



Samsung Total Petrochemicals Co., Ltd.
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March 13, 2013

Dear Customer,

EU REACH Regulation Compliance Letter

FB51, FB51R, FB51S
TB51, TB52, TB53

This statement is in response to your request whether our Product(s) contain(s) Substance of Very High Concern (SVHC) in view of Regulation 1907/2006/EC (REACH).

We hereby certify that no substances on **138 SVHC candidates** that ECHA are present in the above identified Products of Samsung Total Petrochemicals Co., Ltd. at levels above 0.1wt%.

We do not test the Products for these compounds, but to the best of our knowledge they are not contained more than 0.1wt%. We believe this information to be reasonably accurate and reliable as of this date provided, however, that it shall be your responsibility to make your own assessment and determination on the suitability of the Products for your particular application and use.

Should you have any question regarding the content of this letter, please do not hesitate to contact me.

Please find the contact data below:

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Sincerely,

Jongsoo Hong
Composite Development Team Leader

A handwritten signature in black ink, appearing to read "Jongsoo Hong", is written over the printed name and title.

※ Candidate List of Substances of Very High Concern (SVHC) for authorization

No.	Substance Name	EC Number	CAS Number	Date of inclusion
1	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8	2012-12-19
2	6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8	2012-12-19
3	Henicosafleuroundecanoic acid	218-165-4	2058-94-8	2012-12-19
4	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	2012-12-19
5	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]	201-604-9, 236-086-3, 238-009-9	85-42-7, 13149-00-3, 14166-21-3	2012-12-19
6	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1	2012-12-19
7	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5	2012-12-19
8	Lead dinitrate	233-245-9	10099-74-8	2012-12-19
9	Silicic acid, lead salt	234-363-3	11120-22-2	2012-12-19
10	4-Aminoazobenzene	200-453-6	60-09-3	2012-12-19
11	Lead titanium zirconium oxide	235-727-4	12626-81-2	2012-12-19
12	Lead monoxide (lead oxide)	215-267-0	1317-36-8	2012-12-19
13	o-Toluidine	202-429-0	95-53-4	2012-12-19
14	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2	2012-12-19
15	Silicic acid (H ₂ SiO ₅), 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	2012-12-19
16	Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6	2012-12-19
17	Furan	203-727-3	110-00-9	2012-12-19
18	N,N-dimethylformamide	200-679-5	68-12-2	2012-12-19
19	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]			2012-12-19

20	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			2012-12-19
21	4,4'-methylenedi-o-toluidine	212-658-8	838-88-0	2012-12-19
22	Diethyl sulphate	200-589-6	64-67-5	2012-12-19
23	Dimethyl sulphate	201-058-1	77-78-1	2012-12-19
24	Lead oxide sulfate	234-853-7	12036-76-9	2012-12-19
25	Lead titanium trioxide	235-038-9	12060-00-3	2012-12-19
26	Acetic acid, lead salt, basic	257-175-3	51404-69-4	2012-12-19
27	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9	2012-12-19
28	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9	1163-19-5	2012-12-19
29	N-methylacetamide	201-182-6	79-16-3	2012-12-19
30	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7	2012-12-19
31	1,2-Diethoxyethane	211-076-1	629-14-1	2012-12-19
32	Tetralead trioxide sulphate	235-380-9	12202-17-4	2012-12-19
33	N-pentyl-isopentylphthalate		776297-69-9	2012-12-19
34	Dioxobis(stearato)trilead	235-702-8	12578-12-0	2012-12-19
35	Tetraethyllead	201-075-4	78-00-2	2012-12-19
36	Pentalead tetraoxide sulphate	235-067-7	12065-90-6	2012-12-19
37	Pentacosfluorotridecanoic acid	276-745-2	72629-94-8	2012-12-19
38	Tricosfluorododecanoic acid	206-203-2	307-55-1	2012-12-19
39	Heptacosfluorotetradecanoic acid	206-803-4	376-06-7	2012-12-19
40	1-bromopropane (n-propyl bromide)	203-445-0	106-94-5	2012-12-19
41	Methoxyacetic acid	210-894-6	625-45-6	2012-12-19
42	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7	2012-12-19
43	Methyloxirane (Propylene oxide)	200-879-2	75-56-9	2012-12-19
44	Trilead dioxide phosphonate	235-252-2	12141-20-7	2012-12-19
45	o-aminoazotoluene	202-591-2	97-56-3	2012-12-19
46	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0	2012-12-19
47	4,4'-oxydianiline and its salts	202-977-0	101-80-4	2012-12-19
48	Orange lead (lead tetroxide)	215-235-6	1314-41-6	2012-12-19
49	Biphenyl-4-ylamine	202-177-1	92-67-1	2012-12-19
50	Diisopentylphthalate	210-088-4	605-50-5	2012-12-19
51	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8	2012-12-19
52	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3	2012-12-19
53	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7	2012-12-19
54	Lead cyanamidate	244-073-9	20837-86-9	2012-12-19

55	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	2012-06-18
56	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1	2012-06-18
57	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	2012-06-18
58	Diboron trioxide	215-125-8	1303-86-2	2012-06-18
59	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2	2012-06-18
60	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	2012-06-18
61	Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2	2012-06-18
62	Formamide	200-842-0	75-12-7	2012-06-18
63	[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	2012-06-18
64	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4	2012-06-18
65	[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	2012-06-18
66	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9	2012-06-18
67	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	202-027-5	90-94-8	2012-06-18
68	4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9	2011-12-19
69	N,N-dimethylacetamide	204-826-4	127-19-5	2011-12-19
70	Phenolphthalein	201-004-7	77-09-8	2011-12-19
71	Lead diazide, Lead azide	236-542-1	13424-46-9	2011-12-19
72	Lead dipicrate	229-335-2	6477-64-1	2011-12-19
73	1,2-dichloroethane	203-458-1	107-06-2	2011-12-19
74	Calcium arsenate	231-904-5	7778-44-1	2011-12-19
75	Dichromium tris(chromate)	246-356-2	24613-89-6	2011-12-19
76	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0	2011-12-19
77	Pentazinc chromate octahydroxide	256-418-0	49663-84-5	2011-12-19
78	Arsenic acid	231-901-9	7778-39-4	2011-12-19
79	Potassium hydroxyoctaoxodizincatedichromate	234-329-8	11103-86-9	2011-12-19
80	Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4	2011-12-19

81	Lead styphnate	239-290-0	15245-44-0	2011-12-19
82	Trilead diarsenate	222-979-5	3687-31-8	2011-12-19
83	Zirconia Aluminosilicate Refractory Ceramic Fibres <i>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 and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm). c) alkaline oxide and alkali earth oxide (Na₂O+K₂O+CaO+MgO+BaO) content less or equal to 18% by weight</i>			2011-12-19
84	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8	2011-12-19
85	Aluminosilicate Refractory Ceramic Fibres <i>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 and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm) c) alkaline oxide and alkali earth oxide (Na₂O+K₂O+CaO+MgO+BaO) content less or equal to 18% by weight</i>			2011-12-19
86	Bis(2-methoxyethyl) ether	203-924-4	111-96-6	2011-12-19
87	2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4	2011-12-19
88	Cobalt dichloride	231-589-4	7646-79-9	2011/06/20 - 2008/10/28
89	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	276-158-1	71888-89-6	2011-06-20
90	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	271-084-6	68515-42-4	2011-06-20
91	Strontium chromate	232-142-6	7789-06-2	2011-06-20
92	1-Methyl-2-pyrrolidone	212-828-1	872-50-4	2011-06-20
93	1,2,3-Trichloropropane	202-486-1	96-18-4	2011-06-20
94	2-Ethoxyethyl acetate	203-839-2	111-15-9	2011-06-20
95	Hydrazine	206-114-9	302-01-2, 7803-57-8	2011-06-20

96	Cobalt(II) diacetate	200-755-8	71-48-7	2010-12-15
97	Cobalt(II) sulphate	233-334-2	10124-43-3	2010-12-15
98	2-Ethoxyethanol	203-804-1	110-80-5	2010-12-15
99	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	2010-12-15
100	2-Methoxyethanol	203-713-7	109-86-4	2010-12-15
101	Chromium trioxide	215-607-8	1333-82-0	2010-12-15
102	Cobalt(II) carbonate	208-169-4	513-79-1	2010-12-15
103	Cobalt(II) dinitrate	233-402-1	10141-05-6	2010-12-15
104	Trichloroethylene	201-167-4	79-01-6	2010-06-18
105	Potassium dichromate	231-906-6	7778-50-9	2010-06-18
106	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1	2010-06-18
107	Ammonium dichromate	232-143-1	2151163	2010-06-18
108	Boric acid	233-139-2, 234-343-4	10043-35-3, 11113-50-1	2010-06-18
109	Sodium chromate	231-889-5	7775-11-3	2010-06-18
110	Disodium tetraborate, anhydrous	215-540-4	1303-96-4, 1330-43-4, 12179-04-3	2010-06-18
111	Potassium chromate	232-140-5	7789-00-6	2010-06-18
112	Acrylamide	201-173-7	79-06-1	2010-03-30
113	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2	2010-01-13
114	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	235-759-9	12656-85-8	2010-01-13
115	Anthracene oil	292-602-7	90640-80-5	2010-01-13
116	2,4-Dinitrotoluene	204-450-0	121-14-2	2010-01-13
117	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2	2010-01-13
118	Anthracene oil, anthracene-low	292-604-8	90640-82-7	2010-01-13
119	Tris(2-chloroethyl)phosphate	204-118-5	115-96-8	2010-01-13
120	Diisobutyl phthalate	201-553-2	84-69-5	2010-01-13
121	Lead chromate	231-846-0	7758-97-6	2010-01-13
122	Anthracene oil, anthracene paste	292-603-2	90640-81-6	2010-01-13
123	Pitch, coal tar, high temp.	266-028-2	65996-93-2	2010-01-13
124	Anthracene oil, anthracene paste, distn. lights	295-278-5	91995-17-4	2010-01-13
125	Lead hydrogen arsenate	232-064-2	7784-40-9	2008-10-28
126	Benzyl butyl phthalate (BBP)	201-622-7	85-68-7	2008-10-28
127	Bis (2-ethylhexyl)phthalate (DEHP)	204-211-0	117-81-7	2008-10-28
128	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2	2008-10-28
129	Diarsenic trioxide	215-481-4	1327-53-3	2008-10-28
130	Bis(tributyltin)oxide (TBTO)	200-268-0	56-35-9	2008-10-28

131	Triethyl arsenate	427-700-2	15606-95-8	2008-10-28
132	Diarsenic pentaoxide	215-116-9	1303-28-2	2008-10-28
133	Sodium dichromate	234-190-3	7789-12-0, 10588-01-9	2008-10-28
134	Dibutyl phthalate (DBP)	201-557-4	84-74-2	2008-10-28
135	4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9	2008-10-28
136	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8	2008-10-28
137	Anthracene	204-371-1	120-12-7	2008-10-28
138	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)	2008-10-28