

TEST REPORT

Report No: SZ180810334EN**Date: 2018/9/7**

Applicant UTOP Electronic (Guangzhou) Co., Ltd
Address NO.51 Shi Nan Road Huijiang Village Dashi town Panyu area, Guangzhou
city, china.

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

Sample Name: Transformer series
Sample Received Date: 2018.8.20
Testing Period: 2018.8.20 - 2018.9.7

Test Requested

1. REACH Regulation (EC) No 1907/2006
191 Substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jun 2018 regarding Regulation (EC) No 1907/2006 concerning the REACH.
2. 71 Inorganic Substances of Very high Concern (SVHC) under REACH Regulation (EC) No1907/2006

Test Result Please refer to the following page(s).

Note: "EN" denotes English report

Conclusion		
Tested sample	According to standard	Result
Submitted sample	US EPA 3052:1996, US EPA 3050B:1996, US EPA 3060A:1996, US EPA 3550C:2007, US EPA 3540C:1996, ISO 17353:2004(E), BS EN 14582:2007	Pass
According to the specified scope and analytical techniques, the test results of SVHC are less than 0.1% in the submitted submitted sample		

***** For Further Details, Please Refer To the Following Page(s) *****

Approved by:

Vargas

Vargas He
Lab Director

Shenzhen IMPAQ Testing Technology Co., Ltd



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Test Method:

Tested Item	Test Method	Measured Equipment
SVHC-191	US EPA 3052:1996, US EPA 3050B:1996, US EPA 3060A:1996, US EPA 3550C:2007, US EPA 3540C:1996, ISO 17353:2004(E), BS EN 14582:2007	ICP-OES,UV-Vis, IC,HPLC, LC-MS,GC-MS, Headspace-GCMS
SVHC-71	US EPA 3052:1996, US EPA 3050B:1996, US EPA 3060A:1996	ICP-OES, UV-Vis

Test Results

1. SVHC-191 Content:

No.	Substance Name(s)	CAS No.	EC No.	Results(%)	Report Limit (%)
				001	
1	Anthracene	120-12-7	204-371-1	N.D.	0.05
2	4,4'- Diaminodiphenylmethane	101-77-9	202-974-4	N.D.	0.05
3	Dibutyl phthalate(DBP)	84-74-2	201-557-4	N.D.	0.05
4	Cobalt dichloride*	7646-79-9	231-589-4	N.D.	0.05
5	Diarsenic pentaoxide*	1303-28-2	215-116-9	N.D.	0.05
6	Diarsenic trioxide*	1327-53-3	215-481-4	N.D.	0.05
7	Sodium dichromate*	7789-12-0/ 10588-01-9	234-190-3	N.D.	0.05
8	Musk xylene	81-15-2	201-329-4	N.D.	0.05
9	Bis(2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	N.D.	0.05
10	Hexabromocyclododecane (HBCDD)	25637-99-4/ 3194-55-6	247-148-4/ 221-695-9	N.D.	0.05
11	Short Chain Chlorinated Paraffins(SCCPs)	85535-84-8	287-476-5	N.D.	0.05
12	Bis(tributyltin)oxide (TBTO)*	56-35-9	200-268-0	N.D.	0.05
13	Lead hydrogen arsenate*	7784-40-9	232-064-2	N.D.	0.05
14	Benzyl butyl phthalate(BBP)	85-68-7	201-622-7	N.D.	0.05
15	Triethyl arsenate*	15606-95-8	427-700-2	N.D.	0.05
16	①Anthracene oil	90640-80-5	292-602-7	N.D.	0.05
17	①Anthracene oil, anthracene	91995-17-4	295-278-5	N.D.	0.05

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				001	
	paste, distn. Lights ****				
18	^① Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	N.D.	0.05
19	^① Anthracene oil, anthracene-low	90640-82-7	292-604-8	N.D.	0.05
20	^① Anthracene oil, anthracene paste	90640-81-6	292-603-2	N.D.	0.05
21	^① Coal tar pitch, high temperature	65996-93-2	266-028-2	N.D.	0.05
22	Acrylamide	79-06-1	201-173-7	N.D.	0.05
23	2,4-Dinitrotoluene	121-14-2	204-450-0	N.D.	0.05
24	Diisobutyl phthalate (DIBP)	84-69-5	201-553-2	N.D.	0.05
25	^② Lead chromate	7758-97-6	231-846-0	N.D.	0.05
26	^② Lead chromate molybdate sulphate red (C.I. Pigment Red 104)***	12656-85-8	235-759-9	N.D.	0.05
27	^② Lead sulfochromate yellow (C.I. Pigment Yellow 34)***	1344-37-2	215-693-7	N.D.	0.05
28	Tris(2-chloroethyl)phosphate (TCEP)	115-96-8	204-118-5	N.D.	0.05
29	Trichloroethylene	79-01-6	201-167-4	N.D.	0.05
30	^③ Boric acid	10043-35-3 11113-50-1	233-139-2 234-343-4	N.D.	0.05
31	^③ Disodium tetraborate, anhydrous*****	1330-43-4 12179-04-3 1303-96-4	215-540-4	N.D.	0.05
32	^③ Tetraboron disodium heptaoxide, hydrate*****	12267-73-1	235-541-3	N.D.	0.05
33	Sodium chromate*	7775-11-3	231-889-5	N.D.	0.05
34	Potassium chromate*	7789-00-6	232-140-5	N.D.	0.05
35	Ammonium dichromate*	7789-09-5	232-143-1	N.D.	0.05
36	Potassium dichromate*	7778-50-9	231-906-6	N.D.	0.05
37	Cobalt(II) sulphate*	10124-43-3	233-334-2	N.D.	0.05
38	Cobalt(II) dinitrate*	10141-05-6	233-402-1	N.D.	0.05
39	Cobalt(II) carbonate*	513-79-1	208-169-4	N.D.	0.05
40	Cobalt(II) diacetate*	71-48-7	200-755-8	N.D.	0.05
41	2-Methoxyethanol	109-86-4	203-713-7	N.D.	0.05

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42	2-Ethoxyethanol	110-80-5	203-804-1	N.D.	0.05
43	Chromium trioxide*	1333-82-0	215-607-8	N.D.	0.05
44	^① Acids generated from chromium trioxide and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid*	7738-94-5 13530-68-2	231-801-5 236-881-5	N.D.	0.05
45	2-ethoxyethyl acetate	111-15-9	203-839-2	N.D.	0.05
46	Strontium chromate*	7789-06-2	232-142-6	N.D.	0.05
47	^① 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	271-084-6	N.D.	0.05
48	Hydrazine	7803-57-8 302-01-2	206-114-9	N.D.	0.05
49	1-methyl-2-pyrrolidone	872-50-4	212-828-1	N.D.	0.05
50	1,2,3-trichloropropane	96-18-4	202-486-1	N.D.	0.05
51	^① 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	276-158-1	N.D.	0.05
52	Dichromium tris(chromate)*	24613-89-6	246-356-2	N.D.	0.05
53	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	234-329-8	N.D.	0.05
54	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	N.D.	0.05
55	^② Aluminosilicate Refractory Ceramic Fibres (RCF) **	-	-	N.D.	0.05
56	^② Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) **	-	-	N.D.	0.05
57	^① Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	500-036-1	N.D.	0.05
58	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	N.D.	0.05
59	2-Methoxyaniline(o-Anisidine)	90-04-0	201-963-1	N.D.	0.05
60	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	N.D.	0.05

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	(4-tert-Octylphenol)				
61	1,2-Dichloroethane	107-06-2	203-458-1	N.D.	0.05
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	N.D.	0.05
63	Arsenic acid*	7778-39-4	231-901-9	N.D.	0.05
64	Calcium arsenate*	7778-44-1	231-904-5	N.D.	0.05
65	Trilead diarsenate*	3687-31-8	222-979-5	N.D.	0.05
66	N,N-dimethylacetamide (DMAC)	127-19-5	204-826-4	N.D.	0.05
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	N.D.	0.05
68	Phenolphthalein	77-9-8	201-004-7	N.D.	0.05
69	Lead diazide*	13424-46-9	236-542-1	N.D.	0.05
70	Lead 2,4,6-trinitro-m-phenylene dioxide (Lead styphnate)*	15245-44-0	239-290-0	N.D.	0.05
71	Lead dipicrate*	6477-64-1	229-335-2	N.D.	0.05
72	1,2-bis(2-methoxyethoxy) ethane (TEGDME; triglyme)	112-49-2	203-977-3	N.D.	0.05
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	N.D.	0.05
74	^③ Diboron trioxide	1303-86-2	215-125-8	N.D.	0.05
75	Formamide	75-12-7	200-842-0	N.D.	0.05
76	Lead(II) bis methanesulfonate*	17570-76-2	401-750-5	N.D.	0.05
77	TGIC(1,3,5-tris(oxiranylmethyl)-1, 3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	219-514-3	N.D.	0.05
78	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6- (1H,3H,5H)-trione)	59653-74-6	423-400-0	N.D.	0.05
79	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	90-94-8	202-027-5	N.D.	0.05
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	N.D.	0.05

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81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride(C.I. Basic Violet 3)	548-62-9	208-953-6	N.D.	0.05
82	[4-[[4-anilino-1-naphthyl] [4-(dimethylamino)phenyl] methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride(C.I. Basic Blue 26)	2580-56-5	219-943-6	N.D.	0.05
83	α,α -Bis[4-(dimethylamino) phenyl]-4(phenylamino) naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	N.D.	0.05
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2	N.D.	0.05
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9	N.D.	0.05
86	^① 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]	-	-	N.D.	0.05
87	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	N.D.	0.05
88	4-(1,1,3,3-tetramethylbutyl) phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-	N.D.	0.05

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89	Henicosafuoroundecanoic acid	2058-94-8	218-165-4	N.D.	0.05
90	Pentacosafuorotridecanoic acid	72629-94-8	276-745-2	N.D.	0.05
91	Cyclohexane-1,2-dicarboxylic anhydride, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7, 13149-00-3, 14166-21-3	201-604-9, 236-086-3, 238-009-9	N.D.	0.05
92	Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	247-094-1, 243-072-0, 256-356-4, 260-566-1	N.D.	0.05
93	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4	N.D.	0.05
94	Diisopentylphthalate(DIPP)	605-50-5	210-088-4	N.D.	0.05
95	^① 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2	N.D.	0.05
96	N-pentyl-isopentylphthalate	776297-69-9	-	N.D.	0.05
97	Methoxyacetic acid	625-45-6	210-894-6	N.D.	0.05
98	Tricosafuorododecanoic acid	307-55-1	206-203-2	N.D.	0.05
99	1,2-Diethoxyethane	629-14-1	211-076-1	N.D.	0.05
100	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	N.D.	0.05
101	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1	N.D.	0.05
102	N-methylacetamide	79-16-3	201-182-6	N.D.	0.05
103	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	N.D.	0.05
104	Biphenyl-4-ylamine	92-67-1	202-177-1	N.D.	0.05
105	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	201-861-7	N.D.	0.05
106	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	N.D.	0.05
107	Lead dinitrate*	10099-74-8	233-245-9	N.D.	0.05
108	Tetralead trioxide sulphate*	12202-17-4	235-380-9	N.D.	0.05

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109	Lead monoxide (lead oxide)*	1317-36-8	215-267-0	N.D.	0.05
110	Lead titanium trioxide*	12060-00-3	235-038-9	N.D.	0.05
111	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	N.D.	0.05
112	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	N.D.	0.05
113	Dimethyl sulphate	77-78-1	201-058-1	N.D.	0.05
114	Furan	110-00-9	203-727-3	N.D.	0.05
115	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	N.D.	0.05
116	Tetraethyllead*	78-00-2	201-075-4	N.D.	0.05
117	[Phthalato(2-)]dioxotrilead*	69011-06-9	273-688-5	N.D.	0.05
118	Diethyl sulphate	64-67-5	200-589-6	N.D.	0.05
119	Lead cyanamidate*	20837-86-9	244-073-9	N.D.	0.05
120	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped*	68784-75-8	272-271-5	N.D.	0.05
121	Trilead dioxide phosphonate*	12141-20-7	235-252-2	N.D.	0.05
122	o-Toluidine	95-53-4	202-429-0	N.D.	0.05
123	o-aminoazotoluene	97-56-3	202-591-2	N.D.	0.05
124	4-aminoazobenzene	60-09-3	200-453-6	N.D.	0.05
125	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	N.D.	0.05
126	Dibutyltin dichloride (DBTC)	683-18-1	211-670-0	N.D.	0.05
127	Lead titanium zirconium oxide*	12626-81-2	235-727-4	N.D.	0.05
128	Methyloxirane (Propylene oxide)	75-56-9	200-879-2	N.D.	0.05
129	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0	N.D.	0.05
130	Trilead bis(carbonate)dihydroxide*	1319-46-6	215-290-6	N.D.	0.05
131	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	N.D.	0.05

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132	Orange lead (lead tetroxide)*	1314-41-6	215-235-6	N.D.	0.05
133	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	N.D.	0.05
134	4,4'-oxydianiline and its salts	101-80-4	202-977-0	N.D.	0.05
135	Lead oxide sulfate*	12036-76-9	234-853-7	N.D.	0.05
136	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	N.D.	0.05
137	Silicic acid, lead salt*	11120-22-2	234-363-3	N.D.	0.05
138	N,N-dimethylformamide	68-12-2	200-679-5	N.D.	0.05
139	Cadmium	7440-43-9	231-152-8	N.D.	0.05
140	Cadmium oxide*	1306-19-0	215-146-2	N.D.	0.05
141	Dipentyl phthalate (DPP)	131-18-0	205-017-9	N.D.	0.05
142	① 4-Nonylphenol, branched and linear, ethoxylated[substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	-	N.D.	0.05
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	223-320-4	N.D.	0.05
144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9	N.D.	0.05
145	① Trixylyl phosphate	25155-23-1	246-677-8	N.D.	0.05
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)	1937-37-7	217-710-3	N.D.	0.05
147	Diethyl phthalate	84-75-3	201-559-5	N.D.	0.05
148	Cadmium sulphide*	1306-23-6	215-147-8	N.D.	0.05

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149	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	209-358-4	N.D.	0.05
150	Lead di(acetate)*	301-04-2	206-104-4	N.D.	0.05
151	Imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7	202-506-9	N.D.	0.05
152	Cadmium chloride	10108-64-2	233-296-7	N.D.	0.05
153	Sodium peroxometaborate	7632-04-4	231-556-4	N.D.	0.05
154	Sodium perborate; perboric acid, sodium salt	-	234-390-0	N.D.	0.05
155	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5	N.D.	0.05
156	2-benzotriazol-2-yl-4, 6-di-tert-butylphenol (UV-320)	3846-71-7	223-346-6	N.D.	0.05
157	2-(2H-Benzotriazol-2-yl)-4, 6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8	N.D.	0.05
158	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3, 5-dithia-4-stannatetradecanoate; DOTE	15571-58-1	239-622-4	N.D.	0.05
159	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate & 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 & MOTE)	-	-	N.D.	0.05
160	Cadmium fluoride*	7790-79-6	232-222-0	N.D.	0.05
161	Cadmium sulphate*	10124-36-4, 31119-53-6	233-331-6	N.D.	0.05

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No.	Substance Name(s)	CAS No.	EC No.	Results(%)	Report Limit (%)
				001	
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	68515-51-5 68648-93-1	271-094-0 272-013-1	N.D.	0.05
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]	-	-	N.D.	0.05
164	1,3-propanesultone	1120-71-4	214-317-9	N.D.	0.05
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	N.D.	0.05
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	N.D.	0.05
167	Nitrobenzene	98-95-3	202-716-0	N.D.	0.05
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadeca fluorononanoic acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	206-801-3	N.D.	0.05
169	Benzo[def] chrysene (benzo[a]pyrene)	50-32-8	200-028-5	N.D.	0.05
170	Bisphenol A	80-05-7	201-245-8	N.D.	0.05
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3108-42-7 335-76-2 3830-45-3	- 206-400-3 221-470-5	N.D.	0.05
172	4-heptylphenol, branched and linear (4-HPbl)	---	---	N.D.	0.05
173	p-(1,1-dimethylpropyl) phenol(PTAP)	80-46-6	201-280-9	N.D.	0.05
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	355-46-4	206-587-1	N.D.	0.05

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No.	Substance Name(s)	CAS No.	EC No.	Results(%)	Report Limit (%)
				001	
175	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16.9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	13560-89-9	236-948-9	N.D.	0.05
176	Benz[a]anthracene	56-55-3	200-280-6	N.D.	0.05
177	Cadmium nitrate*	10325-94-7	233-710-6	N.D.	0.05
178	Cadmium carbonate*	513-78-0	208-168-9	N.D.	0.05
179	Cadmium hydroxide*	21041-95-2	244-168-5	N.D.	0.05
180	Chrysene	218-01-9	205-923-4	N.D.	0.05
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with $\geq 0.1\%$ w/w 4-heptylphenol, branched and linear]	91648-65-6	293-927-7	N.D.	0.05
182	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride, TMA)	552-30-7	209-008-0	N.D.	0.05
183	Dicyclohexyl phthalate(DCHP)	84-61-7	201-545-9	N.D.	0.05
184	Benzo[ghi]perylene	191-24-2	205-883-8	N.D.	0.05
185	Decamethylcyclopentasiloxane (D5)	541-02-6	208-764-9	N.D.	0.05
186	lead	7439-92-1	231-100-4	N.D.	0.05
187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	208-762-8	N.D.	0.05
188	Ethylenediamine	107-15-3	203-468-6	N.D.	0.05
189	Disodium octaborate tetrahydrate*	12008-41-2	234-541-0	N.D.	0.05
190	Octamethylcyclotetrasiloxane (D4)	556-67-2	209-136-7	N.D.	0.05
191	Terphenyl hydrogenated	61788-32-7	262-967-7	N.D.	0.05

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Test Results

2. SVHC-71 Inorganic Substances Content:

No.	Substance Name(s)	CAS No.	EC No.	Results (%)	Report Limit (%)
				002	
1.	Cobalt dichloride*	7646-79-9	231-589-4	N.D.	0.05
2.	Diarsenic pentaoxide*	1303-28-2	215-116-9	N.D.	0.05
3.	Diarsenic trioxide*	1327-53-3	215-481-4	N.D.	0.05
4.	Sodium dichromate*	7789-12-0/ 10588-01-9	234-190-3	N.D.	0.05
5.	Lead hydrogen arsenate*	7784-40-9	232-064-2	N.D.	0.05
6.	Triethyl arsenate*	15606-95-8	427-700-2	N.D.	0.05
7.	②Lead chromate	7758-97-6	231-846-0	N.D.	0.05
8.	②Lead chromate molybdate sulphate red (C.I. Pigment Red 104)***	12656-85-8	235-759-9	N.D.	0.05
9.	②Lead sulfochromate yellow (C.I. Pigment Yellow 34)***	1344-37-2	215-693-7	N.D.	0.05
10.	③Boric acid	10043-35-3 11113-50-1	233-139-2 234-343-4	N.D.	0.05
11.	③Disodium tetraborate, anhydrous*****	1330-43-4 12179-04-3 1303-96-4	215-540-4	N.D.	0.05
12.	③Tetraboron disodium heptaoxide, hydrate*****	12267-73-1	235-541-3	N.D.	0.05
13.	Sodium chromate*	7775-11-3	231-889-5	N.D.	0.05
14.	Potassium chromate*	7789-00-6	232-140-5	N.D.	0.05
15.	Ammonium dichromate*	7789-09-5	232-143-1	N.D.	0.05
16.	Potassium dichromate*	7778-50-9	231-906-6	N.D.	0.05
17.	Cobalt(II) sulphate*	10124-43-3	233-334-2	N.D.	0.05
18.	Cobalt(II) dinitrate*	10141-05-6	233-402-1	N.D.	0.05

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No.	Substance Name(s)	CAS No.	EC No.	Results (%)	Report Limit (%)
				002	
19.	Cobalt(II) carbonate*	513-79-1	208-169-4	N.D.	0.05
20.	Cobalt(II) diacetate*	71-48-7	200-755-8	N.D.	0.05
21.	Chromium trioxide*	1333-82-0	215-607-8	N.D.	0.05
22.	^① Acids generated from chromium trioxide and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid*	7738-94-5 13530-68-2	231-801-5 236-881-5	N.D.	0.05
23.	Strontium chromate*	7789-06-2	232-142-6	N.D.	0.05
24.	Dichromium tris(chromate)*	24613-89-6	246-356-2	N.D.	0.05
25.	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	234-329-8	N.D.	0.05
26.	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	N.D.	0.05
27.	^② Aluminosilicate Refractory Ceramic Fibres (RCF) **	-	-	N.D.	0.05
28.	^② Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) **	-	-	N.D.	0.05
29.	Arsenic acid*	7778-39-4	231-901-9	N.D.	0.05
30.	Calcium arsenate*	7778-44-1	231-904-5	N.D.	0.05
31.	Trilead diarsenate*	3687-31-8	222-979-5	N.D.	0.05
32.	Lead diazide*	13424-46-9	236-542-1	N.D.	0.05
33.	Lead 2,4,6-trinitro-m-phenylene dioxide (Lead styphnate)*	15245-44-0	239-290-0	N.D.	0.05
34.	Lead dipicrate*	6477-64-1	229-335-2	N.D.	0.05
35.	^③ Diboron trioxide	1303-86-2	215-125-8	N.D.	0.05
36.	Lead(II) bis methanesulfonate*	17570-76-2	401-750-5	N.D.	0.05
37.	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	N.D.	0.05
38.	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	N.D.	0.05
39.	Lead dinitrate*	10099-74-8	233-245-9	N.D.	0.05
40.	Tetralead trioxide sulphate*	12202-17-4	235-380-9	N.D.	0.05
41.	Lead monoxide (lead oxide)*	1317-36-8	215-267-0	N.D.	0.05

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No.	Substance Name(s)	CAS No.	EC No.	Results (%)	Report Limit (%)
				002	
42.	Lead titanium trioxide*	12060-00-3	235-038-9	N.D.	0.05
43.	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	N.D.	0.05
44.	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	N.D.	0.05
45.	Tetraethyllead*	78-00-2	201-075-4	N.D.	0.05
46.	[Phthalato(2-)]dioxotrilead*	69011-06-9	273-688-5	N.D.	0.05
47.	Lead cyanamidate*	20837-86-9	244-073-9	N.D.	0.05
48.	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped*	68784-75-8	272-271-5	N.D.	0.05
49.	Trilead dioxide phosphonate*	12141-20-7	235-252-2	N.D.	0.05
50.	Lead titanium zirconium oxide*	12626-81-2	235-727-4	N.D.	0.05
51.	Trilead bis(carbonate)dihydroxide*	1319-46-6	215-290-6	N.D.	0.05
52.	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	N.D.	0.05
53.	Orange lead (lead tetroxide)*	1314-41-6	215-235-6	N.D.	0.05
54.	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	N.D.	0.05
55.	Lead oxide sulfate*	12036-76-9	234-853-7	N.D.	0.05
56.	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	N.D.	0.05
57.	Silicic acid, lead salt*	11120-22-2	234-363-3	N.D.	0.05
58.	Cadmium	7440-43-9	231-152-8	N.D.	0.05
59.	Cadmium oxide*	1306-19-0	215-146-2	N.D.	0.05
60.	Cadmium sulphide*	1306-23-6	215-147-8	N.D.	0.05
61.	Lead di(acetate)*	301-04-2	206-104-4	N.D.	0.05
62.	Cadmium chloride	10108-64-2	233-296-7	N.D.	0.05
63.	Sodium peroxometaborate	7632-04-4	231-556-4	N.D.	0.05
64.	Sodium perborate; perboric acid, sodium salt	-	234-390-0	N.D.	0.05
65.	Cadmium fluoride*	7790-79-6	232-222-0	N.D.	0.05
66.	Cadmium sulphate*	10124-36-4, 31119-53-6	233-331-6	N.D.	0.05
67.	Cadmium nitrate*	10325-94-7	233-710-6	N.D.	0.05

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No.	Substance Name(s)	CAS No.	EC No.	Results (%)	Report Limit (%)
				002	
68.	Cadmium carbonate*	513-78-0	208-168-9	N.D.	0.05
69.	Cadmium hydroxide*	21041-95-2	244-168-5	N.D.	0.05
70.	lead	7439-92-1	231-100-4	N.D.	0.05
71.	Disodium octaborate tetrahydrate*	12008-41-2	234-541-0	N.D.	0.05

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1. w/w = weight by weight; 0.1%= 1000 mg/kg =1000 ppm
2. N.D. = Not Detected (<detection limit 0.05%)
3. *: Concentration value of the substance by the conversion from the test results of certain elements.
Concentration value of Bis(tributyltin)oxide by the conversion from the test results of Tributyl Tins.
4. **: All refractory ceramic fibres are covered by index number 650-017-00-8 in Annex VI of the Regulation on Classification, Labeling and Packaging of chemical substances and mixtures, the so called CLP Regulation(Regulation (EC) No 1272/2008).
5. ***:C.I.: Colour Index
6. ****:Light fractions from distillation
7. *****: Concentration value of Disodiumtetraborate, anhydrous and Tetraboron disodium heptaoxide, hydrate is evaluated by Disodiumtetraborate, with no consider of the hydrate. Concentration value of Sodium perborate; perboric acid, sodium salt; Sodium peroxometaborate is evaluated by Sodium perborate, with no consider of the hydrate.
8. ^①: In view of the substances are established as UVCB substances (substances of unknown or variable composition, complex reaction products or biological materials) consisting of different and variable constituents, the test results are calculated based on the main constituents of the representative compounds for substances.
9. ^②: In view of the substance contain variable substances, the test results are calculated based on main constituents of the representative compounds for the substances, and the test results of therepresentative compounds are calculated based on the result of specified heavy metal elements.
10. ^③: Concentration value of Boricacid; Disodiumtetraborate,anhydrous; Tetraboron disodiumheptaoxide, hydrate; Diboron trioxide; Sodium perborate; perboric acid, sodium salt; Sodium peroxometaborate is calculated by the conversion from the test results of certain elements and confirmed by appropriate solvent extraction, meanwhile the book of materials is suggested to be checked for further confirmation.
11. ^④: The substance does only fulfil the criteria of REACH Art. 57(a) if it contains Michler's ketone (EC Number: 202-027-5) or Michler's base (EC Number:202-959-2) in a concentration ≥0.1% (weight/weight)
12. Converted concentration of substance equal to or higher than report limit, the presence of the substance in the sample need further to be confirmed by checking MSDS or requesting from suppliers.
13. #: Denotes the client provides the samples do not contain the substances declaration

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Appendix:

1. Any supplier of an article containing a substance that is included in the Candidate List in a concentration above 0.1 % weight by weight (w/w) has the duty to communicate information in accordance with Article 33 of European Union regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
 - 1) Any supplier shall provide the recipient of the article with sufficient information to allow safe use of the article including, as a minimum, the name of that substance.
 - 2) On request by a consumer any supplier shall provide the consumer with sufficient information to allow safe use of the article including, as a minimum, the name of that substance within 45 days of receipt of the request, free of charge.
2. The supplier of a substance that is included in the Candidate List on their own shall provide the recipient of the substance with a safety data sheet for free compiled in accordance with Article 3 and Annex II of REACH.
3. The supplier of a mixture that containing a substance that is included in the Candidate List shall exchange information in accordance with Article 31, Article 32, and Annex II of REACH.
 - 1) Any supplier shall provide the recipient of the mixture with a safety data sheet for free where a preparation meets the criteria for classification as dangerous in accordance with Directives 1999/45/EC.
 - 2) Any supplier shall provide the recipient of the mixture with a safety data sheet for free where a preparation does not meet the criteria for classification as dangerous in accordance with Directive 1999/45/EC, but contains any substance that is included in the Candidate List in an individual concentration of ≥ 0.1 % by weight for non-gaseous mixtures or ≥ 0.2 % by volume for gaseous mixtures.

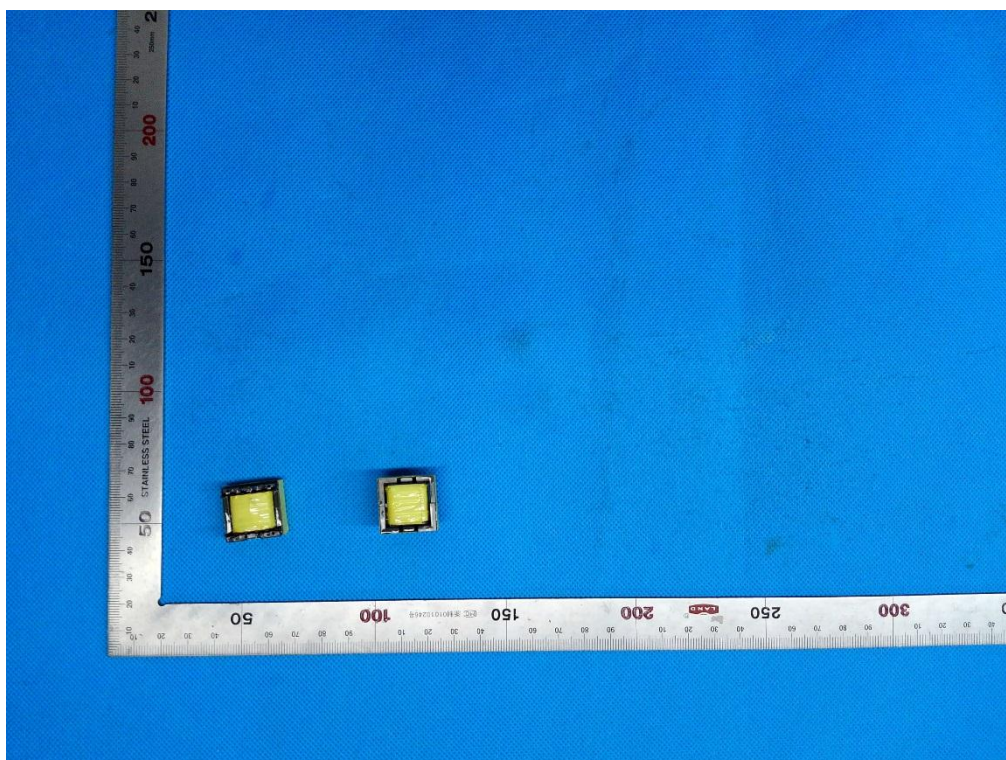
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Tested Sample/Part Description

Sample	Tested Material Description
1	Transformer series (no-metal)
2	Transformer series (metal)

Photo(s) of the sample(s)

*** End of Report ***

The test report is effective only with both signature and specialized stamp. The result(s) shown in this report refer only to the sample(s) tested. Without written approval of IMPAQ, this report can't be reproduced except in full.