



Attached 1: Candidate list of SVHC (최근 업데이트 : 2020. 06. 25 by ECHA)

No	Substance name	EC number	CAS number	Concentration
1	anthracene	204-371-1	120-12-7	N. D
2	4,4'-diaminodiphenylmethane	202-974-4	101-77-9	N. D
3	dibutyl phthalate(DBP)	201-557-4	84-74-2	N. D
4	cobalt dichloride	231-589-4	7646-79-9	N. D
5	diarsenic pentaoxide	215-116-9	1303-28-2	N. D
6	diarsenic trioxide	215-481-4	1327-53-3	N. D
7	sodium dichromate	234-190-3	7789-12-0 10588-01-9	N. D
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2	N. D
9	Bis(2-ethyl(hexyl)phthalate)(DEHP)	204-211-0	117-81-7	N. D
10	hexabromocyclododecane(HBCDD)	247-148-4 221-695-9	25637-99-4	N. D
11	short chain chlorinated paraffins(SCCPs)	287-476-5	85535-84-8	N. D
12	bis(tributyltin)oxide(TBTO)	200-268-0	56-35-9	N. D
13	lead hydrogen arsenate	232-064-2	7784-40-9	N. D
14	triethyl arsenate	427-700-2	15606-95-8	N. D
15	benzyl butyl phthalate(BBP)	201-622-7	85-68-7	N. D
16	Anthracene oil	292-602-7	90640-80-5	N. D
17	Anthracene oil, anthracene paste, distn, light	295-278-5	91995-17-4	N. D
18	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2	N. D
19	Anthracene oil, anthracene-low	292-604-8	90640-82-7	N. D
20	Anthracene oil, anthracene-paste	292-603-2	90640-81-6	N. D
21	Coal tar pitch, high temperature	266-028-2	65996-93-2	N. D
22	Acrylamide	201-173-7	1979-06-01	N. D
23	2,4-Dinitrotoluene	204-450-0	121-14-2	N. D
24	Diisobutyl phthalate	201-553-2	84-69-5	N. D
25	Lead chromate	231-846-0	7758-97-6	N. D
26	Lead chromate molybdate sulphate red	235-759-9	12656-85-8	N. D
27	Lead sulfochromate yellow	215-693-7	1344-37-2	N. D

No	Substance name	EC number	CAS number	Concentration
28	Tris(2-chloroethyl)phosphate	204-118-5	115-96-8	N. D
29	Trichloroethylene	201-167-4	79-01-06	N. D
30	Boric acid	233-139-2 234-343-4	10043-35-3 11113-50-1	N. D
31	Disodium tetraborate, anhydrous	215-540-4	1330-43-4 12179-04-3 1303-96-4	N. D
32	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1	N. D
33	Sodium chromate	231-889-5	7775-11-03	N. D
34	Potassium chromate	232-140-5	7789-00-6	N. D
35	Ammonium dichromate	232-143-1	7789-09-05	N. D
36	Potassium dichromate	231-906-6	7778-50-9	N. D
37	Cobalt(II) sulphate	233-334-2	10124-43-3	N. D
38	Cobalt(II) dinitrate	233-402-1	10141-05-6	N. D
39	Cobalt(II) carbonate	208-169-4	513-79-1	N. D
40	Cobalt(II) diacetate	200-755-8	71-48-7	N. D
41	2-Methoxyethanol	203-713-7	109-86-4	N. D
42	2-Ethoxyethanol	203-804-1	110-80-5	N. D
43	Chromium trioxide	215-607-8	1333-82-0	N. D
44	Acids generated from chromium trioxide and their oligomers: - Chromic acid - Dichromic acid Oligomers of chromic acid and dichromic acid	231-801-5 236-881-5	7738-94-5 13530-68-2	N. D
45	2-ethoxyethyl acetate	203-839-2	111-15-9	N. D
46	Strontium chromate	232-142-6	7789-06-02	N. D
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters(DHNUP)	271-084-6	68515-42-4	N. D
48	Hydrazine Hydrazing hydrate	206-114-9	302-01-2 7803-57-8	N. D
49	1-methyl-2-pyrrolidone	212-828-1	872-50-4	N. D
50	1,2,3-trichloropropane	202-486-1	96-18-4	N. D
51	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters(DIHP)	276-158-1	71888-89-6	N. D

No	Substance name	EC number	CAS number	Concentration
52	Zirconia Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and 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	-	-	N. D
53	Calcium arsenate	231-904-5	7778-44-1	N. D
54	Bis(2-methoxyethyl) ether	203-924-4	111-96-6	N. D
55	Aluminosilicate Refractory Ceramic Fibres are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and 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	-	-	N. D
56	Potassium hydroxyoctaoxodizincatedichromate	234-329-8	11103-86-9	N. D
57	Lead dipicrate	229-335-2	6477-64-1	N. D
58	N,N-dimethylacetamide	204-826-4	127-19-5	N. D
59	Arsenic acid	231-901-9	7778-39-4	N. D
60	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0	N. D
61	Trilead diarsenate	222-979-5	3687-31-8	N. D
62	1,2-dichloroethane	203-458-1	107-06-2	N. D
63	Pentazinc chromate octahydroxide	256-418-0	49663-84-5	N. D
64	Formaldehyde, oligomeric reaction products with aniline	500-036-1	25214-70-4	N. D
65	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8	N. D
66	4-(1,1,3,3-tetramethylbutyl)phenol	205-426-2	140-66-9	N. D
67	Lead diazide, Lead azide	236-542-1	13424-46-9	N. D

No	Substance name	EC number	CAS number	Concentration
68	Phenolphthalein	201-004-7	77-09-08	N. D
69	Dichromium tris(chromate)	246-356-2	24613-89-6	N. D
70	Lead styphnate	239-290-0	15245-44-0	N. D
71	2,2'-dichloro-4,4'-methylenedianiline	202-918-9	101-14-4	N. D
72	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol	229-851-8	6786-83-0	N. D
73	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1	N. D
74	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6- (1H,3H,5H)-trione ( $\beta$ -TGIC)	423-400-0	59653-74-6	N. D
75	Diboron trioxide	215-125-8	1303-86-2	N. D
76	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2	N. D
77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	209-218-2	561-41-1	N. D
78	Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2	N. D
79	Formamide	200-842-0	75-12-07	N. D
80	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5- dien-1-ylidene]dimethylammonium chloride	208-953-6	548-62-9	N. D
81	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4	N. D
82	[4-[[4-anilino-1-naphthyl][4- (dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1- ylidene] dimethylammonium chloride	219-943-6	2580-56-5	N. D
83	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	219-514-3	2451-62-9	N. D
84	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8	N. D
85	Bis(pentabromophenyl) ether (decabromo-diphenyl ether; DecaBDE)	214-604-9	1163-19-5	N. D
86	Pentacosaflluorotridecanoic acid	276-745-2	72629-94-8	N. D
87	Tricosaflluorododecanoic acid	206-203-2	307-55-1	N. D
88	Henicosaflluoroundecanoic acid	218-165-4	2058-94-8	N. D
89	Heptacosaflluorotetradecanoic acid	206-803-4	376-06-7	N. D
90	Diazene-1,2-dicarboxamide (C,C'-azodi (formamide))	204-650-8	123-77-3	N. D
91	Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride [2] trans-cyclohexane-1,2-dicarboxylic anhydride [3] [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].	201-604-9, 236-086-3, 238-009-9	85-42-7, 13149- 00-3, 14166-21- 3	N. D

No	Substance name	EC number	CAS number	Concentration
92	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4]  [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]	247-094-1, 243-072-0, 256-356-4, 260-566-1	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	N. D
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-	-	N. D
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-	N. D
95	Methoxyacetic acid	210-894-6	625-45-6	N. D
96	N,N-dimethylformamide	200-679-5	68-12-2	N. D
97	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1	N. D
98	Lead monoxide (Lead oxide)	215-267-0	1317-36-8	N. D
99	Orange lead (Lead tetroxide)	215-235-6	1314-41-6	N. D
100	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5	N. D
101	Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6	N. D
102	Lead titanium trioxide	235-038-9	12060-00-3	N. D
103	Lead titanium zirconium oxide	235-727-4	12626-81-2	N. D
104	Silicic acid, lead salt	234-363-3	11120-22-2	N. D
105	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), 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]	272-271-5	68784-75-8	N. D
106	1-bromopropane (n-propyl bromide)	203-445-0	106-94-5	N. D
107	Methyloxirane (Propylene oxide)	200-879-2	75-56-9	N. D
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0	N. D
109	Diisopentylphthalate (DIPP)	210-088-4	605-50-5	N. D
110	N-pentyl-isopentylphthalate	-	776297-69-9	N. D
111	1,2-diethoxyethane	211-076-1	629-14-1	N. D

No	Substance name	EC number	CAS number	Concentration
112	Acetic acid, lead salt, basic	257-175-3	51404-69-4	N. D
113	Lead oxide sulfate	234-853-7	12036-76-9	N. D
114	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9	N. D
115	Dioxobis(7tearate)trilead	235-702-8	12578-12-0	N. D
116	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8	N. D
117	Lead cyanamidate	244-073-9	20837-86-9	N. D
118	Lead dinitrate	233-245-9	10099-74-8	N. D
119	Pentalead tetraoxide sulphate	235-067-7	12065-90-6	N. D
120	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8	N. D
121	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7	N. D
122	Tetraethyllead	201-075-4	78-00-2	N. D
123	Tetralead trioxide sulphate	235-380-9	12202-17-4	N. D
124	Trilead dioxide phosphonate	235-252-2	12141-20-7	N. D
125	Furan	203-727-3	110-00-9	N. D
126	Diethyl sulphate	200-589-6	64-67-5	N. D
127	Dimethyl sulphate	201-058-1	77-78-1	N. D
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2	N. D
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7	N. D
130	4,4'-methylenedi- <i>o</i> -toluidine	212-658-8	838-88-0	N. D
131	4,4'-oxydianiline and its salts	202-977-0	101-80-4	N. D
132	4-aminoazobenzene	200-453-6	60-09-3	N. D
133	4-methyl- <i>m</i> -phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7	N. D
134	6-methoxy- <i>m</i> -toluidine (p-cresidine)	204-419-1	120-71-8	N. D
135	Biphenyl-4-ylamine	202-177-1	92-67-1	N. D
136	<i>o</i> -aminoazotoluene [(4- <i>o</i> -tolylazo- <i>o</i> -toluidine)]	202-591-2	97-56-3	N. D
137	<i>o</i> -toluidine	202-429-0	95-53-4	N. D
138	<i>N</i> -methylacetamide	201-182-6	79-16-3	N. D
139	Cadmium	231-152-8	7440-43-9	N. D
140	Ammonium pentadecafluorooctanoate (APFO)	223-320-4	3825-26-1	N. D
141	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1	N. D

No	Substance name	EC number	CAS number	Concentration
142	Dipentyl phthalate (DPP)	205-017-9	131-18-0	N. D
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]	-	-	N. D
144	Cadmium oxide	215-146-2	1306-19-0	N. D
145	Cadmium sulphide	215-147-8	1306-23-6	N. D
146	Diethyl phthalate	201-559-5	84-75-3	N. D
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate)(C.I. Direct Red 28)	209-358-4	573-58-0	N. D
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)	217-710-3	1937-37-7	N. D
149	Imidazolidine-2-thione; 2-imidazoline-2-thiol	202-506-9	96-45-7	N. D
150	Lead di(acetate)	206-104-4	301-04-2	N. D
151	Triethyl phosphate	246-677-8	25155-23-1	N. D
152	1,2-Benzenedicarboxylic acid, diethyl ester, branched and linear	271-093-5	68515-50-4	N. D
153	Sodium perborate; perboric acid, sodium salt	239-172-9, 234-390-0	-	N. D
154	Sodium peroxometaborate	231-556-4	7632-04-4	N. D
155	Cadmium chloride	233-296-7	10108-64-2	N. D
156	Cadmium fluoride	232-222-0	7790-79-6	N. D
157	Cadmium sulphate	233-331-6	10124-36-4; 31119-53-6	N. D
158	2-Benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	223-346-6	3846-71-7	N. D
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1	N. D
160	2-ethylhexyl 10-ethyl-4, 4-dioctyl-7-oxo-8-oxa-3, 5-dithia-4-stannatetradecanoate(DOTE)	239-622-4	15571-58-1	N. D



No	Substance name	EC number	CAS number	Concentration
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)	-	-	N. D
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	271-094-0 272-013-1	68515-51-5 68648-93-1	N. D
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 stereoisomers of [1] and [2] or any combination thereof]	-	-	N. D
164	Perfluorononan-1-oic-acid and its sodium and ammonium salts	-	-	N. D
165	Nitrobenzene	202-716-0	98-95-3	N. D
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3	N. D
167	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	233-383-8	3864-99-1	N. D
168	1,3-propanesultone	214-317-9	1120-71-4	N. D
169	Benzo[def]chrysene (Benzo[a]pyrene)	200-028-5	50-32-8	N. D
170	4,4'-isopropylidenediphenol	201-245-8	80-05-7	N. D
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	-	-	N. D
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	-	-	N. D
173	p-(1,1-dimethylpropyl)phenol	201-280-9	80-46-6	N. D
174	Perfluorohexane-1-sulphonic acid and its salts	-	-	N. D
175	Benz[a]anthracene	200-280-6	56-55-3 1718-53-2	N. D

No	Substance name	EC number	CAS number	Concentration
176	Cadmium carbonate	208-168-9	513-78-0	N.D
177	Cadmium hydroxide	244-168-5	21041-95-2	N.D
178	Cadmium nitrate	233-710-6	10022-68-1 10325-94-7	N.D
179	Chrysene	205-923-4	218-01-9 1719-03-5	N.D
180	Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™)	-	-	N.D
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP)	-	-	N.D
182	Octamethylcyclotetrasiloxane(D4)	209-136-7	556-67-2	N.D
183	Decamethylcyclotetrasiloxane(D5)	208-764-9	541-02-6	N.D
184	Dodecamethylcyclotetrasiloxane(D6)	208-762-8	540-97-6	N.D
185	Lead	231-100-4	7439-92-1	N.D
186	Disodium octaborate	234-541-0	12008-41-2	N.D
187	Benzo(ghi)perylene	205-883-8	191-24-2	N.D
188	Terphenyl hydrogenated	262-967-7	61788-32-7	N.D
189	Ethylenediamine(EDA)	203-468-6	107-15-3	N.D
190	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride(trimellitic anhydride)(TMA)	209-008-0	552-30-7	N.D
191	Dicyclohexyl phthalate(DCHP)	201-545-9	84-61-7	N.D
192	2,2-bis(4-hydroxyphenyl)-4-methylpentane	401-720-1	6807-17-6	N.D
193	Benzo[k]fluoranthene	205-916-6	207-08-9	N.D
194	Fluoranthene	205-912-4	206-44-0	N.D
195	Phenanthrene	201-581-5	85-01-8	N.D
196	Pyrene	204-927-3	129-00-0	N.D
197	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptane-2-one	239-139-9	15087-24-8	N.D
198	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, its salts and its acryl halides		13252-13-6	N.D
199	2-methoxyethyl acetate	203-772-9	110-49-6	N.D
200	3-tert-butylphenol	202-679-0	98-54-4	N.D

No	Substance name	EC number	CAS number	Concentration
201	Tris(4-nonylphenyl, branched and linear) phosphite(TNPP) with ≥0.1% w/w of 4-nonylphenol, branched and linear(4-NP)		26526-78-4	N.D
202	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	404-360-3	119313-12-1	N.D
203	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	400-600-6	71868-10-5	N.D
204	Diisohexyl phthalate	276-090-2	71850-09-4	N.D
205	Perfluorobutane sulfonic acid(PFBS) and its salts		375-73-5	N.D
206	1-vinylimidazole	214-012-0	1072-63-5	N.D
207	2-methylimidazole	211-765-7	693-98-1	N.D
208	Butyl 4-hydroxybenzoate	202-318-7	94-26-8	N.D
209	Dibutylbis(pentane-2,4-dionato-O,O')tin	245-152-0	22673-19-4	N.D

\*1 SVHC : Substance of Very High Concern ([http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp) )