



# TEST REPORT

LAB NO. : (9318)292-0863  
DATE : Oct 24, 2018  
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**APPLICANT** : **FLASHBAY ELECTRONICS**  
1-4/F OF BLDG NO.3, BLDG NO.2, 101-501F OF BLDG NO.1,  
XIFENGCHENG INDUSTRIAL PARK, NO.2, FUYUAN ROAD,  
HEPING COMMUNITY, FUHAI STREET, BAOAN DISTRICT,  
SHENZHEN CITY, GUANGDONG PROVINCE, P.R. CHINA

**CONTACT PERSON** : LEVIN

**DATE OF SUBMISSION** : Oct 19, 2018

**TEST PERIOD** : Oct 19, 2018 to Oct 24, 2018

**NO. OF WORKING DAYS** : 4

**SAMPLE DESCRIPTION** : USB Flash Drives

Color: /

Style no. / Model no.: Christmas(CT)、Milano(ML)、Memo(ME)

P.O. No.: /

Country of Origin: /

Country of Destination: /

**MANUFACTURER** : **FLASHBAY ELECTRONICS**  
1-4/F OF BLDG NO.3, BLDG NO.2, 101-501F OF BLDG NO.1,  
XIFENGCHENG INDUSTRIAL PARK, NO.2, FUYUAN ROAD,  
HEPING COMMUNITY, FUHAI STREET, BAOAN DISTRICT,  
SHENZHEN CITY, GUANGDONG PROVINCE, P.R. CHINA

## SUMMARY OF TEST RESULTS

TEST REQUESTED	CONCLUSION	REMARK
191 Candidate List of Substances of Very High Concern for authorization published by European Chemicals Agency (ECHA) Regarding Regulation (EC) No. 1907/2006 concerning REACH	PASS	-

LA

**Bureau Veritas Consumer Products Services  
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BUREAU VERITAS CONSUMER PRODUCTS SERVICES (GUANGZHOU) CO., LTD

NINA REN  
SENIOR MANAGER



**REMARK**

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

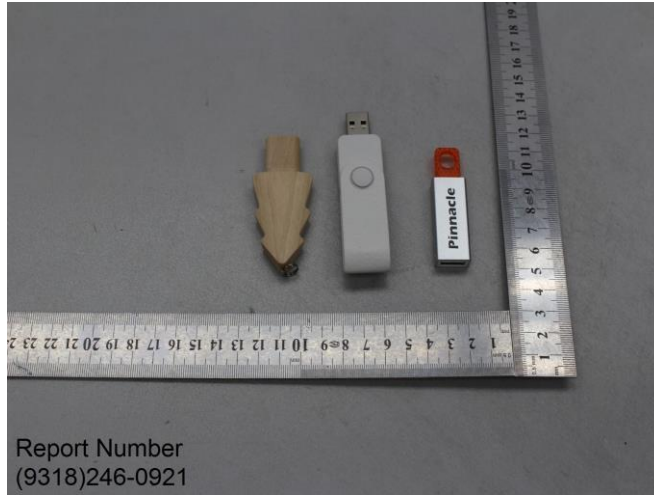
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**Photo of the Submitted Sample**







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**Annex**

**191 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.	Detection Limit, %	Basis for identification as a SVHC
1	Triethyl arsenate*	15606-95-8	427-700-2	0.05	Carcinogenic
2	Anthracene	120-12-7	204-371-1	0.05	PBT
3	4,4'-Diaminodiphenyl methane (MDA)	101-77-9	202-974-4	0.05	Carcinogenic
4	Dibutyl phthalate (DBP)	84-74-2	201-557-4	0.05	Toxic for reproduction
5	Cobalt dichloride*	7646-79-9	231-589-4	0.05	Carcinogenic
6	Diarsenic pentaoxide*	1303-28-2	215-116-9	0.05	Carcinogenic
7	Diarsenic trioxide*	1327-53-3	215-481-4	0.05	Carcinogenic
8	Sodium dichromate*	7789-12-0 <sup>(1)</sup> , 10588-01-9 <sup>(2)</sup>	234-190-3	0.05	Carcinogenic; Mutagenic; Toxic for reproduction
9	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	0.05	vPvB
10	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	204-211-0	0.05	Toxic for reproduction
11	Hexabromo cyclododecane (HBCDD) and all major diastereoisomers identified: $\alpha$ - HBCDD $\beta$ - HBCDD $\gamma$ - HBCDD	3194-55-6 <sup>(3)</sup> , 25637-99-4 <sup>(4)</sup>  134237-50-6 134237-51-7 134237-52-8	247-148-4, 221-695-9	0.05	PBT
12	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (SCCP)	85535-84-8	287-476-5	0.05	PBT, vPvB
13	Bis(tributyltin)oxide (TBTO)**	56-35-9	200-268-0	0.05	PBT
14	Lead hydrogen arsenate*	7784-40-9	232-064-2	0.05	Carcinogenic; Toxic for reproduction
15	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	0.05	Toxic for reproduction
16	2,4-Dinitrotoluene	121-14-2	204-450-0	0.05	Carcinogenic
17	Anthracene oil	90640-80-5	292-602-7	0.1	Carcinogenic, PBT, vPvB
18	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	0.1	Carcinogenic; Mutagenic, PBT, vPvB
19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	0.1	Carcinogenic; Mutagenic, PBT, vPvB



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20	Anthracene oil, anthracene-low	90640-82-7	292-604-8	0.1	Carcinogenic; Mutagenic, PBT, vPvB
21	Anthracene oil, anthracene paste	90640-81-6	292-603-2	0.1	Carcinogenic; Mutagenic, PBT, vPvB
22	Diisobutyl phthalate	84-69-5	201-553-2	0.05	Toxic for reproduction
23	Aluminosilicate, Refractory Ceramic Fibres* <sup>a</sup>	Index no. 650-017-00-8		0.05	Carcinogenic
24	Zirconia Aluminosilicate, Refractory Ceramic Fibres* <sup>b</sup>	Index no. 650-017-00-8		0.05	Carcinogenic
25	Lead chromate*	7758-97-6	231-846-0	0.05	Carcinogenic; Toxic for reproduction
26	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	0.05	Carcinogenic; Toxic for reproduction
27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	0.05	Carcinogenic; Toxic for reproduction
28	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	0.05	Toxic for reproduction
29	Coal tar pitch, high temperature	65996-93-2	266-028-2	0.1	Carcinogenic, PBT, vPvB
30	Acrylamide	79-06-1	201-173-7	0.05	Carcinogenic; Mutagenic
31	Trichloroethylene	79-01-6	201-167-4	0.05	Carcinogenic
32	Boric acid*	10043-35-3, 11113-50-1	233-139-2 / 234-343-4	0.05	Toxic for reproduction
33	Disodium tetraborate, anhydrous*	1330-43-4 <sup>(5)</sup> , 12179-04-3 <sup>(6)</sup> , 1303-96-4 <sup>(7)</sup>	215-540-4	0.05	Toxic for reproduction
34	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	0.05	Toxic for reproduction
35	Sodium chromate*	7775-11-3	231-889-5	0.05	Carcinogenic; Mutagenic; Toxic for reproduction
36	Potassium chromate*	7789-00-6	232-140-5	0.05	Carcinogenic; Mutagenic
37	Ammonium dichromate*	7789-09-5	232-143-1	0.05	Carcinogenic; Mutagenic; Toxic for reproduction
38	Potassium dichromate*	7778-50-9	231-906-6	0.05	Carcinogenic; Mutagenic; Toxic for reproduction
39	Cobalt(II) sulphate*	10124-43-3	233-334-2	0.05	Carcinogenic; Toxic for reproduction
40	Cobalt(II) dinitrate*	10141-05-6	233-402-1	0.05	Carcinogenic; Toxic for reproduction



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41	Cobalt(II) carbonate*	513-79-1	208-169-4	0.05	Carcinogenic; Toxic for reproduction
42	Cobalt(II) diacetate*	71-48-7	200-755-8	0.05	Carcinogenic; Toxic for reproduction
43	2-Methoxyethanol	109-86-4	203-713-7	0.05	Toxic for reproduction
44	2-Ethoxyethanol	110-80-5	203-804-1	0.05	Toxic for reproduction
45	Chromium trioxide*	1333-82-0	215-607-8	0.05	Carcinogenic; Mutagenic
46	Acid generated from chromium trioxide and their oligomers: Chromic acid* Dichromic acid* Oligomers of chromic acid and dichromic acid*	7738-94-5 13530-68-2 -	231-801-5 236-881-5 -	0.05	Carcinogenic
47	2-Ethoxyethyl acetate	111-15-9	203-839-2	0.05	Toxic for reproduction
48	Strontium Chromate*	7789-06-2	232-142-6	0.05	Carcinogenic
49	1,2-benzenedicarboxylic acid, di-C7-11 branched alkyl ester and linear alkyl ester	68515-42-4	271-084-6	0.05	Toxic for reproduction
50	Hydrazine	302-01-2 7803-57-8	206-114-9	0.05	Carcinogenic
51	1-Methyl-2-pyrrolidone	872-50-4	212-828-1	0.05	Toxic for reproduction
52	1,2,3-trichloropropane	96-18-4	202-486-1	0.05	Toxic for reproduction
53	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl ester, C7-rich (DIHP)	71888-89-6	276-158-1	0.05	Toxic for reproduction
54	Dichromium tris(chromate)*	24613-89-6	246-356-2	0.05	Carcinogenic
55	Potassium hydroxyoctaoxodizincated i-chromate*	11103-86-9	234-329-8	0.05	Carcinogenic
56	Pentazine chromate octahydroxide*	49663-84-5	256-418-0	0.05	Carcinogenic
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	500-036-1	0.05	Carcinogenic
58	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	0.05	Toxic for reproduction
59	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	0.05	Carcinogenic
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	205-426-2	0.05	Equivalent level of concern



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61	1,2-Dichloroethane	107-06-2	203-458-1	0.05	Carcinogenic
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4	0.05	Toxic for reproduction
63	Arsenic acid*	7778-39-4	231-901-9	0.1	Carcinogenic
64	Calcium arsenate*	7778-44-1	231-904-5	0.05	Carcinogenic
65	Trilead diarsenate*	3687-31-8	222-979-5	0.05	Carcinogenic; Toxic for reproduction
66	N,N-dimethylacetamide (DMAC)	127-19-5	204-826-4	0.05	Toxic for reproduction
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	202-918-9	0.05	Carcinogenic
68	Phenolphthalein	77-09-8	201-004-7	0.05	Carcinogenic
69	Lead azide, Lead diazide*	13424-46-9	236-542-1	0.05	Toxic for reproduction
70	Lead styphnate*	15245-44-0	239-290-0	0.05	Toxic for reproduction
71	Lead dipicrate*	6477-64-1	229-335-2	0.05	Toxic for reproduction
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	203-977-3	0.05	Toxic for reproduction
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	203-794-9	0.05	Toxic for reproduction
74	Diboron trioxide*	1303-86-2	215-125-8	0.05	Toxic for reproduction
75	Formamide	75-12-7	200-842-0	0.05	Toxic for reproduction
76	Lead(II) bis(methanesulfonate)*	17570-76-2	401-750-5	0.05	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	0.05	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	0.05	Mutagenic
79	4,4'-bis(dimethylamino)benzo phenone (Michler's ketone)	90-94-8	202-027-5	0.05	Carcinogenic
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	202-959-2	0.05	Carcinogenic





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81	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	0.05	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	0.05	Carcinogenic
83	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	0.05	Carcinogenic
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2	0.05	Carcinogenic
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	214-604-9	0.05	Persistent, bioaccumulative and toxic; very persistent and very bioaccumulative
86	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	0.05	Toxic for reproduction
87	Methoxy acetic acid	625-45-6	210-894-6	0.05	Toxic for reproduction ; equivalent level of concern
88	Dibutyltin dichloride (DBT)*	683-18-1	211-670-0	0.05	Toxic for reproduction
89	1,2-Diethoxyethane	629-14-1	211-076-1	0.05	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	0.05	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	0.05	Equivalent level of concern



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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 thereof	-	-	0.05	Equivalent level of concern
93	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4	0.05	Very persistent and very bioaccumulative
94	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear <sup>+</sup>	84777-06-0	284-032-2	0.05	Toxic for reproduction
95	Henicosafuoroundecanoic acid	2058-94-8	218-165-4	0.05	Very persistent and very bioaccumulative
96	N-pentyl-isopentylphthalate (iPnPP) <sup>+</sup>	776297-69-9	-	0.05	Toxic for reproduction
97	Pentacosafuorotridecanoic acid	72629-94-8	276-745-2	0.05	Very persistent and very bioaccumulative
98	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - covering well-defined substances and UVCB substances, polymers and homologues	-	-	0.05	Equivalent level of concern
99	Tricosafuorododecanoic acid	307-55-1	206-203-2	0.05	Very persistent and very bioaccumulative
100	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	0.05	Toxic for reproduction
101	Lead tetroxide (orange lead)*	1314-41-6	215-235-6	0.05	Toxic for reproduction
102	Diethyl sulphate	64-67-5	200-589-6	0.05	Carcinogenic; Mutagenic
103	Dinoseb	88-85-7	201-861-7	0.05	Toxic for reproduction
104	Lead Titanium Zirconium Oxide*	12626-81-2	235-727-4	0.05	Toxic for reproduction
105	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	0.05	Toxic for reproduction
106	Furan	110-00-9	203-727-3	0.05	Carcinogenic
107	N-methylacetamide	79-16-3	201-182-6	0.05	Toxic for reproduction
108	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0	0.05	Carcinogenic
109	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.05	Toxic for reproduction
110	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.05	Carcinogenic; Mutagenic



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111	[Phthalato(2-)]dioxotrilead (Dibasic lead phthalate)*	69011-06-9	273-688-5	0.05	Toxic for reproduction
112	Lead titanium trioxide*	12060-00-3	235-038-9	0.05	Toxic for reproduction
113	Lead oxide sulphate*	12036-76-9	234-853-7	0.05	Toxic for reproduction
114	Lead dinitrate*	10099-74-8	233-245-9	0.05	Toxic for reproduction
115	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	200-453-6	0.05	Carcinogenic
116	Lead cyanamidate*	20837-86-9	244-073-9	0.05	Toxic for reproduction
117	Tetralead trioxide sulphate*	12202-17-4	235-380-9	0.05	Toxic for reproduction
118	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7	202-453-1	0.05	Carcinogenic
119	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	0.05	Toxic for reproduction
120	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	215-290-6	0.05	Toxic for reproduction
121	Dimethyl sulphate	77-78-1	201-058-1	0.05	Carcinogenic
122	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	0.05	Toxic for reproduction
123	Silicic acid, barium salt, lead-doped*	68784-75-8	272-271-5	0.05	Toxic for reproduction
124	Biphenyl-4-ylamine	92-67-1	202-177-1	0.05	Carcinogenic
125	Lead oxide (lead monoxide)*	1317-36-8	215-267-0	0.05	Toxic for reproduction
126	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	0.05	Toxic for reproduction
127	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2	0.05	Carcinogenic; Mutagenic
128	Silicic acid, lead salt*	11120-22-2	234-363-3	0.05	Toxic for reproduction
129	Trilead dioxide phosphonate*	12141-20-7	235-252-2	0.05	Toxic for reproduction
130	o-aminoazotoluene	97-56-3	202-591-2	0.05	Carcinogenic
131	1-bromopropane	106-94-5	203-445-0	0.05	Toxic for reproduction
132	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	0.05	Carcinogenic
133	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.05	Carcinogenic
134	Tetraethyllead*	78-00-2	201-075-4	0.05	Toxic for reproduction
135	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	0.05	Toxic for reproduction
136	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	0.05	Toxic for reproduction
137	Diisopentylphthalate <sup>+</sup>	605-50-5	210-088-4	0.05	Toxic for reproduction
138	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.05	Equivalent level of concern
139	Cadmium*	7440-43-9	231-152-8	0.05	Carcinogenic; Equivalent level of concern



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140	Cadmium oxide*	1306-19-0	215-146-2	0.05	Carcinogenic; Equivalent level of concern
141	Dipentyl phthalate (DPP) <sup>+</sup>	131-18-0	205-017-9	0.05	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]	-	-	0.05	Equivalent level of concern
143	Ammonium pentadecafluorooctanoate (APFO) <sup>≠</sup>	3825-26-1	223-320-4	0.05	Toxic for reproduction; PBT
144	Pentadecafluorooctanoic acid (PFOA) <sup>≠</sup>	335-67-1	206-397-9	0.05	Toxic for reproduction; PBT
145	Cadmium sulphide	1306-23-6	215-147-8	0.05	Carcinogenic; Equivalent level of concern
146	Dihexyl phthalate	84-75-3	201-559-5	0.05	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	0.05	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	0.05	Carcinogenic
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.05	Toxic for reproduction
150	Lead di(acetate)	301-04-2	206-104-4	0.05	Toxic for reproduction
151	Trixylyl phosphate	25155-23-1	246-677-8	0.05	Toxic for reproduction
152	Cadmium chloride*	10108-64-2	233-296-7	0.05	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health



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153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear++	68515-50-4	271-093-5	0.05	Toxic for reproduction
154	Sodium peroxometaborate*	7632-04-4	231-556-4	0.05	Toxic for reproduction
155	Sodium perborate; perboric acid, sodium salt*	-	239-172-9; 234-390-0	0.05	Toxic for reproduction
156	Cadmium fluoride *	7790-79-6	232-222-0	0.05	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	0.05	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	0.05	PBT; vPvB
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8	0.05	PBT; vPvB
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) *	15571-58-1	239-622-4	0.05	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) *	-	-	0.05	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 $\geq$ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5; 68648-93-1	271-094-0; 272-013-1	0.05	Toxic for reproduction



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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]	-	-	0.05	Very persistent and very bioaccumulative
164	1,3-propanesultone	1120-71-4	214-317-9	0.05	Carcinogenic
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.05	vPvB
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	0.05	vPvB
167	Nitrobenzene	98-95-3	202-716-0	0.05	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	0.05	Toxic for reproduction; PBT
169	Benzo[def]chrysene (benzo[a]pyrene)	200-028-5	50-32-8	0.05	Carcinogenic; Mutagenic; Toxic for Reproduction; PBT; vPvB
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	201-245-8	0.05	Endocrine disrupting properties
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)	-	-	0.05	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	0.05	Toxic for reproduction; PBT
173	p-(1,1-dimethylpropyl)phenol (PTAP)	80-46-6	201-280-9	0.05	Equivalent level of concern having probable serious effects to the environment



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174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-	0.05	vPvB
175	Dechlorane plus (including any of its individual anti- and syn-isomers or any combination thereof)	-	-	0.05	vPvB
176	Benz[a]anthracene	56-55-3	200-280-6	0.05	Carcinogenic; PBT; vPvB
177	Cadmium nitrate*	10325-94-7	233-710-6	0.05	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
178	Cadmium carbonate*	513-78-0	208-168-9	0.05	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
179	Cadmium hydroxide*	21041-95-2	244-168-5	0.05	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
180	Chrysene	218-01-9	205-923-4	0.05	Carcinogenic; PBT; vPvB
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]	-	-	0.05	Endocrine disrupting properties
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride)	552-30-7	209-008-0	0.05	Respiratory sensitising properties (human health)
183	Benzo[ghi]perylene	191-24-2	205-883-8	0.05	PBT vPvB
184	Decamethylcyclopentasiloxane(D5)	541-02-6	208-764-9	0.05	PBT vPvB



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185	Dicyclohexyl phthalate (DCHP)	84-61-7	201-545-9	0.05	Toxic for reproduction Endocrine disrupting properties ( human health)
186	Disodium octaborate*	12008-41-2	234-541-0	0.05	Toxic for reproduction
187	Dodecamethylcyclotetrasiloxane(D6)	540-97-6	208-762-8	0.05	PBT vPvB
188	Ethylenediamine (EDA)	107-15-3	203-468-6	0.05	Respiratory sensitising properties (human health)
189	Lead	7439-92-1	231-100-4	0.05	Toxic for reproduction
190	Octamethylcyclotetrasiloxane(D4)	556-67-2	209-136-7	0.05	PBT vPvB
191	Terphenyl, hydrogenated	61788-32-7	262-967-7	0.05	vPvB

- (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  
(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





**Annex**

**191 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.	Detection Limit, %	Basis for identification as a SVHC
1	Triethyl arsenate*	15606-95-8	427-700-2	0.01	Carcinogenic
2	Anthracene	120-12-7	204-371-1	0.005	PBT
3	4,4'-Diaminodiphenyl methane (MDA)	101-77-9	202-974-4	0.005	Carcinogenic
4	Dibutyl phthalate (DBP)	84-74-2	201-557-4	0.005	Toxic for reproduction
5	Cobalt dichloride*	7646-79-9	231-589-4	0.01	Carcinogenic
6	Diarsenic pentaoxide*	1303-28-2	215-116-9	0.01	Carcinogenic
7	Diarsenic trioxide*	1327-53-3	215-481-4	0.01	Carcinogenic
8	Sodium dichromate*	7789-12-0 <sup>(1)</sup> , 10588-01-9 <sup>(2)</sup>	234-190-3	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	0.005	vPvB
10	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	204-211-0	0.005	Toxic for reproduction
11	Hexabromo cyclododecane (HBCDD) and all major diastereoisomers identified: α - HBCDD β - HBCDD γ - HBCDD	3194-55-6 <sup>(3)</sup> , 25637-99-4 <sup>(4)</sup>  134237-50-6 134237-51-7 134237-52-8	247-148-4, 221-695-9	0.005	PBT
12	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (SCCP)	85535-84-8	287-476-5	0.01	PBT, vPvB
13	Bis(tributyltin)oxide (TBTO)**	56-35-9	200-268-0	0.005	PBT
14	Lead hydrogen arsenate*	7784-40-9	232-064-2	0.01	Carcinogenic; Toxic for reproduction
15	Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	0.005	Toxic for reproduction
16	2,4-Dinitrotoluene	121-14-2	204-450-0	0.005	Carcinogenic
17	Anthracene oil	90640-80-5	292-602-7	0.01	Carcinogenic, PBT, vPvB
18	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5	0.01	Carcinogenic; Mutagenic, PBT, vPvB



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19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	0.01	Carcinogenic; Mutagenic, PBT, vPvB
20	Anthracene oil, anthracene-low	90640-82-7	292-604-8	0.01	Carcinogenic; Mutagenic, PBT, vPvB
21	Anthracene oil, anthracene paste	90640-81-6	292-603-2	0.01	Carcinogenic; Mutagenic, PBT, vPvB
22	Diisobutyl phthalate	84-69-5	201-553-2	0.005	Toxic for reproduction
23	Aluminosilicate, Refractory Ceramic Fibres <sup>*a</sup>	Index no. 650-017-00-8		0.01	Carcinogenic
24	Zirconia Aluminosilicate, Refractory Ceramic Fibres <sup>*b</sup>	Index no. 650-017-00-8		0.01	Carcinogenic
25	Lead chromate*	7758-97-6	231-846-0	0.01	Carcinogenic; Toxic for reproduction
26	Lead chromate molybdate sulfate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	0.01	Carcinogenic; Toxic for reproduction
27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	0.01	Carcinogenic; Toxic for reproduction
28	Tris(2-chloroethyl) phosphate	115-96-8	204-118-5	0.005	Toxic for reproduction
29	Coal tar pitch, high temperature	65996-93-2	266-028-2	0.01	Carcinogenic, PBT, vPvB
30	Acrylamide	79-06-1	201-173-7	0.005	Carcinogenic; Mutagenic
31	Trichloroethylene	79-01-6	201-167-4	0.005	Carcinogenic
32	Boric acid*	10043-35-3, 11113-50-1	233-139-2 / 234-343-4	0.01	Toxic for reproduction
33	Disodium tetraborate, anhydrous*	1330-43-4 <sup>(5)</sup> , 12179-04-3 <sup>(6)</sup> , 1303-96-4 <sup>(7)</sup>	215-540-4	0.01	Toxic for reproduction
34	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	0.01	Toxic for reproduction
35	Sodium chromate*	7775-11-3	231-889-5	0.01	Carcinogenic; Mutagenic; Toxic for reproduction
36	Potassium chromate*	7789-00-6	232-140-5	0.01	Carcinogenic; Mutagenic
37	Ammonium dichromate*	7789-09-5	232-143-1	0.01	Carcinogenic; Mutagenic; Toxic for reproduction
38	Potassium dichromate*	7778-50-9	231-906-6	0.01	Carcinogenic; Mutagenic; Toxic for reproduction
39	Cobalt(II) sulphate*	10124-43-3	233-334-2	0.01	Carcinogenic; Toxic for reproduction



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



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



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81	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	208-953-6	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	0.005	Carcinogenic
83	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	229-851-8	0.01	Carcinogenic
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	209-218-2	0.005	Carcinogenic
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	214-604-9	0.005	Persistent, bioaccumulative and toxic; very persistent and very bioaccumulative
86	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	0.005	Toxic for reproduction
87	Methoxy acetic acid	625-45-6	210-894-6	0.005	Toxic for reproduction ; equivalent level of concern
88	Dibutyltin dichloride (DBT)*	683-18-1	211-670-0	0.01	Toxic for reproduction
89	1,2-Diethoxyethane	629-14-1	211-076-1	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	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	0.005	Equivalent level of concern



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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 thereof	-	-	0.005	Equivalent level of concern
93	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4	0.005	Very persistent and very bioaccumulative
94	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear <sup>+</sup>	84777-06-0	284-032-2	0.005	Toxic for reproduction
95	Henicosafuoroundecanoic acid	2058-94-8	218-165-4	0.005	Very persistent and very bioaccumulative
96	N-pentyl-isopentylphthalate (iPnPP) <sup>+</sup>	776297-69-9	-	0.005	Toxic for reproduction
97	Pentacosafuorotridecanoic acid	72629-94-8	276-745-2	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	-	-	0.005	Equivalent level of concern
99	Tricosafuorododecanoic acid	307-55-1	206-203-2	0.005	Very persistent and very bioaccumulative
100	Lead bis(tetrafluoroborate)*	13814-96-5	237-486-0	0.01	Toxic for reproduction
101	Lead tetroxide (orange lead)*	1314-41-6	215-235-6	0.01	Toxic for reproduction
102	Diethyl sulphate	64-67-5	200-589-6	0.005	Carcinogenic; Mutagenic
103	Dinoseb	88-85-7	201-861-7	0.005	Toxic for reproduction
104	Lead Titanium Zirconium Oxide*	12626-81-2	235-727-4	0.01	Toxic for reproduction
105	Acetic acid, lead salt, basic*	51404-69-4	257-175-3	0.01	Toxic for reproduction
106	Furan	110-00-9	203-727-3	0.01	Carcinogenic
107	N-methylacetamide	79-16-3	201-182-6	0.005	Toxic for reproduction
108	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0	0.005	Carcinogenic
109	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7	0.01	Toxic for reproduction
110	4,4'-oxydianiline and its salts	101-80-4	202-977-0	0.005	Carcinogenic; Mutagenic





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111	[Phthalato(2-)]dioxotrilead (Dibasic lead phthalate)*	69011-06-9	273-688-5	0.01	Toxic for reproduction
112	Lead titanium trioxide*	12060-00-3	235-038-9	0.01	Toxic for reproduction
113	Lead oxide sulphate*	12036-76-9	234-853-7	0.01	Toxic for reproduction
114	Lead dinitrate*	10099-74-8	233-245-9	0.01	Toxic for reproduction
115	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	200-453-6	0.005	Carcinogenic
116	Lead cyanamidate*	20837-86-9	244-073-9	0.01	Toxic for reproduction
117	Tetralead trioxide sulphate*	12202-17-4	235-380-9	0.01	Toxic for reproduction
118	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7	202-453-1	0.005	Carcinogenic
119	Pyrochlore, antimony lead yellow*	8012-00-8	232-382-1	0.01	Toxic for reproduction
120	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	215-290-6	0.01	Toxic for reproduction
121	Dimethyl sulphate	77-78-1	201-058-1	0.005	Carcinogenic
122	Dioxobis(stearato)trilead*	12578-12-0	235-702-8	0.01	Toxic for reproduction
123	Silicic acid, barium salt, lead-doped*	68784-75-8	272-271-5	0.01	Toxic for reproduction
124	Biphenyl-4-ylamine	92-67-1	202-177-1	0.005	Carcinogenic
125	Lead oxide (lead monoxide)*	1317-36-8	215-267-0	0.01	Toxic for reproduction
126	Pentalead tetraoxide sulphate*	12065-90-6	235-067-7	0.01	Toxic for reproduction
127	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2	0.01	Carcinogenic; Mutagenic
128	Silicic acid, lead salt*	11120-22-2	234-363-3	0.01	Toxic for reproduction
129	Trilead dioxide phosphonate*	12141-20-7	235-252-2	0.01	Toxic for reproduction
130	o-aminoazotoluene	97-56-3	202-591-2	0.005	Carcinogenic
131	1-bromopropane	106-94-5	203-445-0	0.01	Toxic for reproduction
132	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1	0.005	Carcinogenic
133	4,4'-methylenedi-o-toluidine	838-88-0	212-658-8	0.005	Carcinogenic
134	Tetraethyllead*	78-00-2	201-075-4	0.01	Toxic for reproduction
135	Sulfurous acid, lead salt, dibasic*	62229-08-7	263-467-1	0.01	Toxic for reproduction
136	Fatty acids, C16-18, lead salts*	91031-62-8	292-966-7	0.01	Toxic for reproduction
137	Diisopentylphthalate <sup>+</sup>	605-50-5	210-088-4	0.005	Toxic for reproduction
138	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	204-650-8	0.01	Equivalent level of concern
139	Cadmium*	7440-43-9	231-152-8	0.01	Carcinogenic; Equivalent level of concern





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140	Cadmium oxide*	1306-19-0	215-146-2	0.01	Carcinogenic; Equivalent level of concern
141	Dipentyl phthalate (DPP) <sup>+</sup>	131-18-0	205-017-9	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]	-	-	0.005	Equivalent level of concern
143	Ammonium pentadecafluorooctanoate (APFO) <sup>‡</sup>	3825-26-1	223-320-4	0.005	Toxic for reproduction; PBT
144	Pentadecafluorooctanoic acid (PFOA) <sup>‡</sup>	335-67-1	206-397-9	0.005	Toxic for reproduction; PBT
145	Cadmium sulphide	1306-23-6	215-147-8	0.01	Carcinogenic; Equivalent level of concern
146	Dihexyl phthalate	84-75-3	201-559-5	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	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	0.005	Carcinogenic
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	202-506-9	0.005	Toxic for reproduction
150	Lead di(acetate)	301-04-2	206-104-4	0.01	Toxic for reproduction
151	Trixylyl phosphate	25155-23-1	246-677-8	0.005	Toxic for reproduction
152	Cadmium chloride*	10108-64-2	233-296-7	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health



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153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear <sup>++</sup>	68515-50-4	271-093-5	0.005	Toxic for reproduction
154	Sodium peroxometaborate*	7632-04-4	231-556-4	0.01	Toxic for reproduction
155	Sodium perborate; perboric acid, sodium salt*	-	239-172-9; 234-390-0	0.01	Toxic for reproduction
156	Cadmium fluoride *	7790-79-6	232-222-0	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	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	0.005	PBT; vPvB
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8	0.005	PBT; vPvB
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) *	15571-58-1	239-622-4	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) *	-	-	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 $\geq$ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5; 68648-93-1	271-094-0; 272-013-1	0.01	Toxic for reproduction



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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]	-	-	0.01	Very persistent and very bioaccumulative
164	1,3-propanesultone	1120-71-4	214-317-9	0.01	Carcinogenic
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8	0.005	vPvB
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1	0.005	vPvB
167	Nitrobenzene	98-95-3	202-716-0	0.01	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	0.01	Toxic for reproduction; PBT
169	Benzo[def]chrysene (benzo[a]pyrene)	200-028-5	50-32-8	0.005	Carcinogenic; Mutagenic; Toxic for Reproduction; PBT; vPvB
170	4,4'-isopropylidenediphenol (bisphenol A; BPA)	80-05-7	201-245-8	0.005	Toxic for reproduction; Equivalent level of concern having probable serious effects to human health
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)	-	-	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	0.005	Toxic for reproduction ; PBT
173	p-(1,1-dimethylpropyl)phenol (PTAP)	80-46-6	201-280-9	0.005	Equivalent level of concern having probable serious effects to the environment



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174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	-	-	0.005	vPvB
175	Dechlorane plus (including any of its individual anti- and syn-isomers or any combination thereof)	-	13560-89-9; 135821-74-8; 135821-03-3	0.005	vPvB
176	Benz[a]anthracene	56-55-3	200-280-6	0.005	Carcinogenic; PBT; vPvB
177	Cadmium nitrate*	10325-94-7	233-710-6	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
178	Cadmium carbonate*	513-78-0	208-168-9	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
179	Cadmium hydroxide*	21041-95-2	244-168-5	0.01	Carcinogenic; Mutagenic; Toxic for Reproduction; Equivalent level of concern having probable serious effects to human health
180	Chrysene	218-01-9	205-923-4	0.01	Carcinogenic; PBT; vPvB
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]	-	-	0.01	Endocrine disrupting properties
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride)	552-30-7	209-008-0	0.005	Respiratory sensitising properties (human health)
183	Benzo[ghi]perylene	191-24-2	205-883-8	0.005	PBT vPvB
184	Decamethylcyclopentasiloxane(D5)	541-02-6	208-764-9	0.005	PBT vPvB



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185	Dicyclohexyl phthalate (DHP)	84-61-7	201-545-9	0.005	Toxic for reproduction Endocrine disrupting properties ( human health)
186	Disodium octaborate*	12008-41-2	234-541-0	0.005	Toxic for reproduction
187	Dodecamethylcyclohexasiloxane(D6)	540-97-6	208-762-8	0.005	PBT vPvB
188	Ethylenediamine (EDA)	107-15-3	203-468-6	0.005	Respiratory sensitising properties (human health)
189	Lead	7439-92-1	231-100-4	0.005	Toxic for reproduction
190	Octamethylcyclotetrasiloxane(D4)	556-67-2	209-136-7	0.005	PBT vPvB
191	Terphenyl, hydrogenated	61788-32-7	262-967-7	0.005	vPvB

- (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  
(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



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*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. <sup>§</sup>TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione) and  $\beta$ -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. <sup>a</sup>Refer 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 ( $\mu\text{m}$ ) 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. <sup>b</sup>Refer 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 ( $\mu\text{m}$ ). 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. <sup>+</sup>[1,2-Benzenedicarboxylic acid, dipentylester, branched and linear] is a mixture of phthalates contains DPP, DIPP and N-pentyl-isopentylphthalate.
10. <sup>z</sup>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. <sup>++</sup>[1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear] is a mixture of phthalates contains dihexyl phthalate.
12. <sup>db</sup>Result is based on the tin metal concentration, and further confirmation for checking DBT, DOTE & MOTE concentration.
13. If the article contains a material type whose weight is  $<0.1\%$  of the total article weight, this material type is ignored for testing.



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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