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Applicant : Forbest Manufacturing Co. Ltd (深圳市晨永鸿科技有限公司)
Contact Person : Ms Jenny
Sample Description : FEP Heat Shrink Tube
Style Number : NA
Color : NA
Material Type : NA
P. O. / Order No : NA
Quantity : NA
Age Grade : NA
Buyer : NA
Supplier : NA
Country of Origin : NA
Country of Destination : NA
Date of Submission : May 20,2024
Test Performance Dates : May 20,2024~May 28,2024

Photo of Submitted Sample



For and on behalf of
Modern Testing Services (Dongguan) Limited



Carol Ke, Chemical Senior Manager

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TEST RESULT SUMMARY	
Test Requested	Results
240 Substances of Very High Concern (SVHC) Test based on the SVHC Candidate List published by European Chemicals Agency (ECHA) on Jan 23, 2024 regarding Regulation (EC) no 1907/ 2006 concerning the REACH	PASS
Total Heavy Metals Content – Commission Delegated Directive (EU) 2015/863 Amending Annex II of Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU & Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)	PASS
Flame Retardants Content – Commission Delegated Directive (EU) 2015/863 Amending Annex II of Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU & Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)	PASS
Phthalates Test – Commission Delegated Directive (EU) 2015/863 Amending Annex II of Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU & Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)	PASS

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COMPONENT BREAKDOWN LIST:

Test Item	Component Description
A	FEP Heat Shrink Tube
A1	Transparent plastic (Tube)

TEST RESULT:

1. 240 Substances of Very High Concern (SVHC) Test based on the SVHC Candidate List published by European Chemicals Agency (ECHA) on Jan 23, 2024 regarding Regulation (EC) no 1907/ 2006 concerning the REACH

Test Item	Detected Chemicals	Result (%)	Limit	Conclusion
A1	-	ND	0.1	PASS

ND= Not detected (Laboratory detection limit=0.01%)

Method: Sample was digested with acid mixture and analyzed by Inductively Coupled Argon Plasma Spectrometer / Inductively Coupled Plasma Mass Spectrometer / Sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer / Liquid Chromatograph Mass Spectrometer / Gas Chromatograph Electron Capture Detector / Ultraviolet-visible spectroscopy / Sample was analyzed by Headspace Gas Chromatograph Mass Spectrometer

Note: % = percentage
“<” = less than

List of SVHC:

	Substance Name	CAS No.	EC No.
1	*Triethyl arsenate	15606-95-8	427-700-2
2	*Diarsenic pentaoxide	1303-28-2	215-116-9
3	*Diarsenic trioxide	1327-53-3	215-481-4
4	*Cobalt dichloride	7646-79-9	231-589-4
5	*Sodium dichromate	7789-12-0 10588-01-9	234-190-3
6	*Lead hydrogen arsenate	7784-40-9	232-064-2
7	Dibutyl phthalate (DBP)	84-74-2	201-557-4
8	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7
9	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0
10	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4
11	Anthracene	120-12-7	204-371-1
12	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	202-974-4
13	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	3194-55-6 25637-99-4 (134237-50-6) (134237-51-7) (134237-52-8)	247-148-4 and 221-695-9
14	# Bis(tributyltin)oxide (TBTO)	56-35-9	200-268-0
15	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5

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	Substance Name	CAS No.	EC No.
16	2,4-Dinitrotoluene	121-14-2	204-450-0
17	^a Anthracene oil	90640-80-5	292-602-7
18	^a Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5
19	^a Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9
20	^a Anthracene oil, anthracene-low	90640-82-7	292-604-8
21	^a Anthracene oil, anthracene paste	90640-81-6	292-603-2
22	Diisobutyl phthalate	84-69-5	201-553-2
23	*Lead Chromate	7758-97-6	231-846-0
24	*Lead Chromate Molybdate Sulfate Red (C.I. Pigment Red 104)	12656-85-8	235-759-9
25	*Lead Sulfochromate Yellow (C.I. Pigment Yellow 34)	1344-37-2	215-693-7
26	Acrylamide	79-06-1	201-173-7
27	Tris(2-chloroethyl)phosphate	115-96-8	204-118-5
28	Coal tar pitch, high temperature	65996-93-2	266-028-2
29	Trichloroethylene	79-01-6	201-167-4
30	*Boric acid	10043-35-3 / 11113-50-1	233-139-2 / 234-343-4
31	*Disodium tetraborate, anhydrous	1330-43-4 12179-04-3 1303-96-4	215-540-4
32	*Tetraboron disodium heptaoxide, hydrate	12267-73-1	235-541-3
33	*Sodium chromate	7775-11-3	231-889-5
34	*Potassium chromate	7789-00-6	232-140-5
35	*Ammonium dichromate	7789-09-5	232-143-1
36	*Potassium dichromate	7778-50-9	231-906-6
37	*Cobalt (II) sulphate	10124-43-3	233-334-2
38	*Cobalt (II) dinitrate	10141-05-6	233-402-1
39	*Cobalt (II) carbonate	513-79-1	208-169-4
40	*Cobalt (II) diacetate	71-48-7	200-755-8
41	2-Methoxyethanol	109-86-4	203-713-7
42	2-Ethoxyethanol	110-80-5	203-804-1
43	*Chromium trioxide	1333-82-0	215-607-8
44	* Chromic acid, *Oligomers of chromic acid and dichromic acid, *Dichromic acid	7738-94-5 -- 13530-68-2	231-801-5 -- 236-881-5
45	2-ethoxyethyl acetate	111-15-9	203-839-2
46	*Strontium chromate	7789-06-2	232-142-6
47	1,2-Benzenedicarboxylic acid, di-C7-11- branched and linear alkyl esters (DHNUF)	68515-42-4	271-084-6
48	Hydrazine	7803-57-8 302-01-2	206-114-9
49	1-methyl-2-pyrrolidone	872-50-4	212-828-1
50	1,2,3-trichloropropane	96-18-4	202-486-1
51	1,2-Benzenedicarboxylic acid, di-C6-8- branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1
52	*Zirconia Aluminosilicate Refractory Ceramic Fibres	--	--
53	*Calcium arsenate	7778-44-1	231-904-5
54	Bis(2-methoxyethyl) ether	111-96-6	203-924-4
55	*Aluminosilicate Refractory Ceramic Fibres	--	--
56	*Potassium hydroxyoctaoxodizincate dichromate	11103-86-9	234-329-8

Modern Testing Services (Dongguan) Limited

 No.76, Liang Ping Lu, Xin Jiu Wei Cun, Liaobu, Dongguan, Guangdong, China
 Tel: (86) 769 8112 0818 Fax: (86) 769 8112 0815

东莞现代产品整理服务有限公司

广东省东莞市寮步镇新旧村良平路 76 号

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	Substance Name	CAS No.	EC No.
57	*Lead dipicrate	6477-64-1	229-335-2
58	N,N-dimethylacetamide	127-19-5	204-826-4
59	*Arsenic acid	7778-39-4	231-901-9
60	2-Methoxyaniline / o-Anisidine	90-04-0	201-963-1
61	*Trilead diarsenate	3687-31-8	222-979-5
62	1,2-dichloroethane	107-06-2	203-458-1
63	*Pentazinc chromate octahydroxide	49663-84-5	256-418-0
64	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2
65	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1
66	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6
67	*Lead diazide, Lead azide	13424-46-9	236-542-1
68	*Lead styphnate	15245-44-0	239-290-0
69	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9
70	Phenolphthalein	77-09-8	201-004-7
71	*Dichromium tris(chromate)	24613-89-6	246-356-2
72	1,2-bis(2-methoxyethoxy) ethane (TEGDME; triglyme)	112-49-2	203-977-3
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9
74	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2
75	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	90-94-8	202-027-5
76	[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
77	[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
78	*Diboron trioxide	1303-86-2	215-125-8
79	Formamide	75-12-7	200-842-0
80	*Lead(II) bis(methane sulfonate)	17570-76-2	401-750-5
81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2
82	§TGIC (1,3,5-tris (oxiranylmethyl) -1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	219-514-3
83	§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
84	α,α-Bis[4-(dimethylamino) phenyl]-4 (phenylamino) naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	214-604-9
86	Pentacosfluorotridecanoic acid	72629-94-8	276-745-2
87	Tricosfluorododecanoic acid	307-55-1	206-203-2
88	Henicosfluoroundecanoic acid	2058-94-8	218-165-4
89	Heptacosfluorotetradecanoic acid	376-06-7	206-803-4
90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8
91	Cyclohexane-1,2-dicarboxylic anhydride ^[1] cis-cyclohexane-1,2-dicarboxylic anhydride ^[2] trans-cyclohexane-1,2-dicarboxylic anhydride ^[3] <i>[The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].</i>	85-42-7 13149-00-3 14166-21-3	201-604-9 236-086-3 238-009-9
92	Hexahydromethylphthalic anhydride ^[1] , Hexahydro-4-methylphthalic anhydride ^[2] , Hexahydro-1-methylphthalic anhydride ^[3] , Hexahydro-3-methylphthalic anhydride ^[4] <i>[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]</i>	25550-51-0 19438-60-9 48122-14-1 57110-29-9	247-094-1 243-072-0 256-356-4 260-566-1

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	Substance Name	CAS No.	EC No.
93	4-Nonylphenol, branched and linear <i>[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]</i>	--	--
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated <i>[covering well-defined substances and UVCB substances, polymers and homologues]</i>	--	--
95	Methoxyacetic acid	625-45-6	210-894-6
96	N,N-dimethylformamide	68-12-2	200-679-5
97	#Dibutyltin dichloride (DBTC)	683-18-1	211-670-0
98	*Lead monoxide (Lead oxide)	1317-36-8	215-267-0
99	*Orange lead (Lead tetroxide)	1314-41-6	215-235-6
100	*Lead bis(tetrafluoroborate)	13814-96-5	237-486-0
101	*Trilead bis(carbonate)dihydroxide	1319-46-6	215-290-6
102	*Lead titanium trioxide	12060-00-3	235-038-9
103	*Lead titanium zirconium oxide	12626-81-2	235-727-4
104	*Silicic acid, lead salt	11120-22-2	234-363-3
105	*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]	68784-75-8	272-271-5
106	1-bromopropane (n-propyl bromide)	106-94-5	203-445-0
107	Methyloxirane (Propylene oxide)	75-56-9	200-879-2
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2
109	Diisopentylphthalate (DIPP)	605-50-5	210-088-4
110	N-pentyl-isopentylphthalate	776297-69-9	--
111	1,2-diethoxyethane	629-14-1	211-076-1
112	*Acetic acid, lead salt, basic	51404-69-4	257-175-3
113	*Lead oxide sulfate	12036-76-9	234-853-7
114	*[Phthalato(2-)]dioxotrilead	69011-06-9	273-688-5
115	*Dioxobis(stearato)trilead	12578-12-0	235-702-8
116	*Fatty acids, C16-18, lead salts	91031-62-8	292-966-7
117	*Lead cyanamide	20837-86-9	244-073-9
118	*Lead dinitrate	10099-74-8	233-245-9
119	*Pentalead tetraoxide sulphate	12065-90-6	235-067-7
120	*Pyrochlore, antimony lead yellow	8012-00-8	232-382-1
121	*Sulfurous acid, lead salt, dibasic	62229-08-7	263-467-1
122	*Tetraethyllead	78-00-2	201-075-4
123	*Tetralead trioxide sulphate	12202-17-4	235-380-9
124	*Trilead dioxide phosphonate	12141-20-7	235-252-2
125	Furan	110-00-9	203-727-3
126	Diethyl sulphate	64-67-5	200-589-6
127	Dimethyl sulphate	77-78-1	201-058-1
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	201-861-7
130	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8
131	4,4'-oxydianiline and its salts	101-80-4	202-977-0
132	4-aminoazobenzene	60-09-3	200-453-6

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	Substance Name	CAS No.	EC No.
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	202-453-1
134	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1
135	Biphenyl-4-ylamine	92-67-1	202-177-1
136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3	202-591-2
137	o-toluidine	95-53-4	202-429-0
138	N-methylacetamide	79-16-3	201-182-6
139	Cadmium	7440-43-9	231-152-8
140	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	223-320-4
141	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9
142	Dipentyl phthalate (DPP)	131-18-0	205-017-9
143	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]	--	--
144	*Cadmium oxide	1306-19-0	215-146-2
145	*Lead di(acetate)	301-04-2	206-104-4
146	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
147	Trixylyl phosphate	25155-23-1	246-677-8
148	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	202-506-9
149	Dihexyl phthalate	84-75-3	201-559-5
150	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
151	*Cadmium sulphide	1306-23-6	215-147-8
152	*Cadmium chloride	10108-64-2	233-296-7
153	*Sodium peroxometaborate	7632-04-4	231-556-4
154	*Sodium perborate; perboric acid, sodium salt	--	239-172-9 234-390-0
155	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5
156	*Cadmium fluoride	7790-79-6	232-222-0
157	*Cadmium sulphate	10124-36-4 31119-53-6	233-331-6
158	2-Benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	223-346-6
159	2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8
160	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-
162	1,2-benzenedicarboxylic acid, di-C6-10- alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1	271-094-0 272-013-1
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-secbutyl-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 there]	-	-
164	Nitrobenzene	98-95-3	202-716-0

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	Substance Name	CAS No.	EC No.
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(secbutyl) phenol (UV-350)	36437-37-3	253-037-1
167	1,3-propanesultone	1120-71-4	214-317-9
168	Perfluorononan-1-oicacid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	206-801-3
169	Benzo[def]chrysene (benzo[a]pyrene)	50-32-8	200-028-5
170	4-tert-pentylphenol (PTAP)	80-46-6	201-280-9
171	4-heptylphenol, branched and linear (4-HPbl)	-	-
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2	206-400-3
173	4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7	201-245-8
174	Perfluorohexane-1-sulphonic acid and its salts	-	-
175	Benz[a]anthracene	56-55-3 1718-53-2	200-280-6
176	*Cadmium carbonate	513-78-0	208-168-9
177	*Cadmium hydroxide	21041-95-2	244-168-5
178	*Cadmium nitrate	10022-68-1 10325-94-7	233-710-6
179	Chrysene	218-01-9 1719-03-5	205-923-4
180	Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™)	-	-
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)	-	-
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride	552-30-7	209-008-0
183	Benzo[ghi]perylene	191-24-2	205-883-8
184	Decamethylcyclopentasiloxane	541-02-6	208-764-9
185	Dicyclohexyl phthalate	84-61-7	201-545-9
186	*Disodium octaborate	12008-41-2	234-541-0
187	Dodecamethylcyclohexasiloxane	540-97-6	208-762-8
188	Ethylenediamine	107-15-3	203-468-6
189	Lead	7439-92-1	231-100-4
190	Octamethylcyclotetrasiloxane	556-67-2	209-136-7
191	Terphenyl, hydrogenated	61788-32-7	262-967-7
192	Pyrene	204-927-3	129-00-0; 1718-52-1
193	Phenanthrene	201-581-5	85-01-8
194	Fluoranthene	205-912-4	206-44-0; 93951-69-0
195	Benzo[k]fluoranthene	205-916-6	207-08-9
196	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	401-720-1	6807-17-6
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	239-139-9	15087-24-8
198	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	--	--
199	4-tert-butylphenol	202-679-0	98-54-4
200	2-methoxyethyl acetate	203-772-9	110-49-6
201	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides covering any of their individual isomers and combinations thereof	-	-

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	Substance Name	CAS No.	EC No.
202	Perfluorobutane sulfonic acid (PFBS) and its salts	-	-
203	Diisohexyl phthalate	71850-09-4	276-090-2
204	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	400-600-6
205	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	404-360-3
206	1-vinylimidazole	1072-63-5	214-012-0
207	2-methylimidazole	693-98-1	211-765-7
208	butyl 4-hydroxybenzoate	94-26-8	202-318-7
209	*Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	245-152-0
210	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	205-594-7
211	*Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	-	-
212	2-(4-tert-butylbenzyl) propionaldehyde and its individual stereoisomers	-	-
213	*Orthoboric acid, sodium salt	13840-56-7	237-560-2
214	2,2-bis(bromomethyl) Propane1,3-diol (BMP)	3296-90-0	
	2,2-dimethylpropan-1-ol, tribromo derivative/ 3-bromo-2, 2-bis (bromomethyl)-1- propanol (TBNPA)	36483-57-5 1522-92-5	221-967-7 253-057-0
	2,3-dibromo-1- propanol (2,3-DBPA)	96-13-9	202-480-9
215	Glutaral	111-30-8	203-856-5
216	Medium-chain chlorinated paraffins (MCCP) (UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17)	-	-
217	Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerization, covering any individual isomers and/ or combinations thereof (PDDP)	-	-
218	1,4-dioxane	123-91-1	204-66-8
219	4,4'-(1methylpropylidene) bisphenol	77-40-7	201-025-1
220	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	204-327-1
221	Tris(2-methoxyethoxy)vinylsilane	1067-53-4	213-934-0
222	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	-
223	S-(tricyclo(5.2.1.0 ^{2,6})deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	401-850-9
224	N-(hydroxymethyl)acrylamide	924-42-5	213-103-2
225	Reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3,3,3-heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptafluoropropyl)morpholine	-	473-390-7
226	Perfluoroheptanoic acid and its salts	-	-
227	Melamine	108-78-1	203-615-4
228	Isobutyl 4-hydroxybenzoate	4247-02-3	224-208-8
229	Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof	-	-
230	Barium diboron tetraoxide	13701-59-2	237-222-4
231	4,4'-sulphonyldiphenol (BPS)	80-09-1	201-250-5
232	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	79-94-7	201-236-9
233	1,1'-[ethane-1,2-diylbis(oxy)]bis[2,4,6-tribromobenzene]	37853-59-1	253-692-3

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	Substance Name	CAS No.	EC No.
234	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	278-355-8
235	Bis(4-chlorophenyl) sulphone	80-07-9	201-247-9
236	2,4,6-tri-tert-butylphenol	732-26-3	211-989-5
237	2-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol (UV-329)	3147-75-9	221-573-5
238	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	119344-86-4	438-340-0
239	Bumetrizole (UV-326)	3896-11-5	223-445-4
240	Oligomerisation and alkylation reaction products of 2-phenylpropene and phenol Phenol, methylstyrenated (EC No.: 270-966-8, CAS No.: 68512-30-1)	-	700-960-7

Remark:

- * - The concentration of list substances were calculated as selected element(s).
- # - The concentration of Bis(tributyltin) oxide TBTO and Dibutyltin dichloride DBTC were calculated based on Tributyltin, TBT and Dibutyltin, DBT amount in sample, respectively. The result covers TBTO with other salts of TBT and DBTC with other salts of DBT under current technologies. Further investigation is required to determine the exact amount of TBTO and DBTC in sample.
- a - The anthracene oil derivates are complex and consists of variable compositions of Polycyclic Aromatic Hydrocarbons (PAHs) and Carbazoles. The amount of Anthracene oil derivates are calculated by the composition of PAHs and Carbazoles found in sample.
- § - TGIC (1,3,5-tris (oxiranylmethyl) -1,3,5-triazine-2,4,6(1H,3H,5H)-trione) andβ-TGIC (1,3,5-tris [(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione) are reported as a mixture.
- The chemical analysis of the Substance of Very High Concern is performed by currently available analytical techniques against the candidate list published by ECHA on Jan 23, 2024. This list was not finalized by ECHA and it may subject to change in the future.
- Total Chromium is detected in the sample. Importer/manufacturer is suggested to check the chemical composition of the materials whether SVHC related compounds are being used in the manufacturing process.

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2. Total Heavy Metals Content – Commission Delegated Directive (EU) 2015/863 Amending Annex II of Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU & Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)

Test Item	Result – Total Heavy Metals (mg/kg)				Conclusion
	Pb	Cd	Cr (VI)	Hg	
A1	ND	ND	ND	ND	PASS
Limit	1000	100	1000	1000	-

ND= Not detected (Laboratory detection limit: Cr (VI)=50mg/kg, Others=10mg/kg)
 Pb = Lead, Cd = Cadmium, Cr (VI) = Chromium (VI), Hg = Mercury

Method: Lead (Pb) and Cadmium (Cd): IEC 62321-5:2013 (Edition 1.0)

Mercury (Hg): IEC 62321-4:2013 (Edition 1.0)

Chromium (VI) (Cr VI): IEC 62321-7-1:2015 (Edition 1.0)/ IEC 62321-7-2:2017 (Edition 1.0)

- 1) Metal: IEC 62321-7-1:2015 (Edition 1.0): Qualitative method for the presence of hexavalent chromium on metal surface on "Test for the presence of Hexavalent Chromium (CrVI) in colorless and colored chromated coating on metals". The presence of hexavalent chromium is indicated by the formation of a red-violet color. The method is applied in turn to 1) untreated surface; 2) surface finely abraded to remove any reduced chromate surface but not remove the whole chromate layer; 3) surface vigorously abraded to exposure deeper layers. The sample is further verified by boiling water extraction method if the spot test result is uncertain.
- 2) Plastics & Electronics: IEC 62321-7-2:2017 (Edition 1.0): The sample is comminuted and digested with alkaline mixtures. Chromium VI content is determined with UV-VIS spectroscopic technique.

Note: mg/kg = milligram per kilogram
 "<" = less than
 ">" = more than

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3. Flame Retardants Content – Commission Delegated Directive (EU) 2015/863 Amending Annex II of Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU & Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)

Test Item	Result – Flame Retardants (mg/kg)		Conclusion
	PBBs	PBDEs	
A1	ND	ND	PASS
Limit	1000 (Total)	1000 (Total)	-

ND= Not detected (Laboratory detection limit=50mg/kg for individual)

List of Banned Flame Retardants:

Polybrominated Biphenyls (PBBs)	Polybrominated Diphenyl Ethers (PBDEs)
Bromobiphenyls,	Bromodiphenyl ethers
Dibromobiphenyls	Dibromodiphenyl ethers
Tribromobiphenyls	Tribromodiphenyl ethers
Tetrabromobiphenyls	Tetrabromodiphenyl ethers
Pentabromobiphenyls	Pentabromodiphenyl ethers
Hexabromobiphenyls	Hexabromodiphenyl ethers
Heptabromobiphenyls	Heptabromodiphenyl ethers
Octabromobiphenyls	Octabromodiphenyl ethers
Nonabromobiphenyl	Nonabromodiphenyl ethers
Decabromobiphenyl	Decabromodiphenyl ether

Method: PBBs and PBDEs: The sample extracted by appropriate solvent is used for extraction and quantified GC-MS. IEC 62321-6:2015 (Edition 1.0)

Note: mg/kg = milligram per kilogram
 "<" = less than
 ">" = more than

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4. Phthalates Test – Commission Delegated Directive (EU) 2015/863 Amending Annex II of Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU & Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (as amended)

Test Item	Result (%)				Conclusion
	DEHP	BBP	DBP	DIBP	
A1	ND	ND	ND	ND	PASS
Maximum Concentration Value	0.1	0.1	0.1	0.1	-

ND= Not detected (Laboratory detection limit=0.005%)

Method: With reference to IEC 62321, Chapter 8

Remark:

- The Directive (EU) 2015/863 shall be applied from July 2019.
- The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including *in vitro* medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.
- The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including *in vitro* medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.
- The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

List of Banned Phthalates:

Chemical Name	CAS No.	Chemical Name	CAS No.
Dibutyl phthalate (DBP)	84-74-2	Bis-2-ethylhexyl phthalate (DEHP)	117-81-7
Butyl benzyl phthalate (BBP)	85-68-7	Diisobutyl phthalate (DIBP)	84-69-5

Note: % = percentage (1% = 10,000 mg/kg)
 "<" = less than
 ">" = more than

****End of Test Report****

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Test uncertainties not reported are at client's disposal, for those in which it is possible to evaluate or estimate the test uncertainty. The statement of conformity is based on a 95% coverage probability for the expanded uncertainty of the measured result (guard band):

Rule 1:

For any requirement state to be "Maximum"

PASS - The measured result is below a specification limit minus guard band.

INCONCLUSIVE - The measured result is inside the guard band and below the specification limit and the measured result is above the specification limit but below the specification limit added to the guard band.

FAIL - The measured result is above a specification limit added to the guard band.

DATA - There is no specification limit required which is not possible to state the conformity.

Rule 2:

For any requirement state to be "Minimum"

PASS - The measured result is above a specification limit plus guard band.

INCONCLUSIVE - The measured result is inside the guard band and above the specification limit and the measured result is below the specification limit but above the specification limit added to the guard band.

FAIL - The measured result is below a specification limit minus guard band.

DATA - There is no specification limit required which is not possible to state the conformity.

Rule 3:

For any requirement state to be "a range (Between Upper to Lower specification limit)"

PASS - The measured result is within a range of upper and lower acceptance limit.

INCONCLUSIVE - The measured result is inside the guard band at either side of specification limits

FAIL - The measured result is outside a specification limit minus/added to the guard band.

DATA - There is no specification limit required which is not possible to state the conformity.

Rule 4:

For any test based on subjective grading of results by using 9-point scale

PASS - The measured result is above specification limit.

FAIL - The measured result is below a specification limit.

DATA - There is no specification limit required which is not possible to state the conformity.

If there is question or concern regarding the above results, please contact the appropriate lab person below:

General question & concern:

Cherry Wang
Customer Service Coordinator
(86)769 8112 0818 Ext.739
Cherry.Wang@cpt.eurofinscn.com

Technical question & concern:

Carol Ke
Analytical Manager
(86)769 8112 0818 Ext.725
Carol.Ke@cpt.eurofinscn.com

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