



TEST REPORT

Technical Report: (5221)230-0077-R1

August 26, 2021

The report is amendment of and supersedes the previous report (5221)230-0077 dated August 24, 2021

Date Received: August 18, 2021

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Marcus Knopp
LeitOn GmbH
Wolframstrasse 96, 10585 Berlin, Germany

Sample Description: Sample(s) received is/are stated to be:
Flexible printed circuit

Color:	/	Style No(s):	/
Order No.:	/	PO No.:	/
Age Grade:	/	Product End Use:	Industrial electronics
Vendor:	/	Retest No.:	/
Manufacturer:	/	Supplier Reference:	/
Buyer:	/	Country of Origin:	China
Test Period:	August 18, 2021 - August 24, 2021	Country of Destination:	Germany
Fiber Content:	/		
Care Instruction:	/		

SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
Candidate List of Substances of Very High Concern for authorization published by European Chemicals Agency (ECHA) Regarding Regulation (EC) No. 1907/2006 concerning REACH including REACH SVHC 219 (release on July 8, 2021)	PASS	

DK

REMARK

If there are questions or concerns on this report, please contact:

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BUREAU VERITAS HONG KONG LTD.

MS. ZOE FUNG
SENIOR MANAGER, RS DEPARTMENT

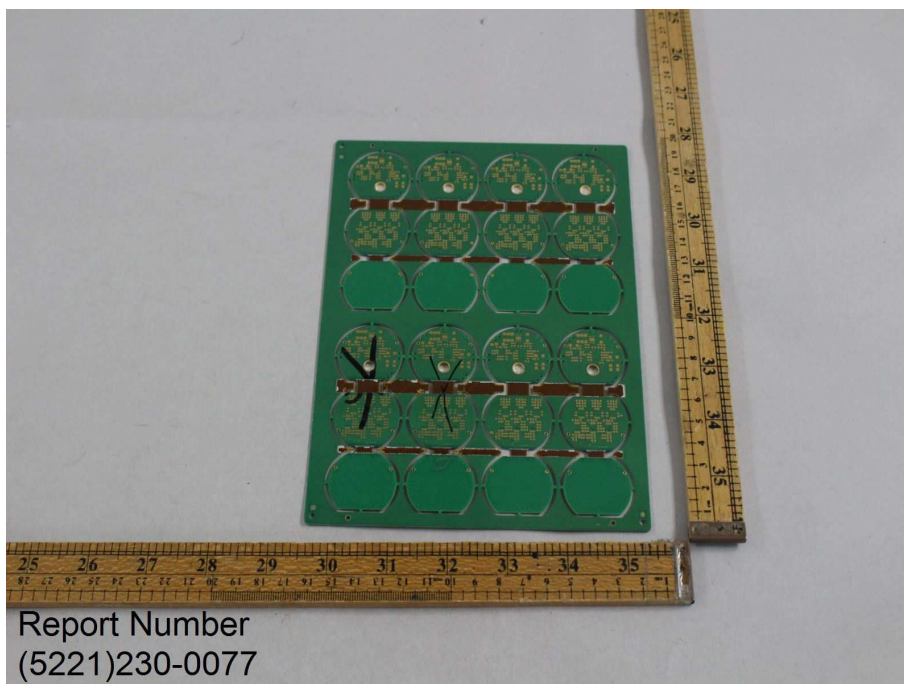


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Photo of the Submitted Sample



SAMPLE DESCRIPTION ASSIGNED BY LABORATORY:

ITEM	ITEM DESCRIPTION
1	Green PCB

TEST RESULT

Candidate List of Substances of Very High Concern for authorization published by European Chemicals Agency (ECHA) Regarding Regulation (EC) No. 1907/2006 concerning REACH

No.	Substance name	CAS No.	EC No.	Result, %	Detection Limit, %	Basis for identification as a SVHC
				1		
1	Triethyl arsenate*	15606-95-8	427-700-2	ND	0.01	Carcinogenic
2	Anthracene	120-12-7	204-371-1	ND	0.005	PBT
3	4,4'-Diaminodiphenyl methane (MDA)	101-77-9	202-974-4	ND	0.005	Carcinogenic
4	Dibutyl phthalate (DBP)	84-74-2	201-557-4	ND	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health
5	Cobalt dichloride*	7646-79-9	231-589-4	ND	0.01	Carcinogenic
6	Diarsenic pentaoxide*	1303-28-2	215-116-9	ND	0.01	Carcinogenic
7	Diarsenic trioxide*	1327-53-3	215-481-4	ND	0.01	Carcinogenic
8	Sodium dichromate*	7789-12-0 ⁽¹⁾ , 10588-01-9 ⁽²⁾	234-190-3	ND	0.01	Carcinogenic; Mutagenic; Toxic for reproduction
9	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	ND	0.005	vPvB
10	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	204-211-0	ND	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to environment and human health
11	Hexabromo cyclododecane (HBCDD) and all major diastereoisomers identified: α - HBCDD β - HBCDD γ - HBCDD	3194-55-6 ⁽³⁾ , 25637-99-4 ⁽⁴⁾ 134237-50-6 134237-51-7 134237-52-8	247-148-4, 221-695-9	ND	0.005	PBT
12	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (SCCP)	85535-84-8	287-476-5	ND	0.01	PBT, vPvB
13	Bis(tributyltin)oxide (TBTO)**	56-35-9	200-268-0	ND	0.005	PBT
14	Lead hydrogen arsenate*	7784-40-9	232-064-2	ND	0.01	Carcinogenic; Toxic for reproduction
15	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	ND	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health
16	2,4-Dinitrotoluene	121-14-2	204-450-0	ND	0.005	Carcinogenic



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17	Anthracene oil	90640-80-5	292-602-7	ND	0.01	Carcinogenic, PBT, vPvB
18	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	ND	0.01	Carcinogenic; Mutagenic, PBT, vPvB
19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	ND	0.01	Carcinogenic; Mutagenic, PBT, vPvB
20	Anthracene oil, anthracene-low	90640-82-7	292-604-8	ND	0.01	Carcinogenic; Mutagenic, PBT, vPvB
21	Anthracene oil, anthracene paste	90640-81-6	292-603-2	ND	0.01	Carcinogenic; Mutagenic, PBT, vPvB
22	Diisobutyl phthalate	84-69-5	201-553-2	ND	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health
23	Aluminosilicate, Refractory Ceramic Fibres ^{*a}	Index no. 650-017-00-8		ND	0.01	Carcinogenic
24	Zirconia Aluminosilicate, Refractory Ceramic Fibres ^{*b}	Index no. 650-017-00-8		ND	0.01	Carcinogenic
25	Lead chromate*	7758-97-6	231-846-0	ND	0.01	Carcinogenic; Toxic for reproduction
26	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	ND	0.01	Carcinogenic; Toxic for reproduction
27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	ND	0.01	Carcinogenic; Toxic for reproduction
28	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	ND	0.005	Toxic for reproduction
29	Coal tar pitch, high temperature	65996-93-2	266-028-2	ND	0.01	Carcinogenic, PBT, vPvB
30	Acrylamide	79-06-1	201-173-7	ND	0.005	Carcinogenic; Mutagenic
31	Trichloroethylene	79-01-6	201-167-4	ND	0.005	Carcinogenic
32	Boric acid*	10043-35-3, 11113-50-1	233-139-2 / 234-343-4	ND	0.01	Toxic for reproduction
33	Disodium tetraborate, anhydrous*	1330-43-4 ⁽⁵⁾ , 12179-04-3 ⁽⁶⁾ , 1303-96-4 ⁽⁷⁾	215-540-4	ND	0.01	Toxic for reproduction
34	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	ND	0.01	Toxic for reproduction
35	Sodium chromate*	7775-11-3	231-889-5	ND	0.01	Carcinogenic; Mutagenic; Toxic for reproduction
36	Potassium chromate*	7789-00-6	232-140-5	ND	0.01	Carcinogenic; Mutagenic
37	Ammonium dichromate*	7789-09-5	232-143-1	ND	0.01	Carcinogenic; Mutagenic; Toxic for reproduction



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38	Potassium dichromate*	7778-50-9	231-906-6	ND	0.01	Carcinogenic; Mutagenic; Toxic for reproduction
39	Cobalt(II) sulphate*	10124-43-3	233-334-2	ND	0.01	Carcinogenic; Toxic for reproduction
40	Cobalt(II) dinitrate*	10141-05-6	233-402-1	ND	0.01	Carcinogenic; Toxic for reproduction
41	Cobalt(II) carbonate*	513-79-1	208-169-4	ND	0.01	Carcinogenic; Toxic for reproduction
42	Cobalt(II) diacetate*	71-48-7	200-755-8	ND	0.01	Carcinogenic; Toxic for reproduction
43	2-Methoxyethanol	109-86-4	203-713-7	ND	0.005	Toxic for reproduction
44	2-Ethoxyethanol	110-80-5	203-804-1	ND	0.005	Toxic for reproduction
45	Chromium trioxide*	1333-82-0	215-607-8	ND	0.01	Carcinogenic; Mutagenic
46	Acid generated from chromium trioxide and their oligomers:					
	Chromic acid*	7738-94-5	231-801-5	ND	0.01	Carcinogenic
	Dichromic acid*	13530-68-2	236-881-5			
Oligomers of chromic acid and dichromic acid*	-	-				
47	2-Ethoxyethyl acetate	111-15-9	203-839-2	ND	0.005	Toxic for reproduction
48	Strontium Chromate*	7789-06-2	232-142-6	ND	0.01	Carcinogenic
49	1,2-benzenedicarboxylic acid, di-C7-11 branched alkyl ester and linear alkyl ester	68515-42-4	271-084-6	ND	0.005	Toxic for reproduction
50	Hydrazine	302-01-2 7803-57-8	206-114-9	ND	0.005	Carcinogenic
51	1-Methyl-2-pyrrolidone	872-50-4	212-828-1	ND	0.005	Toxic for reproduction
52	1,2,3-trichloropropane	96-18-4	202-486-1	ND	0.005	Toxic for reproduction
53	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl ester, C7-rich (DIHP)	71888-89-6	276-158-1	ND	0.005	Toxic for reproduction
54	Dichromium tris(chromate)*	24613-89-6	246-356-2	ND	0.01	Carcinogenic
55	Potassium hydroxyoctaoxidizincated i-chromate*	11103-86-9	234-329-8	ND	0.01	Carcinogenic
56	Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	ND	0.01	Carcinogenic
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	500-036-1	ND	0.005	Carcinogenic
58	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	ND	0.005	Toxic for reproduction
59	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	ND	0.005	Carcinogenic



60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	205-426-2	ND	0.005	Equivalent level of concern
61	1,2-Dichloroethane	107-06-2	203-458-1	ND	0.005	Carcinogenic
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	ND	0.005	Toxic for reproduction
63	Arsenic acid*	7778-39-4	231-901-9	ND	0.01	Carcinogenic
64	Calcium arsenate*	7778-44-1	231-904-5	ND	0.01	Carcinogenic
65	Trilead diarsenate*	3687-31-8	222-979-5	ND	0.01	Carcinogenic; Toxic for reproduction
66	N,N-dimethylacetamide (DMAC)	127-19-5	204-826-4	ND	0.005	Toxic for reproduction
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	ND	0.005	Carcinogenic
68	Phenolphthalein	77-09-8	201-004-7	ND	0.005	Carcinogenic
69	Lead azide, Lead diazide*	13424-46-9	236-542-1	ND	0.01	Toxic for reproduction
70	Lead styphnate*	15245-44-0	239-290-0	ND	0.01	Toxic for reproduction
71	Lead dipicrate*	6477-64-1	229-335-2	ND	0.01	Toxic for reproduction
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	ND	0.005	Toxic for reproduction
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	ND	0.005	Toxic for reproduction
74	Diboron trioxide*	1303-86-2	215-125-8	ND	0.01	Toxic for reproduction
75	Formamide	75-12-7	200-842-0	ND	0.01	Toxic for reproduction
76	Lead(II) bis(methanesulfonate)*	17570-76-2	401-750-5	ND	0.01	Toxic for reproduction
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione) §	2451-62-9	219-514-3	ND	0.005	Mutagenic
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	ND	0.005	Mutagenic
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	202-027-5	ND	0.005	Carcinogenic
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	ND	0.005	Carcinogenic
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	ND	0.005	Carcinogenic



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	ND	0.005	Carcinogenic
83	α,α -Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	ND	0.01	Carcinogenic
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2	ND	0.005	Carcinogenic
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	214-604-9	ND	0.005	Persistent, bioaccumulative and toxic; very persistent and very bioaccumulative
86	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	ND	0.005	Toxic for reproduction
87	Methoxy acetic acid	625-45-6	210-894-6	ND	0.005	Toxic for reproduction ; equivalent level of concern
88	Dibutyltin dichloride (DBT) ^{db}	683-18-1	211-670-0	ND	0.01	Toxic for reproduction
89	1,2-Diethoxyethane	629-14-1	211-076-1	ND	0.005	Toxic for reproduction
90	Hexahydro-2-benzofuran-1,3-dione (HHPA), 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	ND	0.01	Equivalent level of concern
91	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	ND	0.01	Equivalent level of concern
92	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	-	-	ND	0.005	Equivalent level of concern

	thereof					
93	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4	ND	0.005	Very persistent and very bioaccumulative
94	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear +	84777-06-0	284-032-2	ND	0.005	Toxic for reproduction
95	Henicosafuoroundecanoic acid	2058-94-8	218-165-4	ND	0.005	Very persistent and very bioaccumulative
96	N-pentyl-isopentylphthalate (iPnPP) +	776297-69-9	-	ND	0.005	Toxic for reproduction
97	Pentacosafuorotridecanoic acid	72629-94-8	276-745-2	ND	0.005	Very persistent and very bioaccumulative
98	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - covering well-defined substances and UVCB substances, polymers and homologues	-	-	ND	0.005	Equivalent level of concern
99	Tricosafuorododecanoic acid	307-55-1	206-203-2	ND	0.005	Very persistent and very bioaccumulative
100	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	ND	0.01	Toxic for reproduction
101	Lead tetroxide (orange lead)*	1314-41-6	215-235-6	ND	0.01	Toxic for reproduction
102	Diethyl sulphate	64-67-5	200-589-6	ND	0.005	Carcinogenic; Mutagenic
103	Dinoseb	88-85-7	201-861-7	ND	0.005	Toxic for reproduction
104	Lead Titanium Zirconium Oxide*	12626-81-2	235-727-4	ND	0.01	Toxic for reproduction
105	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	ND	0.01	Toxic for reproduction
106	Furan	110-00-9	203-727-3	ND	0.01	Carcinogenic
107	N-methylacetamide	79-16-3	201-182-6	ND	0.005	Toxic for reproduction
108	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0	ND	0.005	Carcinogenic
109	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	ND	0.01	Toxic for reproduction
110	4,4'-oxydianiline and its salts	101-80-4	202-977-0	ND	0.005	Carcinogenic; Mutagenic
111	[Phthalato(2-)]dioxotrilead (Dibasic lead phthalate)*	69011-06-9	273-688-5	ND	0.01	Toxic for reproduction
112	Lead titanium trioxide*	12060-00-3	235-038-9	ND	0.01	Toxic for reproduction
113	Lead oxide sulphate*	12036-76-9	234-853-7	ND	0.01	Toxic for reproduction
114	Lead dinitrate*	10099-74-8	233-245-9	ND	0.01	Toxic for reproduction
115	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	200-453-6	ND	0.005	Carcinogenic
116	Lead cyanamidate*	20837-86-9	244-073-9	ND	0.01	Toxic for reproduction
117	Tetralead trioxide sulphate*	12202-17-4	235-380-9	ND	0.01	Toxic for reproduction
118	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7	202-453-1	ND	0.005	Carcinogenic
119	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	ND	0.01	Toxic for reproduction
120	Trilead	1319-46-6	215-290-6	ND	0.01	Toxic for reproduction



	bis(carbonate)dihydroxide (basic lead carbonate)*					
121	Dimethyl sulphate	77-78-1	201-058-1	ND	0.005	Carcinogenic
122	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	ND	0.01	Toxic for reproduction
123	Silicic acid, barium salt, lead-doped*	68784-75-8	272-271-5	ND	0.01	Toxic for reproduction
124	Biphenyl-4-ylamine	92-67-1	202-177-1	ND	0.005	Carcinogenic
125	Lead oxide (lead monoxide)*	1317-36-8	215-267-0	ND	0.01	Toxic for reproduction
126	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	ND	0.01	Toxic for reproduction
127	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2	ND	0.01	Carcinogenic; Mutagenic
128	Silicic acid, lead salt*	11120-22-2	234-363-3	ND	0.01	Toxic for reproduction
129	Trilead dioxide phosphonate*	12141-20-7	235-252-2	ND	0.01	Toxic for reproduction
130	o-aminoazotoluene	97-56-3	202-591-2	ND	0.005	Carcinogenic
131	1-bromopropane	106-94-5	203-445-0	ND	0.01	Toxic for reproduction
132	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	ND	0.005	Carcinogenic
133	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	ND	0.005	Carcinogenic
134	Tetraethyllead*	78-00-2	201-075-4	ND	0.01	Toxic for reproduction
135	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	ND	0.01	Toxic for reproduction
136	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	ND	0.01	Toxic for reproduction
137	Diisopentylphthalate +	605-50-5	210-088-4	ND	0.005	Toxic for reproduction
138	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	ND	0.01	Equivalent level of concern
139	Cadmium*	7440-43-9	231-152-8	ND	0.01	Carcinogenic; Equivalent level of concern
140	Cadmium oxide*	1306-19-0	215-146-2	ND	0.01	Carcinogenic; Equivalent level of concern
141	Dipentyl phthalate (DPP) +	131-18-0	205-017-9	ND	0.005	Toxic for reproduction
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	0.005	Equivalent level of concern
143	Ammonium pentadecafluorooctanoate (APFO) †	3825-26-1	223-320-4	ND	0.005	Toxic for reproduction; PBT



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144	Pentadecafluorooctanoic acid (PFOA) [≠]	335-67-1	206-397-9	ND	0.005	Toxic for reproduction; PBT
145	Cadmium sulphide*	1306-23-6	215-147-8	ND	0.01	Carcinogenic; Equivalent level of concern
146	Dihexyl phthalate	84-75-3	201-559-5	ND	0.005	Toxic for reproduction
147	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	ND	0.005	Carcinogenic
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	217-710-3	ND	0.005	Carcinogenic
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	202-506-9	ND	0.005	Toxic for reproduction
150	Lead di(acetate)*	301-04-2	206-104-4	ND	0.01	Toxic for reproduction
151	Trixylyl phosphate	25155-23-1	246-677-8	ND	0.005	Toxic for reproduction
152	Cadmium chloride*	10108-64-2	233-296-7	ND	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear ⁺⁺	68515-50-4	271-093-5	ND	0.005	Toxic for reproduction
154	Sodium peroxometaborate*	7632-04-4	231-556-4	ND	0.01	Toxic for reproduction
155	Sodium perborate; perboric acid, sodium salt*	-	239-172-9; 234-390-0	ND	0.01	Toxic for reproduction
156	Cadmium fluoride *	7790-79-6	232-222-0	ND	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health

157	Cadmium sulphate *	10124-36-4; 31119-53-6	233-331-6	ND	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
158	2-benzotriazol-2-yl-4,6-di- tert-butylphenol (UV-320)	3846-71-7	223-346-6	ND	0.005	PBT; vPvB
159	2-(2H-benzotriazol-2-yl)- 4,6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8	ND	0.005	PBT; vPvB
160	2-ethylhexyl 10-ethyl-4,4- dioctyl-7-oxo-8-oxa-3,5- dithia-4- stannatetradecanoate (DOTE) ^{db}	15571-58-1	239-622-4	ND	0.01	Toxic for Reproduction
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) ^{db}	-	-	ND	0.01	Toxic for Reproduction
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	ND	0.01	Toxic for reproduction
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	0.01	vPvB
164	1,3-propanesultone	1120-71-4	214-317-9	ND	0.005	Carcinogenic



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165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	ND	0.005	vPvB
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	ND	0.005	vPvB
167	Nitrobenzene	98-95-3	202-716-0	ND	0.005	Toxic for reproduction
168	Perfluorononan-1-oic acid and its sodium and ammonium salts	375-95-1; 21049-39-8; 4149-60-4	206-801-3	ND	0.005	Toxic for reproduction; PBT
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5	ND	0.005	Carcinogenic; Mutagenic; Toxic for Reproduction; PBT; vPvB
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	201-245-8	ND	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health & environment
171	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] (4-Hpbl)	-	-	ND	0.005	Equivalent level of concern having probable serious effects to the environment
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3830-45-3, 335-76-2, 3108-42-7	-, 206-400-3, 221-470-5	ND	0.005	Toxic for reproduction; PBT
173	p-(1,1-dimethylpropyl)phenol (PTAP)	80-46-6	201-280-9	ND	0.005	Equivalent level of concern having probable serious effects to the environment
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-	ND	0.005	vPvB
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]	-	-	ND	0.005	vPvB



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176	Benz[a]anthracene	56-55-3	200-280-6	ND	0.005	Carcinogenic; PBT; vPvB
177	Cadmium nitrate	10325-94-7	233-710-6	ND	0.005	Carcinogenic; Mutagenic; Equivalent level of concern having probable serious effects to human health
178	Cadmium carbonate	513-78-0	208-168-9	ND	0.005	Carcinogenic; Mutagenic; Equivalent level of concern having probable serious effects to human health
179	Cadmium hydroxide	21041-95-2	244-168-5	ND	0.005	Carcinogenic; Mutagenic; Equivalent level of concern having probable serious effects to human health
180	Chrysene	218-01-9	205-923-4	ND	0.005	Carcinogenic; PBT; vPvB
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]	-	-	ND	0.005	Equivalent level of concern having probable serious effects to the environment
182	Octamethylcyclotetrasiloxane (D4)	556-67-2	209-136-7	ND	0.005	PBT; vPvB
183	Decamethylcyclopentasiloxane (D5)	541-02-6	208-764-9	ND	0.005	PBT; vPvB
184	Dodecamethylcyclohexasiloxane (D6)	540-97-6	208-762-8	ND	0.005	PBT; vPvB
185	Lead	7439-92-1	231-100-4	ND	0.005	Toxic for reproduction
186	Disodium octaborate	12008-41-2	234-541-0	ND	0.005	Toxic for reproduction
187	Benzo[ghi]perylene	191-24-2	205-883-8	ND	0.005	PBT; vPvB
188	Terphenyl hydrogenated	61788-32-7	262-967-7	ND	0.005	vPvB
189	Ethylenediamine (EDA)	107-15-3	203-468-6	ND	0.005	Equivalent level of concern having probable serious effects



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						to human health
190	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (TMA)	552-30-7	209-008-0	ND	0.005	Equivalent level of concern having probable serious effects to human health
191	Dicyclohexyl phthalate (DCHP)	84-61-7	201-545-9	ND	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health
192	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	401-720-1	ND	0.005	Toxic for reproduction
193	Benzo[k]fluoranthene	207-08-9	205-916-6	ND	0.005	Carcinogenic; PBT; vPvB
194	Fluoranthene	206-44-0	205-912-4	ND	0.005	PBT; vPvB
195	Phenanthrene	85-01-8	201-581-5	ND	0.005	vPvB
196	Pyrene	129-00-0	204-927-3	ND	0.005	PBT; vPvB
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor; 3-BC)	15087-24-8	239-139-9	ND	0.005	Equivalent level of concern having probable serious effects to the environment
198	2-methoxyethyl acetate	110-49-6	203-772-9	ND	0.005	Toxic for reproduction
199	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with \geq 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	-	-	ND	0.005	Equivalent level of concern having probable serious effects to the environment
200	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	0.005	Equivalent level of concern having probable serious effects on the environment & human health
201	4-tert-butylphenol (PTBP)	98-54-4	202-679-0	ND	0.005	Equivalent level of concern having probable serious effects to the environment
202	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	404-360-3	ND	0.005	Toxic for reproduction



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203	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	400-600-6	ND	0.005	Toxic for reproduction
204	Diisohexyl phthalate	71850-09-4	276-090-2	ND	0.005	Toxic for reproduction
205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	-	ND	0.005	Equivalent level of concern having probable serious effects on the environment and human health
206	1-vinylimidazole	1072-63-5	214-012-0	ND	0.005	Toxic for reproduction
207	2-methylimidazole	693-98-1	211-765-7	ND	0.005	Toxic for reproduction
208	Butyl 4-hydroxybenzoate (Butylparaben)	94-26-8	202-318-7	ND	0.005	Equivalent level of concern having probable serious effects on the human health
209	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	245-152-0	ND	0.01	Toxic for reproduction
210	bis(2-(2-methoxyethoxy)ethyl) ether	143-24-8	205-594-7	ND	0.01	Toxic for reproduction
211	Diocetyl tin 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	-	-	ND	0.01	Toxic for reproduction
212	1,4-dioxane	123-91-1	204-661-8	ND	0.01	Carcinogenic; Equivalent level of concern having probable serious effects on the environment & human health

213	2,2-bis(bromomethyl)propane 1,3-diol (BMP) 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA) 2,3-dibromo-1-propanol (2,3-DBPA)	3296-90-0, 36483-57-5, 1522-92-5, 96-13-9	221-967-7, 253-057-0, 202-480-9	ND	0.01	Carcinogenic
214	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers	-	-	ND	0.01	Toxic for reproduction
215	4,4'-(1-methylpropylidene)bisphenol; (bisphenol B)	77-40-7	201-025-1	ND	0.01	Equivalent level of concern having probable serious effects on the environment & human health
216	Glutaral	111-30-8	203-856-5	ND	0.01	Equivalent level of concern having probable serious effects on human health
217	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]	-	-	ND	0.01	PBT; vPvB
218	Orthoboric acid, sodium salt	13840-56-7	237-560-2	ND	0.01	Toxic for reproduction
219	Phenol, alkylation products (mainly in para position) with C12-rich branched or linear alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP)	-	-	ND	0.01	Toxic for reproduction; Equivalent level of concern having probable serious effects on the environment & human health

(1) CAS no. 7789-12-0 refers to sodium dichromate dihydrate

(2) CAS no. 10588-01-9 refers to anhydrous sodium dichromate

(3) CAS no. 3194-55-6 refers to a specific HBCDD - 1,2,5,6,9,10-hexabromocyclododecane

(4) CAS no. 25637-99-4 refers to unspecific HBCDD isomer composition



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- ⁽⁵⁾ CAS no. 1330-43-4 refers to disodium tetraborate, anhydrous
- ⁽⁶⁾ CAS no. 12179-04-3 refers to sodium tetraborate, pentahydrate
- ⁽⁷⁾ CAS no. 1303-96-4 refers to sodium tetraborate, decahydrate

Method: Analysis is based on GC, LC, IC, ICP, with various detection techniques and UV.



Remark:

1. PBT = Persistent, bio accumulative and toxic as defined in Regulation (EC) No 1907/2006
2. vPvB = Very persistent and very bio accumulative as defined in Regulation (EC) No 1907/2006
3. ND = Not Detected
4. *Result is based on the heavy metal or inorganic element concentration. Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
5. **Result is identified by tributyltin (TBT). Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
6. [§]TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione) and β -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.
7. ^aRefer to Aluminosilicate, Refractory Ceramic Fibres fulfil the three following conditions: a) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm) c) alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O}+\text{K}_2\text{O}+\text{CaO}+\text{MgO}+\text{BaO}$) content less or equal to 18% by weight.
8. ^bRefer to Zirconia Aluminosilicate, Refractory Ceramic Fibres fulfil the three following conditions: a) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges b) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm). c) alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O}+\text{K}_2\text{O}+\text{CaO}+\text{MgO}+\text{BaO}$) content less or equal to 18% by weight.
9. ⁺[1,2-Benzenedicarboxylic acid, dipentylester, branched and linear] is a mixture of phthalates contains DPP, DIPP and N-pentyl-isopentylphthalate.
10. [≠]PFOA and APFO are reported together. The result is based on PFOA concentration. Due to the limit of the analytical technology available, any further investigation is not feasible. The client is strongly advised to review the chemical formulation to ascertain.
11. ⁺⁺[1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear] is a mixture of phthalates contains dihexyl phthalate.
12. [♠]Result is based on the tin metal concentration, and further confirmation for checking DBT, DOTE & MOTE concentration.



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Note:

1. The limit of 0.1% (w/w) applies to an article. The results were calculated assuming as the submitted sample was an article. However, the results may not be applicable if the intended use of the sample is a substance or mixture. According to REACH, definition of an article, substance and mixture are:
 - i. Article - An object during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition
 - ii. Substance - A chemical element and its compound in the natural state or obtained by any manufacturing process
 - iii. Mixture (Previously known as "Preparation") - A mixture or solution composed of two or more substances
2. In accordance of Article 7 of Regulation (EC) No. 1907/2006 (REACH regulation) – Registration and notification of substances in articles, any producer or importer of articles shall notify ECHA, if a substance meets in criteria in Article 57 and is identified in accordance with Article 59(1), if both (1) the substance is present in those articles in quantities totalling over 1 tonne per producer or importer per year & (2) the substance is present in those articles above a concentration of 0.1% weight by weight (w/w) are met. The information to be notified shall include (a) identity and contact details of the producer or importer, (b) the registration numbers, (c) the identity of the substance and (d) the classification of the substance, (e) a brief description of the use of the substance and (f) the tonnage range of the substance.
3. In accordance of Article 33 of Regulation (EC) No. 1907/2006 (REACH regulation) – Duty to communicate information on substances in articles, any supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance. On request by a consumer the relevant information shall be provided by any supplier of an article free of charge, within 45 days of receipt of the request.

END