

Test Report

Number: SHAH01162907

Applicant: ZHE JIANG REEF SCIENCE AND TECHNOLOGY
CO.,LTD
ANJI LINGGANG ECONOMIC DEVELOPMENT
ZONE LINGGANG INDUSTRIAL PARK

Date: 20 Nov, 2019

Sample Description:

(1) groups/pieces of submitted sample said to be :

Item Name : PCR HDPE
Item No. : EFHD011RP

Tests Conducted:

As requested by the applicant, for details refer to attached page(s).

Conclusion:

<u>Tested Samples</u>	<u>Standard</u>	<u>Result</u>
Submitted Sample	EU REACH Regulation No 1907/2006 Article 33(1) Obligation to provide information of safe use (see REACH requirement in report for details)	Meet Requirement
Screened components of Submitted Sample	Screening by XRF spectroscopy and chemical confirmation test for RoHS Directive 2011/65/EU and (EU) 2015/863	Pass

To be continued

Authorized By:
Intertek Testing Services Ltd, Shanghai, HangZhou Branch



Peter Chen
General Manager



Test Report

Number: SHAH01162907

Tests Conducted

1. SVHC Testing

By a combination of Inductively Coupled Argon Plasma Spectrometry, Gas Chromatography – Mass Spectrometry, Liquid Chromatography - Mass Spectrometry, UV-VIS Spectrophotometer, Gas Chromatography - Electron Capture Detector, Headspace Gas Chromatography - Mass Spectrometry and High-Performance Liquid Chromatography.

(a) The First List (15 SVHC Released in October, 2008)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
1	Cobalt Dichloride Δ	7646-79-9	ND
2	Diarsenic Pentaoxide Δ	1303-28-2	ND
3	Diarsenic Trioxide Δ	1327-53-3	ND
4	Lead Hydrogen Arsenate Δ	7784-40-9	ND
5	Triethyl Arsenate Δ	15606-95-8	ND
6	Sodium Dichromate Δ	7789-12-0, 10588-01-9	ND
7	Bis (Tributyltin) Oxide (TBTO) Δ	56-35-9	ND
8	Anthracene	120-12-7	ND
9	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	ND
10	Hexabromocyclododecane (HBCDD) and All Major Diastereoisomers Identified (α-HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 and 3194-55-6 (134237-50-6, 134237-51-7, 134237-52-8)	ND
11	5-Tert-Butyl-2,4,6-Trinitro-m-Xylene (Musk Xylene)	81-15-2	ND
12	Bis (2-Ethylhexyl) Phthalate (DEHP)	117-81-7	ND
13	Dibutyl Phthalate (DBP)	84-74-2	ND
14	Benzyl Butyl Phthalate (BBP)	85-68-7	ND
15	Short Chain Chlorinated Paraffins (C ₁₀₋₁₃)	85535-84-8	ND

(b) The Second List (13 SVHC Release in January, 2010 and March, 2010)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
16	Lead Chromate Δ	7758-97-6	ND
17	Lead Chromate Molybdate Sulphate Red (C.I. Pigment Red 104) Δ	12656-85-8	ND
18	Lead Sulfochromate Yellow (C.I. Pigment Yellow 34) Δ	1344-37-2	ND
19	Tris (2-Chloroethyl) Phosphate	115-96-8	ND
20	2,4-Dinitrotoluene	121-14-2	ND
21	Diisobutyl Phthalate (DIBP)	84-69-5	ND
22	Coal Tar Pitch, High Temperature	65996-93-2	ND
23	Anthracene Oil	90640-80-5	ND
24	Anthracene Oil, Anthracene Paste, Distn. Lights	91995-17-4	ND
25	Anthracene Oil, Anthracene Paste, Anthracene Fraction	91995-15-2	ND
26	Anthracene Oil, Anthracene-low	90640-82-7	ND
27	Anthracene Oil, Anthracene Paste	90640-81-6	ND
28	Acrylamide	79-06-1	ND

(c) The Third List (8 SVHC Release in June, 2010)



Test Report

Number: SHAH01162907

Tests Conducted

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
29	Boric Acid Δ	10043-35-3, 11113-50-1	ND
30	Disodium Tetraborate, Anhydrous Δ	1330-43-4, 12179-04-3, 1303-96-4	ND
31	Tetraboron Disodium Heptaoxide, Hydrate Δ	12267-73-1	ND
32	Sodium Chromate Δ	7775-11-3	ND
33	Potassium Chromate Δ	7789-00-6	ND
34	Ammonium Dichromate Δ	7789-09-5	ND
35	Potassium Dichromate Δ	7778-50-9	ND
36	Trichloroethylene	79-01-6	ND

(d) The Fourth List (8 SVHC Release in December, 2010)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
37	2-Methoxyethanol	109-86-4	ND
38	2-Ethoxyethanol	110-80-5	ND
39	Cobalt Sulphate Δ	10124-43-3	ND
40	Cobalt Dinitrate Δ	10141-05-6	ND
41	Cobalt Carbonate Δ	513-79-1	ND
42	Cobalt Diacetate Δ	71-48-7	ND
43	Chromium Trioxide Δ	1333-82-0	ND
44	Chromic Acid Δ Dichromic Acid Δ Oligomers of Chromic Acid and Dichromic Acid Δ	7738-94-5 13530-68-2 --	ND

(e) The Fifth List (7 SVHC Release in June, 2011)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
45	Strontium ChromateΔ	7789-06-2	ND
46	2-ethoxyethyl acetate (2-EEA)	111-15-9	ND
47	1,2-Benzenedicarboxylic acid, di-C ₇₋₁₁ - branched and linear alkyl esters (DHNUP)	68515-42-4	ND
48	Hydrazine	7803-57-8 302-01-2	ND
49	1-methyl-2-pyrrolidone	872-50-4	ND
50	1,2,3-trichloropropane	96-18-4	ND
51	1,2-Benzenedicarboxylic acid, di-C ₆₋₈ - branched alkyl esters, C ₇ -rich (DIHP)	71888-89-6	ND

(f) The Sixth List (20 SVHC Release in December, 2011)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
52	Lead dipicrateΔ	6477-64-1	ND
53	Lead styphnateΔ	15245-44-0	ND
54	Lead azide; Lead diazideΔ	13424-46-9	ND
55	Phenolphthalein	77-09-8	ND
56	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	ND

Test Report

Number: SHAH01162907

Tests Conducted

57	N,N-dimethylacetamide (DMAC)	127-19-5	ND
58	Trilead diarsenateΔ	3687-31-8	ND
59	Calcium arsenateΔ	7778-44-1	ND
60	Arsenic acidΔ	7778-39-4	ND
61	Bis(2-methoxyethyl) ether	111-96-6	ND
62	1,2-Dichloroethane	107-06-2	ND
63	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	ND
64	2-Methoxyaniline; o-Anisidine	90-04-0	ND
65	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	ND
66	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	ND
67	Pentazinc chromate octahydroxideΔ	49663-84-5	ND
68	Potassium hydroxyoctaoxodizincate di-chromateΔ	11103-86-9	ND
69	Dichromium tris(chromate)Δ	24613-89-6	ND
70	Aluminosilicate Refractory Ceramic Fibres Δ	(Index No. 650-017-00-8)	ND
71	Zirconia Aluminosilicate Refractory Ceramic Fibres Δ	(Index No. 650-017-00-8)	ND

(g) The Seventh List (13 SVHC Release in June, 2012)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	ND
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	ND
74	Diboron trioxideΔ	1303-86-2	ND
75	Formamide	75-12-7	ND
76	Lead(II) bis(methanesulfonate) Δ	17570-76-2	ND
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	ND
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	ND
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	ND
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	ND
81	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	ND
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	ND



Test Report

Number: SHAH01162907

Tests Conducted

83	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)]	6786-83-0	ND
84	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)]	561-41-1	ND

(h) The Eighth List (54 SVHC Release in December, 2012)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	ND
86	Pentacosafuorotridecanoic acid	72629-94-8	ND
87	Tricosafuorododecanoic acid	307-55-1	ND
88	Henicosafuoroundecanoic acid	2058-94-8	ND
89	Heptacosafuorotetradecanoic acid	376-06-7	ND
90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	ND
91	Cyclohexane-1,2-dicarboxylic anhydride [1]	85-42-7	ND
	cis-cyclohexane-1,2-dicarboxylic anhydride [2]	13149-00-3	
	trans-cyclohexane-1,2-dicarboxylic anhydride [3]	14166-21-3	
	[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].		
92	Hexahydromethylphthalic anhydride [1],	25550-51-0	ND
	Hexahydro-4-methylphthalic anhydride [2],	19438-60-9	
	Hexahydro-1-methylphthalic anhydride [3],	48122-14-1	
	Hexahydro-3-methylphthalic anhydride [4]	57110-29-9	
	[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]		



Test Report

Number: SHAH01162907

Tests Conducted

93	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]	--	ND
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	--	ND
95	Methoxyacetic acid	625-45-6	ND
96	N,N-dimethylformamide	68-12-2	ND
97	Dibutyltin dichloride (DBTC) Δ	683-18-1	ND
98	Lead monoxide (Lead oxide) Δ	1317-36-8	ND
99	Orange lead (Lead tetroxide) Δ	1314-41-6	ND
100	Lead bis(tetrafluoroborate) Δ	13814-96-5	ND
101	Trilead bis(carbonate)dihydroxide Δ	1319-46-6	ND
102	Lead titanium trioxideΔ	12060-00-3	ND
103	Lead titanium zirconium oxideΔ	12626-81-2	ND
104	Silicic acid, lead salt Δ	11120-22-2	ND
105	Silicic acid (H ₂ SiO ₅), barium salt (1:1), lead-dopedΔ [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]	68784-75-8	ND
106	1-bromopropane (n-propyl bromide)	106-94-5	ND
107	Methyloxirane (Propylene oxide)	75-56-9	ND
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	ND
109	Diisopentylphthalate (DIPP)	605-50-5	ND
110	N-pentyl-isopentylphthalate	776297-69-9	ND
111	1,2-diethoxyethane	629-14-1	ND
112	Acetic acid, lead salt, basicΔ	51404-69-4	ND
113	Lead oxide sulfateΔ	12036-76-9	ND
114	[Phthalato(2-)]dioxotrileadΔ	69011-06-9	ND
115	Dioxobis(stearato)trileadΔ	12578-12-0	ND
116	Fatty acids, C16-18, lead saltsΔ	91031-62-8	ND
117	Lead cyanamidateΔ	20837-86-9	ND
118	Lead dinitrateΔ	10099-74-8	ND
119	Pentalead tetraoxide sulphateΔ	12065-90-6	ND
120	Pyrochlore, antimony lead yellowΔ	8012-00-8	ND
121	Sulfurous acid, lead salt, dibasicΔ	62229-08-7	ND
122	TetraethylleadΔ	78-00-2	ND
123	Tetralead trioxide sulphateΔ	12202-17-4	ND

Test Report

Number: SHAH01162907

Tests Conducted

124	Trilead dioxide phosphonateΔ	12141-20-7	ND
125	Furan	110-00-9	ND
126	Diethyl sulphate	64-67-5	ND
127	Dimethyl sulphate	77-78-1	ND
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	ND
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	ND
130	4,4'-methylenedi-o-toluidine	838-88-0	ND
131	4,4'-oxydianiline and its salts	101-80-4	ND
132	4-aminoazobenzene	60-09-3	ND
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	ND
134	6-methoxy-m-toluidine (p-cresidine)	120-71-8	ND
135	Biphenyl-4-ylamine	92-67-1	ND
136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3	ND
137	o-toluidine	95-53-4	ND
138	N-methylacetamide	79-16-3	ND

(i) The Ninth List (6 SVHC Release in June, 2013)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
139	CadmiumΔ	7440-43-9	ND
140	Cadmium oxideΔ	1306-19-0	ND
141	Dipentyl phthalate (DPP)	131-18-0	ND
142	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]	--	ND
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	ND
144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	ND

(j) The Tenth List (7 SVHC Release in December, 2013)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
145	Cadmium sulphideΔ	1306-23-6	ND
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	ND
147	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	ND
148	Diethyl phthalate	84-75-3	ND
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	ND

Test Report

Number: SHAH01162907

Tests Conducted

150	Lead di(acetate) Δ	301-04-2	ND
151	Trixylyl phosphate	25155-23-1	ND

(k) The Eleventh List (4 SVHC Release in June, 2014)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	ND
153	Cadmium chlorideΔ	10108-64-2	ND
154	Sodium perborate; Perboric acid, sodium saltΔ	15120-21-5; 11138-47-9	ND
155	Sodium peroxometaborateΔ	7632-04-4	ND

(l) The Twelfth List (6 SVHC Release in December, 2014)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	ND
157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	ND
158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	ND
159	Cadmium fluorideΔ	7790-79-6	ND
160	Cadmium sulphateΔ	10124-36-4; 31119-53-6	ND
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)	--	ND

(m) The Thirteenth List (2 SVHC Release in June, 2015)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
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 (EC No. 201-559-5)	68515-51-5; 68648-93-1	ND
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 isomers of [1] and [2] or any combination thereof]	--	ND

(n) The Fourteenth List (5 SVHC Release in December, 2015)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
164	1,3-Propanesultone	1120-71-4	ND

Test Report

Number: SHAH01162907

Tests Conducted

165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl) phenol (UV-327)	3864-99-1	ND
166	2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	ND
167	Nitrobenzene	98-95-3	ND
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1; 21049-39-8; 4149-60-4	ND

(o) The Fifteenth List (1 SVHC Release in June, 2016)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	ND

(p) The Sixteenth List (4 SVHC Release in January, 2017)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
170	4,4'-isopropylidenediphenol (bisphenol A)	80-05-7	ND
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts Nonadecafluorodecanoic acid EC no.: 206-400-3 CAS no.: 335-76-2 Ammonium nonadecafluorodecanoate EC no.: 221-470-5 CAS no.: 3108-42-7 Decanoic acid, nonadecafluoro-, sodium salt EC no.: -- CAS no.: 3830-45-3	--	ND
172	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]	--	ND
173	p-(1,1-dimethylpropyl)phenol	80-46-6	ND

(q) The Seventeenth List (1 SVHC Release in July, 2017)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
174	Perfluorohexane-1-sulphonic acid and its salt (PFHxS)	--	ND

(r) The Eighteenth List (7 SVHC Release in January, 2018)

No.	Chemical Substance	CAS No.	Results % (w/w) Whole product
175	Benz[a]anthracene	56-55-3	ND
176	Cadmium nitrate Δ	10325-94-7	ND
177	Cadmium carbonate Δ	513-78-0	ND
178	Cadmium hydroxide Δ	21041-95-2	ND
179	Chrysene	218-01-9	ND



Test Report

Number: SHAH01162907

Tests Conducted

180	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1.6,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	--	ND
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]	--	ND

(s) The Nineteenth List (10 SVHC Release in June, 2018)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
182	Octamethylcyclotetrasiloxane (D4)	556-67-2	ND
183	Decamethylcyclopentasiloxane (D5)	541-02-6	ND
184	Dodecamethylcyclohexasiloxane (D6)	540-97-6	ND
185	Lead	7439-92-1	ND
186	Disodium octaborateΔ	12008-41-2	ND
187	Benzo[ghi]perylene	191-24-2	ND
188	Terphenyl hydrogenated	61788-32-7	ND
189	Ethylenediamine (EDA)	107-15-3	ND
190	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (Trimellitic anhydride) (TMA)	552-30-7	ND
191	Dicyclohexyl phthalate (DCHP)	84-61-7	ND

(t) The Twentieth List (6 SVHC Release in January, 2019)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
192	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	ND
193	Benzo[k]fluoranthene	207-08-9	ND
194	Fluoranthene	206-44-0	ND
195	Phenanthrene	85-01-8	ND
196	Pyrene	129-00-0	ND
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor)	15087-24-8	ND

(u) The Twenty-first List (4 SVHC Release in July, 2019)

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
198	4-tert-butylphenol (PTBP)	98-54-4	ND



Test Report

Number: SHAH01162907

Tests Conducted

199	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof)	-	ND
200	2-methoxyethyl acetate	110-49-6	ND
201	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with $\geq 0.1\%$ w/w of 4-nonylphenol, branched and linear (4-NP)	-	ND

(v) Tested proposed SVHC Chemicals list in the Public Consultations on 3 September 2019

No.	Chemical Substance	CAS No.	Results % (w/w)
			Whole product
1	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	ND
2	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	ND
3	Diisohexyl phthalate	71850-09-4	ND
4	Perfluorobutane sulfonic acid (PFBS) and its salts	--	ND

Reporting limit=0.050% (whole product)

SVHC = Substance of very high concern

ND = Not detected (the result is less than the reporting limit)

Reporting limit = Quantitation limit of analyte in sample

 Δ = Determination was based on elemental analysis. The content was calculated based on assumption of worst-case.

Notes:

- Substances of very high concern (SVHC) are classified as:
 - Carcinogenic, mutagenic or toxic to reproduction category 1 (proven on humans) and category 2 (proven on animals)
 - Persistent, bioaccumulative and toxic chemicals (PBT)
 - Very persistent and very bioaccumulative chemicals (vPvB)
 - Other similar substances such as endocrine disrupters
- IF THE IMPORTED OR MANUFACTURED VOLUME OF EACH INDIVIDUAL SVHC IN ARTICLE IS MORE THAN 0.1% (W/W) AND IF IT EXCEEDS 1 TONNE PER YEAR ACROSS ALL PRODUCT RANGES, THEN IMPORTER OR MANUFACTURER REQUIRE NOTIFICATION TO THE EUROPEAN CHEMICAL AGENCY (ECHA). FOR SUBSTANCES INCLUDED IN THE CANDIDATE LIST ON OR AFTER 1 DECEMBER 2010, THE NOTIFICATIONS HAVE TO BE SUBMITTED NO LATER THAN 6 MONTHS AFTER THE INCLUSION. THE FOLLOWING INFORMATION HAS TO BE SUBMITTED FOR NOTIFICATION:
 - Identification of the registrant and the substance
 - Classification and labelling of the substance
 - Description of use of the substance and the article
 - Registration number, if available
 - Tonnage range
- As per article 31 of regulation (EC) No. 1907/2006 (REACH), suppliers of mixtures not classified as dangerous according to directive 1999/45/EC have to provide the recipients, at their request, with a safety data sheet if the mixtures contain at least one substance on the SVHC candidate list and its individual concentration is 0.1%(w/w) or above for non-gaseous preparations.

REACH requirement:



Test Report

Number: SHAH01162907

Tests Conducted

As per article 33(1) of regulation (EC) No. 1907/2006 (REACH), recipients of product must be provided with information of safe use if any of the tested substances (SVHC) exceeded 0.1% (w/w). A product meets the requirement of article 33(1) by default when no SVHC exceeds 0.1% (w/w).

2. Certain Hazardous Substance in Electrical and Electronic Equipment

Cadmium (Cd), Lead (Pb), Mercury (Hg), Chromium (Cr) and bromine (Br) content were measured with reference to IEC 62321-3-1 Edition 1.0:2013 by XRF spectroscopy and chemical confirmation test for RoHS restricted substances. And Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs) and Phthalates content were determined by Gas Chromatographic-Mass Spectrometric (GC-MS).

(A) Results:

Part No.	Screened Components	Refer Information	Items	XRF Results	Screened Results (phthalates)	Chemical Confirmation Result	Conclusion on RoHS
1	WHITE PLASTIC PARTICLES		Cd	P	NA	/	
			Pb	P		/	
			Hg	P		/	
			Cr	P		/	
			Br	P		/	
			DEHP	NA	P	/	
			BBP		P	/	
			DBP		P	/	
			DIBP		P	/	

P = Pass (Below the lower screening limit of table (B1))

X = Inconclusive result (Further chemical test was suggested (see table (B1).)

F = Fail (Exceeded the upper screening limits of table (B1))

NA = Not applicable

ND = Not detected

ppm = Parts per million = mg/kg

µg/cm² = Microgram per square centimeter

NT = Not tested

Negative = The Cr (VI) concentration is less than 0.10 µg/cm². The sample is negative for Cr (VI).

Inconclusive = The Cr (VI) concentration is between 0.10 µg/cm² and 0.13 µg/cm². The result is considered to be inconclusive. Unavoidable coating variations may influence the determination.

Positive = The sample is positive for Cr (VI) is based on visual comparison only. Sample solution is significantly more intense than the 0.13 µg/cm² equivalent comparison standard. No colorimetric measurement was performed.

Remark:

(#1) = The screened result was found in the region of inconclusive and further chemical test was suggested (see table B1).

(#2) = Cr was detected above the screening limits and further chemical test was suggested (see table B1).

(#3) = Exceeded upper screening limit, but if sample is Steel for machining purposes or galvanized steel, Aluminium or Copper alloy, the limit for Lead is 3,500mg/kg, 4,000 mg/kg and 40,000 mg/kg respectively and further chemical test was suggested.



Test Report

Number: SHAH01162907

Tests Conducted

- (#4) = Exceeded upper screening limit, as claimed by the declaration submitted from the applicant / supplier of applicant, / but if Lead comes from the constituent of ceramic of the electrical and electronic component (other than dielectric ceramic in capacitors) only. According to EU RoHS Directive (2011/65/EU), Lead in ceramic of this component can be exempted.
- (#5) = Exceeded upper screening limit, as claimed by the declaration submitted from the applicant / supplier of applicant, / but if Lead comes from the constituent of glass used in cathode ray tube / in electrical and electronic component only. According to EU RoHS Directive (2011/65/EU), Lead in glass of this component can be exempted.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from Copper alloy only. According to EU RoHS Directive (2011/65/EU), Lead in Copper alloy containing up to 4% (40,000 mg/kg) Lead by weight can be exempted.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from steel for machining purposes / galvanized steel only. According to EU RoHS Directive (2011/65/EU), Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% (3,500 mg/kg) Lead by weight can be exempted.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from Aluminium only. According to EU RoHS Directive (2011/65/EU), Lead as an alloying element in Aluminium containing up to 0.4% (4,000 mg/kg) Lead by weight can be exempted.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from the constituent of ceramic of the electrical and electronic component (other than dielectric ceramic in capacitors) only. According to EU RoHS Directive (2011/65/EU), Lead in ceramic of the component can be exempted.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from the constituent of glass used in cathode ray tubes / in electrical and electronic component only. According to EU RoHS Directive (2011/65/EU), Lead in glass of the component can be exempted.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from the constituent of glass used in fluorescent tubes only. According to EU RoHS Directive (2011/65/EU), Lead in glass of fluorescent tubes can not be exceeding 0.2% (2,000 mg/kg) by weight.
- (#) = As claimed by the declaration submitted from the applicant / supplier of applicant, the Lead content of the component comes from the constituent of high melting temperature type solders (i.e. Lead-based alloys containing 85% by weight or more Lead) only. According to EU RoHS Directive (2011/65/EU), Lead in high melting temperature type solders of the component can be exempted.

(B) Screening Limits

(B1). XRF Screening Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 130 \leq F$	$P \leq 70 < X < 150 \leq F$
Pb	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Hg	$P \leq 700 < X < 1300 \leq F$	$P \leq 700 < X < 1300 \leq F$	$P \leq 500 < X < 1500 \leq F$
Cr	$P \leq 700 < X$	$P \leq 700 < X$	$P \leq 500 < X$
Br	$P \leq 300 < X$	Not applicable	$P \leq 250 < X$

(B2). Preliminary screening test will be used for phthalates, if the results exceed the warning area in the following table, further chemical methods will be conducted to confirm the exact content by GC/MS.



Test Report

Number: SHAH01162907

Tests Conducted

Phthalates	Polymer
Bis(2-ethylhexyl)phthalate(DEHP)	P ≤600<X
Butyl benzyl phthalate(BBP)	P ≤600<X
Dibutyl phthalate(DBP)	P ≤600<X
Diisobutyl phthalate(DIBP)	P ≤600<X

(C) Estimated Detection Limits in mg/kg for Regulated Elements in Various Matrices

Element	Polymer Materials	Metallic Materials	Composite Materials
Cd	50	70	70
Pb	100	200	200
Hg	100	200	200
Cr	100	200	200
Br	200	Not applicable	200

Disclaimers:

This XRF Screening and Chemical Confirmation Test Report is for reference purposes only. The applicant shall make its/his/her own judgment as to whether the information provided in this XRF Screening and Chemical Confirmation Test Report is sufficient for its/his/her purposes.

The results shown in this XRF Screening and Chemical Confirmation Test Report will differ based on various factors, including but not limited to, the sample size, thickness, area, surface flatness, equipment parameters and matrix effect (e.g. plastic, rubber, metal, glass, ceramic etc.). Further wet chemical pre-treatment with relevant chemical equipment analysis is required to obtain quantitative data.

(D) Chemical Test Methods:

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd) Content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Lead (Pb) Content	With reference to IEC 62321-5 Edition 1.0: 2013, by acid digestion and determined by ICP - OES	2 mg/kg
Mercury (Hg) Content	With reference to IEC 62321-4 Edition 1.1: 2017, by acid digestion and determined by ICP - OES	2 mg/kg
Chromium (VI) (Cr ⁶⁺) Content	With reference to IEC 62321-7-1 Edition 1.0:2015, by boiling water extraction and determined by UV-VIS spectrophotometer	Positive(>0.13 µg/cm ²) / Negative(<0.10 µg/cm ²) / Inconclusive(0.10µg/cm ² --0.13 µg/cm ²)
Chromium (VI)(Cr ⁶⁺) Content	With reference to IEC 62321-7-2 Edition 1.0:2017, by alkaline digestion and determined by UV-VIS Spectrophotometer	10 mg/kg



Test Report

Number: SHAH01162907

Tests Conducted

Testing Item	Testing Method	Reporting Limit
Polybrominated Biphenyls (PBBs) & Polybrominated Diphenyl Ethers (PBDEs) Content	With reference to IEC 62321-6 Edition 1.0:2015, by solvent extraction and determined by GC/MS and further HPLC confirmation when necessary	5 mg/kg
Phthalates (DEHP, BBP, DBP, DIBP) Content	With reference to IEC 62321-8 Edition 1.0:2017, by solvent extraction and determined by GC/MS	100mg/kg

(E) RoHS Requirement:

Restricted Substances	Limits
Cadmium (Cd)	0.01% (100 mg/kg)
Lead (Pb)	0.1% (1000 mg/kg)
Mercury (Hg)	0.1% (1000 mg/kg)
Chromium (VI) (Cr ⁶⁺)	0.1% (1000 mg/kg)
Polybrominated Biphenyls (PBBs)	0.1% (1000 mg/kg)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000 mg/kg)
Phthalates (DEHP, BBP, DBP, DIBP)	0.1% (1000 mg/kg)

The above limits were quoted from 2011/65/EU and (EU) 2015/863 for homogeneous material.

No sample is submitted for testing. All test results stated in this report are transferred from our test report (SHJ Dated).

Components List:

- (1) white plastic



Test Report

Number: SHAH01162907

Tests Conducted



Submitted Sample

Date sample received: Nov 08, 2019
Testing period: Nov 08, 2019 to Nov 20, 2019

End of report

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.

This report shall not be reproduced except in full, without written approval of the laboratory.

