

# Shenzhen 863 New Material and Technology Co., Ltd

## Test Report

Report No.: SAC2019-06228-22E

Date: Nov. 14, 2019

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**Customer** : SHENZHEN REFOND OPTOELECTRONICS CO., LTD  
**Address** : 6th Floor, Building #1, 10th Industrial Zone, Tian Liao Community, Gong Ming Area,  
Guang Ming New District, Shenzhen, China

### Sample Information:

**Sample Name** : LED Filament  
**Sample Description** : Yellow light bar and silver metal  
**Model/P.O. No.** : /  
**Item/Lot No.** : /  
**Material** : /  
**Buyer** : /  
**Supplier** : Refond  
**Manufacturer** : /  
**Received Date** : Nov. 5, 2019  
**Test Period** : Nov. 5, 2019~Nov. 14, 2019  
**Test Requested** : As specified by customer, refer to EU Regulation (EC) No 1907/2006 (REACH), to determine the 205 kinds of substances of very high concern (SVHC) in the submitted sample.

**Test Method** : Please refer to the following pages.

**Test Results** : Please refer to the following pages.

**Regulation Request** : Under REACH Regulation(EC) No 1907/2006, suppliers of articles which contain SVHC in a concentration above 0.1%(w/w) have to provide sufficient information, to articles recipients, to a consumer within 45 days of the receipt of the request. This information must ensure safe use of the article and as minimum contain the name of the substance.

Edited by: Hedy

Audited by: Yanping Xiao

Approved by: Sinaas



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### Test Result(s):

No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)
1	Anthracene	120-12-7	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2		GC-MS	N.D.	0.01
3	Short Chain Chlorinated Paraffines(SCCPs)	85535-84-8		GC-MS	N.D.	0.01
4	2,4-Dinitrotoluene(2,4-DNT)	121-14-2		GC-MS	N.D.	0.01
5	Anthracene oil	90640-80-5		GC-MS	N.D.	0.01
6	Anthracene oil, anthracene paste, distn. lights	91995-17-4		GC-MS	N.D.	0.01
7	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2		GC-MS	N.D.	0.01
8	Anthracene oil, anthracene-low	90640-82-7		GC-MS	N.D.	0.01
9	Anthracene oil, anthracene paste	90640-81-6		GC-MS	N.D.	0.01
10	Pitch, coal tar, high temp.	65996-93-2		GC-MS	N.D.	0.01
11	Tris(2-chloroethyl) phosphate	115-96-8		GC-MS	N.D.	0.01
12	2-Methoxyethanol	109-86-4		GC-MS	N.D.	0.01
13	2-Ethoxyethanol	110-80-5		GC-MS	N.D.	0.01
14	1,2-Benzendicarboxylic acid, di-(C7-11)-branched and linear alkyl esters	68515-42-4		GC-MS	N.D.	0.01
15	Hydrazine	7803-57-8 302-01-2		GC-MS	N.D.	0.01
16	1-Methyl-2-pyrrolidone(NMP)	872-50-4		GC-MS	N.D.	0.01
17	1,2,3-Trichloropropane	96-18-4		GC-MS	N.D.	0.01
18	1,2-Benzenedicarboxylic acid, di-(C6-8)-branched and linear alkyl esters, C7-rich	71888-89-6		GC-MS	N.D.	0.01
19	Trichloroethylene	79-01-6		GC-MS	N.D.	0.01

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20	2-ethoxyethyl acetate	111-15-9	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
21	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	ISO 17234-1:2015	GC-MS	N.D.	0.01
22	Dibutyl phthalate(DBP)	84-74-2	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
23	Bis(2-ethyl(hexyl) phthalate)(DEHP)	117-81-7		GC-MS	N.D.	0.01
24	Diisobutyl phthalate (DIBP)	84-69-5		GC-MS	N.D.	0.01
25	Benzyl butyl phthalate (BBP)	85-68-7		GC-MS	N.D.	0.01
26	Hexabromocyclododecane(HB CDD)	25637-99-4		GC-MS	N.D.	0.01
27	4-(1,1,3,3-tetramethylbutyl)ph enol, (4-tert-Octylphenol)	140-66-9	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
28	1,2-Dichloroethane	107-06-2		GC-MS	N.D.	0.01
29	Bis(2-methoxyethyl) ether	111-96-6		GC-MS	N.D.	0.01
30	N,N-dimethylacetamide	127-19-5		GC-MS	N.D.	0.01
31	Phenolphthalein	77-09-8		GC-MS	N.D.	0.01
32	2,2'-dichloro-4,4'-methylenedi aniline (MOCA)	101-14-4		GC-MS	N.D.	0.01
33	Formaldehyde, oligomeric reaction products with aniline	25214-70-4		GC-MS	N.D.	0.01
34	Bis(2-methoxyethyl) phthalate(DMEP)	117-82-8		GC-MS	N.D.	0.01
35	2-Methoxyaniline; o-Anisidine	90-04-0		GC-MS	N.D.	0.01
36	Bis(tributyltin) oxide(TBTO)	56-35-9		ISO 17353:2004	GC-MS	N.D.
37	Acrylamide	79-06-1	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
38	Lead hydrogen arsenate	7784-40-9	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01
39	Triethyl arsenate	15606-95-8		ICP-OES	N.D.	0.01

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No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)	
40	Diarsenic pentaoxide	1303-28-2	US EPA 3052:1996	ICP-OES	N.D.	0.01	
41	Diarsenic trioxide	1327-53-3	US EPA 6010D:2018	ICP-OES	N.D.	0.01	
42	Cobalt dichloride	7646-79-9	US EPA 3052:1996 EN 14582:2016	ICP-OES IC	N.D.	0.01	
43	Sodium dichromate	7789-12-0	US EPA 3052:1996 US EPA 3060A:1996	ICP-OES UV-Vis	N.D.	0.01	
44	Lead chromate	7758-97-6	US EPA 3052:1996 US EPA 3060A:1996 US EPA 6010D:2018	ICP-OES UV-Vis	N.D.	0.01	
45	Lead chromate molybdate sulfate red	12656-85-8		ICP-OES UV-Vis	N.D.	0.01	
46	Dichromium tris(chromate)	24613-89-6		ICP-OES UV-Vis	N.D.	0.01	
47	Potassium hydroxyoctaoxodizincatedichromate	11103-86-9		ICP-OES UV-Vis	N.D.	0.01	
48	Lead sulfchromate yellow	1344-37-2		ICP-OES	N.D.	0.01	
49	Aluminosilicate, Refractory Ceramic Fibres	/		ICP-OES	N.D.	0.01	
50	Zirconia Aluminosilicate, Refractory Ceramic Fibres	/		US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01
51	Pentazinc chromate octahydroxide	49663-84-5		ICP-OES	N.D.	0.01	
52	Lead azide, Lead diazide	13424-46-9		ICP-OES	N.D.	0.01	
53	Lead styphnate	15245-44-0		ICP-OES	N.D.	0.01	
54	Lead dipicrate	6477-64-1	ICP-OES	N.D.	0.01		
55	Arsenic acid	7778-39-4	ICP-OES	N.D.	0.01		
56	Calcium arsenate	7778-44-1	ICP-OES	N.D.	0.01		
57	Trilead diarsenate	3687-31-8	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01	
58	Boric acid	10043-35-3 11113-50-1	ICP-OES	N.D.	0.01		
59	Disodium tetraborate, anhydrous	1330-43-4 12179-04-3 1303-96-4	ICP-OES	N.D.	0.01		

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60	Tetraboron disodium heptaoxide, hydrate	12267-73-1		ICP-OES	N.D.	0.01
61	Sodium chromate	7775-11-3	US EPA 3052:1996 US EPA 3060A:1996	ICP-OES UV-Vis	N.D.	0.01
62	Potassium chromate	7789-00-6	US EPA 3052:1996 US EPA 3060A:1996	ICP-OES UV-Vis	N.D.	0.01
63	Potassium dichromate	7778-50-9	US EPA 3052:1996	ICP-OES UV-Vis	N.D.	0.01
64	Chromium trioxide	1333-82-0	US EPA 3060A:1996	ICP-OES	N.D.	0.01
65	Ammonium dichromate	7789-9-5	US EPA 3052:1996 US EPA 3060A:1996 EN 14582:2016	ICP-OES UV-Vis IC	N.D.	0.01
66	Cobalt(II) diacetate	71-48-7		ICP-OES IC	N.D.	0.01
67	Cobalt(II) carbonate	513-79-1	US EPA 3052:1996	ICP-OES IC	N.D.	0.01
68	Cobalt(II) Dinitrate	10141-05-6	EN 14582:2016	ICP-OES IC	N.D.	0.01
69	Cobalt(II) sulphate	10124-43-3		ICP-OES IC	N.D.	0.01
70	Chromic acid, Dichromic acid, Oligomers of chromic acid and Dichromic acid	7738-94-5 13530-68-2	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES UV-Vis	N.D.	0.01
71	Strontium chromate	7789-6-2	US EPA 3060A:1996	ICP-OES UV-Vis	N.D.	0.01
72	Diboron trioxide	1303-86-2	US EPA 3052:1996	ICP-OES	N.D.	0.01
73	Lead(II) bis(methanesulfonate)	17570-76-2	US EPA 6010D:2018	ICP-OES	N.D.	0.01
74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2		GC-MS	N.D.	0.01
75	1,2-dimethoxyethane, ethylene glycol dimethyl ether (EGDME)	110-71-4	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
76	Formamide	75-12-7		GC-MS	N.D.	0.01
77	1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-trione (TGIC)	2451-62-9		GC-MS	N.D.	0.01

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78	$\beta$ -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		GC-MS	N.D.	0.01	
79	4,4'-bis(dimethylamino)benzophenone(Michler's ketone)	90-94-8		GC-MS	N.D.	0.01	
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01	
81	4,4'-bis(dimethylamino)-4''-(methethylamino)trityl alcohol	561-41-1	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01	
82	4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9		HPLC	N.D.	0.01	
83	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylenecyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5		US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
84	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0		HPLC	N.D.	0.01	
85	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7	ISO 17234-1:2015	GC-MS	N.D.	0.01	
86	Biphenyl-4-ylamine	92-67-1		GC-MS	N.D.	0.01	
87	4,4'-methylenedi-o-toluidine	838-88-0		GC-MS	N.D.	0.01	
88	o-Toluidine	95-53-4		GC-MS	N.D.	0.01	
89	o-aminoazotoluene	97-56-3		GC-MS	N.D.	0.01	
90	4-Aminoazobenzene	60-09-3		GC-MS	N.D.	0.01	
91	4,4'-oxydianiline and its salts	101-80-4		GC-MS	N.D.	0.01	
92	6-methoxy-m-toluidine (p-cresidine)	120-71-8		GC-MS	N.D.	0.01	

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93	Dibutyltin dichloride (DBTC)	683-18-1	ISO 17353:2004	GC-MS	N.D.	0.01	
94	Diazeno-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01	
95	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2		GC-MS	N.D.	0.01	
96	N-methylacetamide	79-16-3	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01	
97	Dinoseb	88-85-7		GC-MS	N.D.	0.01	
98	Dimethyl sulphate	77-78-1	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01	
99	Furan	110-00-9		GC-MS	N.D.	0.01	
100	Pyrochlore, antimony lead yellow	8012-00-8		GC-MS	N.D.	0.01	
101	Diethyl sulphate	64-67-5		GC-MS	N.D.	0.01	
102	1,2-epoxypropane	75-56-9		GC-MS	N.D.	0.01	
103	1-bromopropane	106-94-5		GC-MS	N.D.	0.01	
104	Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE)	1163-19-5		US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
105	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	—			GC-MS	N.D.	0.01
106	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated -covering well-defined substances and UVCB substances, polymers	—			GC-MS	N.D.	0.01

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No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)
	and homologues					
107	1,2-Diethoxyethane	629-14-1		GC-MS	N.D.	0.01
108	Cyclohexane-1,2-dicarboxylic anhydride(Hexahydrophthalic anhydride - HHPA)	85-42-7		GC-MS	N.D.	0.01
109	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	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
110	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0		GC-MS	N.D.	0.01
111	N-pentyl-isopentylphthalate	776297-69-9	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
112	Methoxyacetic acid	625-45-6		GC-MS	N.D.	0.01
113	Diisopentylphthalate	605-50-5		GC-MS	N.D.	0.01
114	N,N-dimethylformamide	68-12-2		GC-MS	N.D.	0.01
115	Heptacosafuorotetradecanoic acid	376-06-7		HPLC	N.D.	0.01
116	Pentacosafuorotridecanoic acid	72629-94-8	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
117	Henicosafuoroundecanoic acid	2058-94-8		HPLC	N.D.	0.01
118	Tricosafuorododecanoic acid	307-55-1		HPLC	N.D.	0.01
119	Pentalead tetraoxide sulphate	12065-90-6		ICP-OES	N.D.	0.01
120	Lead dinitrate	10099-74-8		ICP-OES	N.D.	0.01
121	Tetralead trioxide sulphate	12202-17-4	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01
122	Lead oxide (lead monoxide)	1317-36-8		ICP-OES	N.D.	0.01
123	Lead titanium trioxide	12060-00-3		ICP-OES	N.D.	0.01



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124	Dioxobis(stearato)trilead	12578-12-0	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01	
125	Acetic acid, lead salt, basic	51404-69-4		ICP-OES	N.D.	0.01	
126	Tetraethyllead	78-00-2		ICP-OES	N.D.	0.01	
127	[Phthalato(2-)] dioxotrilead	69011-06-9		ICP-OES	N.D.	0.01	
128	Lead cyanamidate	20837-86-9		ICP-OES	N.D.	0.01	
129	Silicic acid, barium salt, lead-doped	68784-75-8		ICP-OES	N.D.	0.01	
130	Trilead dioxide phosphonate	12141-20-7		ICP-OES	N.D.	0.01	
131	Lead Titanium Zirconium Oxide	12626-81-2		ICP-OES	N.D.	0.01	
132	Basic lead carbonate (trilead bis(carbonate) dihydroxide)	1319-46-6		ICP-OES	N.D.	0.01	
133	Fatty acids, C16-18, lead salts	91031-62-8		ICP-OES	N.D.	0.01	
134	Lead tetroxide (orange lead)	1314-41-6		ICP-OES	N.D.	0.01	
135	Sulfurous acid, lead salt, dibasic	62229-08-7		US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01
136	Lead oxide sulphate	12036-76-9		ICP-OES	N.D.	0.01	
137	Lead bis (tetrafluoroborate)	13814-96-5	ICP-OES	N.D.	0.01		
138	Silicic acid, lead salt	11120-22-2	ICP-OES	N.D.	0.01		
139	Cadmium	7440-43-9	ICP-OES	N.D.	0.01		
140	Cadmium oxide	1306-19-0	ICP-OES	N.D.	0.01		
141	Dipentyl phthalate (DPP)	131-18-0	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01	
142	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01	
143	Pentadecafluorooctanoic acid	335-67-1		HPLC	N.D.	0.01	

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	(PFOA)					
144	4-Nonylphenol branched and linear, ethoxylated	—		HPLC	N.D.	0.01
145	Cadmium sulphide	1306-23-6	US EPA 3052:1996	ICP-OES	N.D.	0.01
146	Lead di (acetate)	301-04-2	US EPA 6010D:2018	ICP-OES	N.D.	0.01
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)] bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
148	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	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
149	Imidazolidine-2-thione(2-imidazole-2-thiol)	96-45-7		GC-MS	N.D.	0.01
150	Trixylyl phosphate	25155-23-1		GC-MS	N.D.	0.01
151	Dihexyl phthalate	84-75-3	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
152	1,2-Benzenedicarboxylic acid, dihexylester, branched and linear	68515-50-4		GC-MS	N.D.	0.01
153	Cadmium chloride	10108-64-2		ICP-OES	N.D.	0.01
154	Sodium peroxometaborate	7632-4-4	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01
155	Sodium perborate; perboric acid, sodium salt	—		ICP-OES	N.D.	0.01
156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	US EPA 3550C:2007	HPLC	N.D.	0.01
157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	US EPA 8321B:2007	HPLC	N.D.	0.01

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158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetra decanoate (DOTE)	15571-58-1	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
159	Cadmium fluoride	7790-79-6	US EPA 3052:1996 US EPA 6010D:2018	ICP-OES	N.D.	0.01
160	Cadmium sulphate	10124-36-4; 31119-53-6		ICP-OES	N.D.	0.01
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetra decanoate 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)	—	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5 68648-93-1	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
163	5-sec-butyl-2-(2,4-dimethyl cyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethyl cyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	—	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
164	1,3-propanesultone	1120-71-4	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01

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No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl) phenol (UV-327)	3864-99-1	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)	36437-37-3	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
167	Nitrobenzene	98-95-3	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
169	Benzo[def]chrysene	50-32-8	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
170	4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
172	4-heptyl-phenol, branched and linear (4-HPbl)	—	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
173	P-(1,1-dimethylpropyl) phenol (PTAP)	80-46-6	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	—	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
175	Dechlorane plus (covering any of its individual anti- and syn-isomers or any combination thereof)	—	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
176	Benz[a]anthracene	56-55-3 1718-53-2	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
177	Cadmium nitrate	10325-94-7	US EPA3052:1996 US EPA6010D:2018	ICP-OES	N.D.	0.01

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No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)
178	Cadmium carbonate	513-78-0	US EPA3052:1996 US EPA6010D:2018	ICP-OES	N.D.	0.01
179	Cadmium hydroxide	21041-95-2	US EPA3052:1996 US EPA6010D:2018	ICP-OES	N.D.	0.01
180	Chrysene	218-01-9 1719-03-5	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	—	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride) (TMA)	552-30-7	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
183	Benzo[ghi]perylene	191-24-2			N.D.	0.01
184	Decamethylcyclopentasiloxane (D5)	541-02-6	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
185	Dicyclohexyl phthalate (DCHP)	84-61-7			N.D.	0.01
186	Disodium octaborate	12008-41-2	US EPA3052:1996 US EPA6010D:2018	ICP-OES	N.D.	0.01
187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
188	Ethylenediamine (EDA)	107-15-3			N.D.	0.01
189	Lead	7439-92-1	US EPA3052:1996 US EPA6010D:2018	ICP-OES	N.D.	0.01

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No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)
190	Octamethylcyclotetrasiloxane (D4)	556-67-2	US EPA 3540C:1996 US EPA 8270E:2018	GC-MS	N.D.	0.01
191	Hydrogenated, Terphenyls	61788-32-7			N.D.	0.01
192	Pyrene	129-00-0			N.D.	0.01
193	Phenanthrene	85-01-8	US EPA 3550C:2007	GC-MS	N.D.	0.01
194	Fluoranthene	206-44-0	US EPA 8270E:2018		N.D.	0.01
195	Benzo[k]fluoranthene	207-08-9			N.D.	0.01
196	2,2-bis(4'-hydroxyphenyl)-4-methylpentane (Bisphenol P)	6807-17-6	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor; 3-BC)	15087-24-8	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
198	Tris (4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	—	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
199	4-tere-butylphenol	98-54-4	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
200	2-methoxyethyl acetate	110-49-6	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
201	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (HFPO-DA)	—	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
202	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1		GC-MS	N.D.	0.01

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No.	Test Items	CAS No.	Test Methods	Equipment	Results (%)	MDL (%)
203	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	US EPA 3550C:2007 US EPA 8270E:2018	GC-MS	N.D.	0.01
204	Diisohexyl phthalate	71850-09-4		GC-MS	N.D.	0.01
205	Perfluorobutane sulfonic acid (PFBS) and its salts	—	US EPA 3550C:2007 US EPA 8321B:2007	HPLC	N.D.	0.01

**Remark:** -N.D.=Not Detected (<MDL);

-MDL=Method Detected Limit;

-0.1%=1000mg/kg=1000ppm;

-\*: The result of Cobalt dichloride was calculated by the testing result of heavy metal element and anion.

The result of Diarsenic pentaoxide, Diarsenic trioxide, Sodium dichromate dehydrate, Lead hydrogen arsenate, Aluminosilicate, Zirconia aluminosilicate, Lead chromate, Lead sulchromate yellow and lead chromate molybdate sulphate red, Boric acid, Disodium tetraborate, anhydrous, Tetraboron disodium heptaoxide, hydrate, Sodium chromate, Potassium chromate, Ammonium dichromate and Potassium dichromate, Cobalt sulphate, Cobalt Dinitrate, Cobalt carbonate, Cobalt diacetate, Chromium trioxide, Chromic acid, Dichromic acid, Oligomers of chromic acid and Dichromic acid, Strontium chromate, Dichromium tris(chromate), Potassium hydroxyoctaoxidizincatedi-chromate, Pentazine chromate octahydroxide, Aluminosilicate Refractory Ceramic Fibres (RCF), Zirconia Aluminosilicate Refractory Ceramic Fibres Zr-RCF, Lead azide Lead diazide, Lead styphnate, Lead dipicrate, Arsenic acid, Calcium arsenate, Trilead diarsenate, Pentalead tetraoxide sulphate, Lead dinitrate, Tetralead trioxide sulphate, Lead oxide (lead monoxide) , Lead titanium trioxide, Dioxobis(stearato)trilead, Acetic acid, lead salt, basic, Tetraethyllead, [Phthalato(2-)]dioxotrilead, Lead cyanamidate, Silicic acid, barium salt, lead-doped, Trilead dioxide phosphonate, Lead Titanium Zirconium Oxide, Basic lead carbonate (trilead bis(carbonate)dihydroxide) , Fatty acids, C16-18, lead salts, Lead tetroxide (orange lead) , Sulfurous acid, lead salt, dibasic, lead oxide sulphate, Lead bis(tetrafluoroborate) , Silicic acid, lead salt, Cadmium oxide, Cadmium nitrate, Cadmium carbonate, Cadmium hydroxide, disodium octaborate were calculated by the testing result of heavy metal element. To judge if the sample contains above metal compounds, further confirmation is needed; MDL is obtained by evaluating elements conversion (such as B, Na, K, As, Pb, Co, Si, Zr, Mo, Cr<sup>6+</sup>, P, Ca, Zn, Sr, Ti, Cd). The result of Bis(tributyltin) oxide was calculated by the testing result of tributyltin. This result was the screening result of Bis(tributyltin) oxide, including tributyltin oxide and its salts. If wants to know the exact content of Bis(tributyltin) oxide, further confirmation is needed; MDL is obtained by

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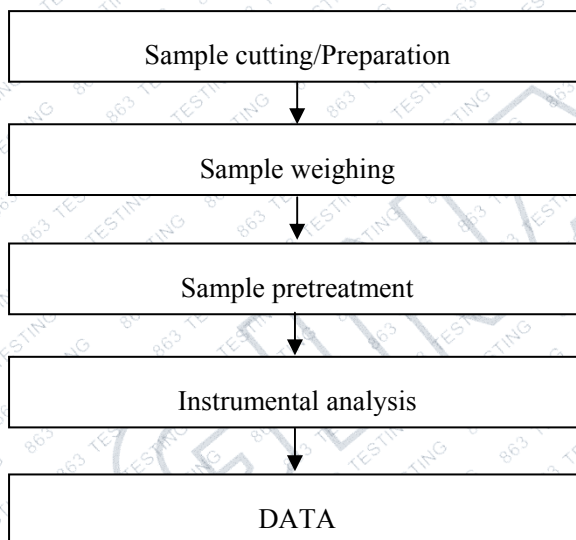
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evaluating tributyltin content.

#: According to customer's requirements, the testing is based on mixed samples while not on individual material, and the result is only for reference during inhouse quality control.

Test Process:





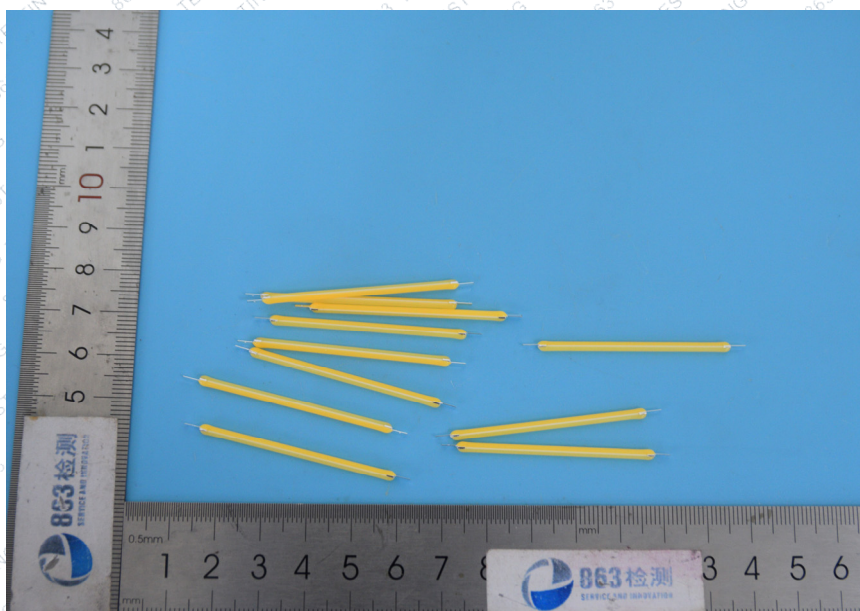
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Photo of the sample



\*\*\* End of report \*\*\*

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