

## Certificate of the comply Hazardous Substances

We guarantee that our products MLCC Pb Free Series comply EU REACH 191 SVHC (substances of very high concern), with the tolerance of no greater than 0.1wt% (1000ppm).

List of the substances containing REACH. prohibited from use as below :

No.	Substance name	CAS number	EC number
1	Anthracene	120-12-7	204-371-1
2	4,4'-Diaminodiphenylmethane	101-77-9	202-974-4
3	Dibutyl phthalate	84-74-2	201-557-4
4	Cobalt dichloride	7646-79-9	231-589-4
5	Diarsenic pentaoxide	1303-28-2	215-116-9
6	diarsenic trioxide	1327-53-3	215-481-4
7	Sodium dichromate	7789-12-0 10588-01-9	234-190-3
8	5-tert-butyl-2,4,6-trinitro- m-xylene(musk xylene)	81-15-2	201-329-4
9	Bis(2- ethyl (hexyl)phthalate (DEHP)	117-81-7	204-211-0
10	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ - HBCDD, $\beta$ -HBCDD, $\gamma$ - HBCDD)	25637-99-4 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	247-148-4 221-695-9
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5
12	Bis(tributyltin) oxide	56-35-9	200-268-0
13	Lead hydrogen arsenate	7784-40-9	232-064-2
14	Benzyl butyl phthalate	85-68-7	201-622-7
15	Triethyl arsenate	15606-95-8	427-700-2
16	2,4-Dinitrotoluene	121-14-2	204-450-0
17	Anthracene oil	90640-80-5	292-602-7
18	Anthracene oil, anthracene paste, distn. Lights	91995-17-4	295-278-5
19	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9
20	Anthracene oil, anthracene-low	90640-82-7	292-604-8
21	Anthracene oil, anthracene paste	90640-81-6	292-603-2

22	Diisobutyl phthalate	84-69-5	201-553-2
23	Lead chromate	7758-97-6	231-846-0
24	Lead chromate molybdate sulfate red (C. I. Pigment Red 104)	12656-85-8	235-759-9
25	Lead sulfochromate yellow (C. I. Pigment Yellow 34)	1344-37-2	215-693-7
26	Acrylamide	79-06-1	201-173-7
27	Tris (2-chloroethyl) phosphate	115-96-8	204-118-5
28	Coal tar pitch, high temperature	65996-93-2	266-028-2
29	Trichloroethylene	79-01-6	201-167-4
30	Boric acid	10043-35-3 /11113-50-1	233-139-2 /234-343-4
31	Disodium tetraborate, anhydrous	1330-43-4 12179-04-3 1303-96-4	215-540-4
32	Tetraboron disodium heptaoxide hydrate	12267-73-1	235-541-3
33	Sodium chromate	7775-11-3	231-889-5
34	Potassium chromate	7789-00-6	232-140-5
35	Ammonium dichromate	7789-09-5	232-143-1
36	Potassium dichromate	7778-50-9	231-906-6
37	Cobalt (II) sulfate	10124-43-3	233-334-2
38	Cobalt (II) dinitrate	10141-05-6	233-402-1
39	Cobalt (II) carbonate	513-79-1	208-169-4
40	Cobalt (II) diacetate	71-48-7	200-755-8
41	2-METHOXYETHANOL	109-86-4	203-713-7
42	2-ETHOXYETHANOL	110-80-5	203-804-1
43	Chromium trioxide	1333-82-0	215-607-8
44	Acids generated from chromium trioxid and their oligomers: • Chromic acid, • Dichromic acid, • oligomers of chromic acid and dichromoic acid	7738-94-5 13530-68-2	231-801-5 236-881-5
45	2-ethoxyethyl acetate	111-15-9	203-839-2
46	Strontium chromate	7789-06-2	232-142-6
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNU)	68515-42-4	271-084-6

48	Hydrazine	7803-57-8 302-01-2	206-114-9
49	1-methyl-2-pyrrolidone	872-50-4	212-828-1
50	1, 2, 3-trichloropropane	96-18-4	202-486-1
51	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	276-158-1
52	Dichromiumtris (chromate)	24613-89-6	246-356-2
53	Potassium hydroxyoctaoxidizincatedichromate	11103-86-9	234-329-8
54	Pentazinc chromate octahydroxide	49663-84-5	256-418-0
55	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	500-036-1
56	Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6
57	2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1
58	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	-	-
59	Aluminosilicate Refractory Ceramic Fibres (RCF)	-	-
60	4-(1, 1, 3, 3-tetramethylbutyl)phenol, 4-tert-Octylphenol)	140-66-9	205-426-2
61	1-2-Dichloroethane	107-06-2	203-458-1
62	Bis(2-methoxyethyl) ether	111-96-6	203-924-4
63	Arsenic acid	7778-39-4	231-901-9
64	Calcium arsenate	7778-44-1	231-904-5
65	Trilead diarsenate	3687-31-8	222-979-5
66	N,N-dimethylacetamide (DMAC)	127-19-5	204-826-4
67	2-2' -dichloro-4,4' -methylenedianiline (MOCA)	101-14-4	202-918-9
68	Phenolphthalein	77-09-8	201-004-7
69	Lead diazide	13424-46-9	236-542-1
70	Lead styphnate	15245-44-0	239-290-0
71	Lead dipicrate	6477-64-1	229-335-2
72	1, 2-bis(2-methoxyethoxy)ethane(TEGDME; triglyme)	112-49-2	203-977-3
73	1,2-dimethoxyethane;ethylene glycol dimethyl ether(EGDME)	110-71-4	203-794-9
74	Diboron trioxide	1303-86-2	215-125-8
75	Formamide	75-12-7	200-842-0
76	Lead(II) bis(methanesulfonate)	17570-76-2	401-750-5
77	TGIC(1, 3, 5-tris(oxiranylmethyl)-1, 3, 5-triazine-2, 4, 6(1H, 3H, 5H	2451-62-9	219-514-3

	)-trione)		
78	$\beta$ -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
79	4, 4' -bis(dimethylamino)benzophenone(Michler's ketone)	90-94-8	202-027-5
80	N, N, N' -tetramethyl-4, 4' -methylenedianiline(Michler's base)	101-61-1	202-959-2
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
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]	2580-56-5	219-943-6
83	$\alpha$ , $\alpha$ -Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol(C. I. Solvent Blue 4)	6786-83-0	229-851-8
84	4, 4' -bis(dimethylamino)-4' ' -(methylamino)trityl alcohol	561-41-1	209-218-2
85	Bis(pentabromophenyl) ether (DecaBDE)	214-604-9	1163-19-5
86	Pentacosafuorotridecanoic acid	72629-94-8	276-745-2
87	Tricosafuorododecanoic acid	307-55-1	206-203-2
88	Henicosafuoroundecanoic acid	2058-94-8	218-165-4
89	Heptacosafuorotetradecanoic acid	376-06-7	206-803-4
90	4-(1, 1, 3, 3-tetramethylbutyl)phenol, ethoxylated -covering well-defined substances and UVCB substances, polymers and homologues	-	-
91	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	-	-
92	Diazene-1, 2-dicarboxamide (C, C' -azodi(formamide))	123-77-3	204-650-8
93	Cyclohexane-1, 2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA)	85-42-7 13149-00-3 14166-21-3	201-604-9 236-086-3 238-009-9
94	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
95	Methoxy acetic acid	625-45-6	210-894-6
96	1, 2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	284-032-2

97	Diisopentylphthalate (DIPP)	605-50-5	210-088-4
98	N-pentyl-isopentylphthalate	776297-69-9	-
99	1,2-Diethoxyethane	629-14-1	211-076-1
100	N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5
101	Dibutyltin dichloride (DBT)	683-18-1	211-670-0
102	Acetic acid, lead salt, basic	51404-69-4	257-175-3
103	Basic lead carbonate (trilead bis(carbonate)dihydroxide)	1319-46-6	215-290-6
104	Lead oxide sulfate (basic lead sulfate)	12036-76-9	234-853-7
105	[Phthalato(2-)]dioxotrilead (dibasic lead phthalate)	69011-06-9	273-688-5
106	Dioxobis(stearato)trilead	12578-12-0	235-702-8
107	Fatty acids, C16-18, lead salts	91031-62-8	292-966-7
108	Lead bis(tetrafluoroborate)	13814-96-5	237-486-0
109	Lead cyanamate	20837-86-9	244-073-9
110	Lead dinitrate	10099-74-8	233-245-9
111	Lead oxide (lead monoxide)	1317-36-8	215-267-0
112	Lead tetroxide (orange lead)	1314-41-6	215-235-6
113	Lead titanium trioxide	12060-00-3	235-038-9
114	Lead Titanium Zirconium Oxide	12626-81-2	235-727-4
115	Pentalead tetraoxide sulphate	12065-90-6	235-067-7
116	Pyrochlore, antimony lead yellow	8012-00-8	232-382-1
117	Silicic acid, barium salt, lead-doped	68784-75-8	272-271-5
118	Silicic acid, lead salt	11120-22-2	234-363-3
119	Sulfurous acid, lead salt, dibasic	62229-08-7	263-467-1
120	Tetraethyllead	78-00-2	201-075-4
121	Tetralead trioxide sulphate	12202-17-4	235-380-9
122	Trilead dioxide phosphonate	12141-20-7	235-252-2
123	Furan	110-00-9	203-727-3
124	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	200-879-2
125	Diethyl sulphate	64-67-5	200-589-6
126	Dimethyl sulphate	77-78-1	201-058-1
127	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	421-150-7
128	Dinoseb	88-85-7	201-861-7

129	4, 4'-methylenedi-o-toluidine	838-88-0	212-658-8
130	4, 4'-oxydianiline and its salts	101-80-4	202-977-0
131	4-Aminoazobenzene; 4-Phenylazoaniline	60-09-3	200-453-6
132	4-methyl-m-phenylenediamine (2, 4-toluene-diamine)	95-80-7	202-453-1
133	6-methoxy-m-toluidine (p-cresidine)	120-71-8	204-419-1
134	Biphenyl-4-ylamine	92-67-1	202-177-1
135	o-aminoazotoluene	97-56-3	202-591-2
136	o-Toluidine; 2-Aminotoluene	95-53-4	202-429-0
137	N-methylacetamide	79-16-3	201-182-6
138	1-bromopropane; n-propyl bromide	106-94-5	203-445-0
139	Cadmium	7440-43-9	231-152-8
140	Cadmium oxide	1306-19-0	215-146-2
141	Dipentyl phthalate (DPP)	131-18-0	205-017-9
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]	-	-
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	223-320-4
144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	206-397-9
145	Cadmium sulphide	1306-23-6	215-147-8
146	Dihexyl phthalate	84-75-3	201-559-5
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
148	Disodium 4-amino-3-[[4'-[(2, 4-diaminophenyl)azo][1, 1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2, 7-di sulphonate (C. I. Direct Black 38)	1937-37-7	217-710-3
149	Imidazolidine-2-thione; 2-imidazoline-2-thiol	96-45-7	202-506-9
150	Lead di (acetate)	301-04-2	206-104-4
151	Trixylyl phosphate	25155-23-1	246-677-8
152	1, 2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	271-093-5

153	Sodium perborate ; perboric acid, sodium salt	-	239-172-9; 234-390-0
154	Sodium peroxometaborate	7632-04-4	231-556-4
155	Cadmium chloride	10108-64-2	233-296-7
156	Cadmium fluoride	7790-79-6	232-222-0
157	Cadmium sulphate	10124-36-4 31119-53-6	233-331-6
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	223-346-6
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	247-384-8
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	239-622-4
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl-10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate	68515-51-5 68648-93-1	271-094-0 272-013-1
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-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]	-	-
164	Nitrobenzene	98-95-3	202-716-0
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	223-383-8
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	253-037-1
167	1,3-propanesultone	1120-71-4	214-317-9
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1; 21049-39-8; 4149-60-4	206-801-3
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	200-028-5

170	4-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]		
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	3108-42-7 335-76-2 3830-45-3	- 206-400-3 221-470-5
172	p-(1,1-dimethylpropyl)phenol	80-46-6	201-280-9
173	4,4' -isopropylidenediphenol(bisphenol A; BPA)	80-05-7	201-245-8
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	355-46-4	206-587-1
175	Chrysene	218-01-9, 1719-03-5	205-923-4
176	Benz[a]anthracene	56-55-3, 1718-53-2	200-280-6
177	Cadmium nitrate	10022-68-1, 10325-94-7	233-710-6
178	Cadmium hydroxide	21041-95-2	244-168-5
179	Cadmium carbonate	513-78-0	208-168-9
180	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	-	-
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 (4-HPb1)	-	-
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride; TMA)	552-30-7	209-008-0
183	Benzo[ghi]perylene	191-24-2	205-883-8
184	Decamethylcyclopentasiloxane (D5)	541-02-6	208-764-9
185	Dicyclohexyl phthalate (DCHP)	84-61-7	201-545-9
186	Disodium octaborate	12008-41-2	234-541-0
187	Dodecamethylcyclohexasiloxane (D6)	540-97-6	208-762-8



188	Ethylenediamine (EDA)	107-15-3	203-468-6
189	Lead	7439-92-1	231-100-4
190	Octamethylcyclotetrasiloxane (D4)	556-67-2	209-136-7
191	Terphenyl, hydrogenated	61788-32-7	262-967-7

## Holystone Enterprise Co., Ltd.

Representative : Eric Yeh  
Address : 1F,No.62,Sec.2,Huang Shan Rd., Nei Hu  
Dist .,Taipei 11452 , Taiwan  
Contact(s) : Joseph Wang  
Telephone : 886-2-26270383 Ext.326  
FAX : 886-2-27987181  
e\_mail : josephwang@holystone.com.tw

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