with regard to the solder profile requirement (Max. reflow temperature 260°C)
- 3) Complying with the 174 SVHC (Substance of Very High concern) of EU directive of the Regulation (EC) No 1907/2006 (REACH): the part shall not contain more than the 0.1% of the following SVHC by weight of part as defined in appendix also including annex XVII.
ECHA Candidate list table : <http://echa.europa.eu/web/guest/candidate-list-table>
- 4) Complying with IEC 61249-2-21, JPCA-ES01 2003 & IPC4101, the Br, Cl must be lower than 900 ppm, respectively, and total amount of PPM must be lower than 1500 ppm (Br + Cl < 1500 ppm).
- 5) Not use the materials from mines with inferior working conditions, such as DRC (Democratic Republic of the Congo). The suppliers or subcontractors will be traced the supply chain for gold (Au), tantalum (Ta), tungsten (W), tin (Sn) and cobalt (Co).

This Declaration contains the entire understanding between you and Chiplus with respect to this subject matter and supersedes all prior agreements, understandings or representations.

Please let us know if there is any further concern.

Sincerely Yours,

Stanley Fan
QRA Manager
Chiplus Semiconductor Corp.

Appendix: Complying with the 174 SVHC (substance of very high concern) of the Regulation (EC) No 1907/2006 (REACH)

Revision: Jul.10th, 2017

No.	SVHC (Substances of Very High Concern)	EC No.	CAS No.
1	Lead hydrogen arsenate	232-064-2	7784-40-9
2	Benzyl butyl phthalate (BBP)	201-622-7	85-68-7
3	Bis (2-ethylhexyl)phthalate (DEHP)	204-211-0	117-81-7
4	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2
5	Diarsenic trioxide	215-481-4	1327-53-3
6	Bis(tributyltin)oxide (TBTO)	200-268-0	56-35-9
7	Triethyl arsenate	427-700-2	15606-95-8
8	Diarsenic pentaoxide	215-116-9	1303-28-2
9	Sodium dichromate	234-190-3	7789-12-0 10588-01-9
10	Dibutyl phthalate (DBP)	201-557-4	84-74-2
11	4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9
12	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8
13	Anthracene	204-371-1	120-12-7
14	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	247-148-4 221-695-9	25637-99-4 3194-55-6 (134237-50-6) (134237-51-7) (134237-52-8)
15	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2
16	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	235-759-9	12656-85-8
17	Anthracene oil	292-602-7	90640-80-5
18	2,4-Dinitrotoluene	204-450-0	121-14-2
19	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2
20	Anthracene oil, anthracene-low	292-604-8	90640-82-7
21	Tris(2-chloroethyl)phosphate	204-118-5	115-96-8
22	Diisobutyl phthalate (DIBP)	201-553-2	84-69-5
23	Lead chromate	231-846-0	7758-97-6
24	Anthracene oil, anthracene paste	292-603-2	90640-81-6
25	Pitch, coal tar, high temp.	266-028-2	65996-93-2
26	Anthracene oil, anthracene paste, distn. lights	295-278-5	91995-17-4
27	Acrylamide	201-173-7	1979/6/1
28	Trichloroethylene	201-167-4	1979/1/6
29	Potassium dichromate	231-906-6	7778-50-9
30	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1
31	Ammonium dichromate	232-143-1	7789/9/5
32	Boric acid	233-139-2 234-343-4	10043-35-3 11113-50-1
33	Sodium chromate	231-889-5	7775/11/3

No.	SVHC (Substances of Very High Concern)	EC No.	CAS No.
34	Disodium tetraborate, anhydrous	215-540-4	1303-96-4 1330-43-4 12179-04-3
35	Potassium chromate	232-140-5	7789-00-6
36	Cobalt(II) diacetate	200-755-8	71-48-7
37	Cobalt(II) sulphate	233-334-2	10124-43-3
38	2-Ethoxyethanol	203-804-1	110-80-5
39	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.	231-801-5 236-881-5	7738-94-5 13530-68-2
40	2-Methoxyethanol	203-713-7	109-86-4
41	Chromium trioxide	215-607-8	1333-82-0
42	Cobalt(II) carbonate	208-169-4	513-79-1
43	Cobalt(II) dinitrate	233-402-1	10141-05-6
44	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6
45	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4
46	Strontium chromate	232-142-6	7789/6/2
47	1-Methyl-2-pyrrolidone	212-828-1	872-50-4
48	1,2,3-Trichloropropane	202-486-1	96-18-4
49	2-Ethoxyethyl acetate	203-839-2	111-15-9
50	Hydrazine	206-114-9	302-01-2 7803-57-8
51	4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9
52	Cobalt dichloride	231-589-4	7646-79-9
53	N,N-dimethylacetamide	204-826-4	127-19-5
54	Phenolphthalein	201-004-7	1977/9/8
55	Lead diazide, Lead azide	236-542-1	13424-46-9
56	Lead dipicrate	229-335-2	6477-64-1
57	1,2-dichloroethane	203-458-1	107-06-2
58	Calcium arsenate	231-904-5	7778-44-1
59	Dichromium tris(chromate)	246-356-2	24613-89-6
60	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0
61	Pentazinc chromate octahydroxide	256-418-0	49663-84-5
62	Arsenic acid	231-901-9	7778-39-4
63	Potassium hydroxyoctaoxidizincatedichromate	234-329-8	11103-86-9
64	Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4
65	Lead styphnate	239-290-0	15245-44-0
66	Trilead diarsenate	222-979-5	3687-31-8
67	Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament		

No.	SVHC (Substances of Very High Concern)	EC No.	CAS No.
68	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
69	Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament		
70	Bis(2-methoxyethyl) ether	203-924-4	111-96-6
71	2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4
72	α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	229-851-8	6786-83-0
73	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1
74	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β -TGIC)	423-400-0	59653-74-6
75	Diboron trioxide	215-125-8	1303-86-2
76	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2
77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	209-218-2	561-41-1
78	Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2
79	Formamide	200-842-0	1975-12-7
80	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	208-953-6	548-62-9
81	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	219-943-6	2580-56-5
83	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9
84	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8
85	Pyrochlore, antimony lead yellow	232-282-1	8012-00-8
86	6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8
87	Henicosfluoroundecanoic acid	218-165-4	2058-94-8
88	Hexahydromethylphthalic anhydride [1] Hexahydro-4-methylphthalic anhydride [2] Hexahydro-1-methylphthalic anhydride [3] Hexahydro-3-methylphthalic anhydride [4] The individual isomers [2], [3] and [4] (including their cis- and trans-stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry	247-094-1 243-072-0 256-356-4 260-566-1	25550-51-0 19438-60-9 48122-14-1 57110-29-9
89	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] <i>[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	201-604-9 236-086-3 238-009-9	85-42-7 13149-00-3 14166-21-3
90	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1
91	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5
92	Lead dinitrate	233-245-9	10099-74-8

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93	Silicic acid, lead salt	234-363-3	11120-22-2
94	4-Aminoazobenzene	200-453-6	60-09-3
95	Lead titanium zirconium oxide	235-727-4	12626-81-2
96	Lead monoxide (lead oxide)	215-267-0	1317-36-8
97	o-Toluidine	202-429-0	95-53-4
98	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2
99	Silicic acid, barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	272-271-5	68784-75-8
100	Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6
101	Furan	203-727-3	110-00-9
102	N,N-dimethylformamide	200-679-5	68-12-2
103	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]		
104	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]		
105	4,4'-methylenedi-o-toluidine	212-658-8	838-88-0
106	Diethyl sulphate	200-589-6	64-67-5
107	Dimethyl sulphate	201-058-1	77-78-1
108	Lead oxide sulfate	234-853-7	12036-76-9
109	Lead titanium trioxide	235-038-9	12060-00-3
110	Acetic acid, lead salt, basic	257-175-3	51404-69-4
111	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9
112	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9	1163-19-5
113	N-methylacetamide	201-182-6	79-16-3
114	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7
115	1,2-Diethoxyethane	211-076-1	629-14-1
116	Tetralead trioxide sulphate	235-380-9	12202-17-4
117	N-pentyl-isopentylphthalate		776297-69-9
118	Dioxobis(stearato)trilead	235-702-8	12578-12-0
119	Tetraethyllead	201-075-4	78-00-2
120	Pentalead tetraoxide sulphate	235-067-7	12065-90-6
121	Pentacosaflluorotridecanoic acid	276-745-2	72629-94-8
122	Tricosaflluorododecanoic acid	206-203-2	307-55-1
123	Heptacosaflluorotetradecanoic acid	206-803-4	376-06-7
124	1-bromopropane (n-propyl bromide)	203-445-0	106-94-5
125	Methoxyacetic acid	210-894-6	625-45-6
126	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7

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127	Methyloxirane (Propylene oxide)	200-879-2	75-56-9
128	Trilead dioxide phosphonate	235-252-2	12141-20-7
129	o-aminoazotoluene	202-591-2	97-56-3
130	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
131	4,4'-oxydianiline and its salts	202-977-0	101-80-4
132	Orange lead (lead tetroxide)	215-235-6	1314-41-6
133	Biphenyl-4-ylamine	202-177-1	92-67-1
134	Diisopentylphthalate	210-088-4	605-50-5
135	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
136	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3
137	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
138	Lead cyanamidate	244-073-9	20837-86-9
139	Cadmium oxide	215-146-2	1306-19-0
140	4-Nonylphenol, branched and linear, ethoxylated		
141	Dipentyl phthalate (DPP)	205-017-9	131-18-0
142	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1
143	Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1
144	Cadmium	231-152-8	7440-43-9
145	Cadmium sulphide	215-147-8	1306-23-6
146	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)	217-710-3	1937-37-7
147	Dihexyl phthalate	201-559-5	84-75-3
148	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	202-506-9	96-45-7
149	Trixylyl phosphate	246-677-8	25155-23-1
150	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)] bis (4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	209-358-4	573-58-0
151	Lead di(acetate)	206-104-4	301-04-2
152	Cadmium chloride	233-296-7	10108-64-2
153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50-4
154	Sodium peroxometaborate	231-556-4	7632-04-4
155	Sodium perborate; perboric acid, sodium salt	239-1723-9;234-390-0	
156	Cadmium fluoride	232-222-0	7790-79-6
157	Cadmium sulphate	233-331-6	10124-36-4 31119-53-6
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1

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161	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)		
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate	271-094-0 272-013-1	68515-51-5 68648-93-1
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1],5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]		
164	Nitrobenzene	202-716-0	98-95-3
165	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
167	1,3-propanesultone	214-317-9	1120-71-4
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	206-801-3	375-95-1 21049-39-8 4149-60-4
169	Benzo[def]chrysene (Benzo[a]pyrene)	200-028-5	50-32-8
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	201-245-8	80-05-7
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	206-400-3 221-470-5	3108-42-7 335-76-2 3830-45-3
172	<i>p</i> -(1,1-dimethylpropyl) phenol	201-280-9	80-46-6
173	4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]		
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)		