

REACH Regulation 1907/2006/EC Compliance ECHA 224 substances of Very High Concern (SVHCs)

Taiwan Semiconductor hereby certifies compliance to Regulation 1907/2006/EC of the European Chemicals Agency (ECHA), Registration Evaluation, Authorization and Restriction of Chemical Substances (REACH), and the identified Substances of Very High Concern (SVHC) of said Regulation.

In accordance with Article 33 of the REACH Regulation, Taiwan Semiconductor is obligated to inform recipients of articles that contain any of the chemicals on the Substances of Very High Concern (SVHC) candidate list above a 0.1% concentration (by weight per article).

Taiwan Semiconductor hereby declares and guarantees that all products and packaging materials have been designed and manufactured in compliance with the EU REACH Regulation with respect to SVHC.

ECHA SVHC LIST

No.	Substance Name	EC Number	CAS Number
15 substances of SVHC list		ECHA Original Announcement (ECHA/PR/08/38-REV)	
1	Anthracene 蒽	204-371-1	120-12-7
2	4,4'- Diaminodiphenylmethane 4,4'-二胺基二苯甲烷	202-974-4	101-77-9
3	Dibutyl phthalate (DBP) 鄰苯二甲酸二丁酯	201-557-4	84-74-2
4	Cobalt dichloride 二氯化鈷	231-589-4	7646-79-9
5	Diarsenic pentaoxide 五氧化二砷	215-116-9	1303-28-2
6	Diarsenic trioxide 三氧化二砷	215-481-4	1327-53-3
7	Sodium dichromate 重鉻酸鈉	234-190-3	7789-12-0 10588-01-9
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene) 二甲苯麝香	201-329-4	81-15-2
9	Bis (2-ethyl(hexyl)phthalate) (DEHP) 鄰苯二甲酸二(2-乙基己基)酯	204-211-0	117-81-7
10	Hexabromocyclododecane(HBCDD) and all major diastereoisomers identified (α – HBCDD, β -HBCDD, γ - HBCDD) 六溴環十二烷及其異構物	247-148-4 221-695-5	134237-50-6, 134237-51-7, 134237-52-8
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) 短鏈氯化石蠟	287-476-5	85535-84-8

No.	Substance Name	EC Number	CAS Number
12	Bis(tributyltin)oxide (TBTO) 氧化三丁錫	200-268-0	56-35-9
13	Lead hydrogen arsenate 砷酸氫鉛	232-064-2	7784-40-9
14	Triethyl arsenate 三乙基砷酸酯	427-700-2	15606-95-8
15	Benzyl butyl phthalate (BBP) 鄰苯二甲酸丁酯苯甲酯	201-622-7	85-68-7
12 substances of SVHC list		ECHA Original Announcement (ECHA/PR/10/01)	
16	Anthracene oil 蒽油	292-602-7	90640-80-5
17	Anthracene oil, Anthracene paste, distn, lights 蒽油, 蒽糊, 輕油	295-278-5	91995-17-4
18	Anthracene oil, anthracene paste, anthracene fraction 蒽油, 蒽糊, 蒽餾分離液	295-275-9	91995-15-2
19	Anthracene oil, anthracene-low 蒽油, 含蒽量少	292-604-8	90640-82-7
20	Anthracene oil, anthracene paste 蒽油, 蒽糊	292-603-2	90640-81-6
21	Coal tar pitch, high temperature 煤瀝青, 高溫	266-028-2	65996-93-2
22	2,4-Dinitrotoluene 2,4-二硝基甲苯	204-450-0	121-14-2
23	Diisobutyl phthalate 鄰苯二甲酸二異丁酯	201-553-2	84-69-5
24	Lead chromate 鉻酸鉛	231-846-0	7758-97-6
25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) 紅色鉬鉻酸鉛硫酸鹽(C.I.紅色 104)	235-759-9	12656-85-8
26	Lead sulfochromate yellow (C.I. Pigment Yellow 34) 黃色硫化鉻酸鉛(C.I.黃色 34)	215-693-7	1344-37-2
27	Tris(2-chloroethyl)phosphate 三(2-氯乙基)磷酸酯	204-118-5	115-96-8
1 substances of SVHC list		ECHA Original Announcement (ECHA/PR/10/05)	
28	Acrylamide 丙烯醛基	201-173-7	79-06-1
8 substances of SVHC list		ECHA Original Announcement (ECHA/PR/10/12)	
29	Trichloroethylene	201-167-4	79-01-6

No.	Substance Name	EC Number	CAS Number
	三氯乙烯		
30	Boric acid 硼酸	233-139-2 234-343-4	10043-35-3 11113-50-1
31	Disodium tetraborate, anhydrous 無水四硼酸二鈉	215-540-4	1330-43-4 12179-04-3 1303-96-4
32	Tetraboron disodium heptaoxide, hydrate 水合七氧四硼酸二鈉	235-541-3	12267-73-1
33	Sodium chromate 鉻酸鈉	231-889-5	7775-11-3
34	Potassium chromate 鉻酸鉀	232-140-5	7789-00-6
35	Ammonium dichromate 重鉻酸銨	232-143-1	7789-09-5
36	Potassium dichromate 重鉻酸鉀	231-906-6	7778-50-9
8 substances of SVHC list		ECHA Original Announcement (ECHA/PR/10/26)	
37	Cobalt(II) sulphate 硫酸鈷 (二價)	233-334-2	10124-43-3
38	Cobalt(II) dinitrate 硝酸鈷 (二價)	233-402-1	10141-05-6
39	Cobalt(II) carbonate 碳酸鈷 (二價)	208-169-4	513-79-1
40	Cobalt(II) diacetate 醋酸鈷 (二價)	200-755-8	71-48-7
41	2-Methoxyethanol 乙二醇單甲醚	203-713-7	109-86-4
42	2-Ethoxyethanol 乙二醇單乙醚	203-804-1	110-80-5
43	Chromium trioxide 三氧化鉻	215-607-8	1333-82-0
44	Acids generated from chromium trioxide and their oligomers: 鉻酸及其寡聚體產生的酸類：	Chromic acid 鉻酸	231-801-5 7738-94-5
		Dichromic acid 重鉻酸	236-881-5 13530-68-2
		Oligomers of chromic acid and dichromic acid 鉻酸及重鉻酸的寡聚體	- -
7 substances of SVHC list		ECHA Original Announcement (ECHA/PR/11/15)	
45	(2-ethoxyethyl acetate) 乙二醇乙醚乙酸酯)	203-839-2	111-15-9
46	(strontium chromate) 鉻酸鋇	232-142-6	7789-06-2
47	(1,2-Benzenedicarboxylicacid, di-C7-11-branched and linear alkyl esters) (DHNUP) 鄰苯二甲酸二(C7-11 支鏈與直鏈)烷基酯	271-084-6	68515-42-4
48	(Hydrazine) 聯氨	206-114-9	7803-57-8 302-01-2
49	(1-methyl-2-pyrrolidone) N-甲基吡咯烷酮	212-828-1	872-50-4

No.	Substance Name	EC Number	CAS Number
50	(1,2,3-trichloropropane) 1,2,3-三氯丙烷	202-486-1	96-18-4
51	(1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)) 鄰苯二甲酸二(C6-8 支鏈與直鏈)烷基酯，富 C7	276-158-1	71888-89-6
20 substances of SVHC list		ECHA Original Announcement (ECHA/PR/11/26)	
52	Lead styphnate 中性斯蒂酚酸鉛	239-290-0	15245-44-0
53	Lead diazide, Lead azide 疊氮化鉛	236-542-1	13424-46-9
54	Lead dipicrate 苦味酸鉛	229-335-2	6477-64-1
55	Phenolphthalein 酚酞	201-004-7	77-09-8
56	2,2'-Dichloro-4,4'-methylenedianiline(MOCA) 2,2'-二氯-4,4'-二氨基二苯基甲烷	202-918-9	101-14-4
57	N,N-dimethylacetamide(DMCA) N,N-二甲基乙醯胺	204-826-4	127-19-5
58	Trilead diarsenate 砷酸鉛	222-979-5	3687-31-8
59	Calcium arsenate 砷酸鈣	231-904-5	7778-44-1
60	Arsenic acid 砷酸	231-901-9	7778-39-4
61	Bis(2-methoxyethyl) ether 雙(2-甲氧基乙基)醚	203-924-4	111-96-6
62	1,2-Dichloroethane 1,2-二氯乙烷	203-458-1	107-06-2
63	4-(1,1,3,3-Tetramethylbutyl)phenol; 4-tert-octyl phenol 對特辛基苯酚/辛基酚	205-426-2	140-66-9
64	2-Methoxyaniline; o-Anisidine 鄰甲氧基苯胺	201-963-1	90-04-0
65	Bis(2-methoxyethyl) phthalate (DMEP) 鄰苯二甲酸雙(2-甲氧基乙基)酯	204-212-6	117-82-8
66	Formaldehyde, oligomeric reaction products with aniline (technical MDA) 甲醛與苯胺的寡聚反應物	500-036-1	25214-70-4
67	Zirconia Aluminosilicate Refractory Ceramic Fibres(ZrAl-RCF) 鋯矽酸鋁，陶瓷耐火纖維	-	-
68	Aluminosilicate Refractory Ceramic Fibres(Al-RCF) 矽酸鋁，陶瓷耐火纖維	-	-
69	Pentazinc chromate octahydroxide 八氫氧化五酞酸鋅	256-418-0	49663-84-5
70	Potassium hydroxyoctaoxidizincated i-chromate 氫氧化鉻酸鋅鉀	234-329-8	11103-86-9

No.	Substance Name	EC Number	CAS Number
71	Dichromium tris(chromate) 鉻酸鉻	246-356-2	24613-89-6
13 substances of SVHC list ECHA Original Announcement (ECHA/PR/12/16)			
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme) 三甘醇二甲醚	203-977-3	112-49-2
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) 乙二醇二甲醚	203-794-9	110-71-4
74	Diboron trioxide 三氧化二硼	215-125-8	1303-86-2
75	Formamide 甲醯胺	200-842-0	75-12-7
76	Lead(II) bis(methanesulfonate) 甲基磺酸鉛	401-750-5	17570-76-2
77	TGIC (1,3,5-tris(oxiranylmethyl)- 1,3,5-triazine-2,4,6(1H,3H,5H)-trione) 異氰尿酸三縮水甘油酯	219-514-3	2451-62-9
78	β -TGIC (1,3,5-tris[(2S and 2R)-2, 3-epoxypropyl]-1, 3, 5-triazine-2,4,6-(1H,3H,5H)-trione) 異氰尿酸 B-三縮水甘油酯	423-400-0	59653-74-6
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone) 米氏酮	202-027-5	90-94-8
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base) 4,4'-(對二甲氨基)二苯基甲烷	202-959-2	101-61-1
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) 結晶紫；甲基紫；龍膽紫；鹼性紫 3	208-953-6	548-62-9
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino) phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) 鹼性藍 26	219-943-6	2580-56-5
83	α,α -Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-metha nol (C.I. Solvent Blue 4) 溶劑藍 4	229-851-8	6786-83-0
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol A,A-二[(二甲氨基)苯基]-4-甲氨基苯甲醇	209-218-2	561-41-1
54 substances of SVHC list ECHA Original Announcement (ECHA/PR/12/39)			
85	Bis(pentabromophenyl) ether (DecaBDE) 十溴聯苯醚	214-604-9	1163-19-5

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No.	Substance Name	EC Number	CAS Number
86	Pentacosafuorotridecanoic acid 全氟十三酸	276-745-2	72629-94-8
87	Tricosafuorododecanoic acid 全氟十二烷酸	206-203-2	307-55-1
88	Henicosafuoroundecanoic acid 全氟十一烷酸	218-165-4	2058-94-8
89	Heptacosafuorotetradecanoic acid 全氟代十四酸	206-803-4	376-06-7
90	Diazene-1,2-dicarboxamide(C,C'-azodi(formamide)) 偶氮二甲醯胺	204-650-8	123-77-3
91	Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA) 六氫鄰苯二甲酸酐	201-604-9, 236-086-3, 238-009-9	85-42-7, 13149-00-3, 14166-21-3
92	Hexahydromethylphthalic anhydride, 甲基六氫苯酐 Hexahydro-4-methylphthalic anhydride, 4-甲基六氫苯酐 Hexahydro-1-methylphthalic anhydride, 甲基六氫化鄰苯二甲酸酐 Hexahydro-3-methylphthalic anhydride 3- 甲基六氫苯二甲酯酐	247-094-1, 243-072-0, 256-356-4, 260-566-1	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9
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 支鏈及直鏈壬基酚-包括含有 9 個碳烷基鏈之所有獨立同分異構體及所有含有含直鏈或支鏈之 9 個碳烷基鏈 UVCB 物質	-	-
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated-covering well-defined substances and UVCB substances, polymers and Homologues 辛基酚聚醚-9，包括界定明確的物質以及 UVCB 物質、聚合物及同系物	-	-
95	Methoxy acetic acid 甲氧基乙酸	210-894-6	625-45-6
96	N,N-dimethylformamide N,N-二甲基甲醯胺	200-679-5	68-12-2
97	Dibutyltin dichloride (DBT) 二丁基二氯化錫	211-670-0	683-18-1
98	Lead monoxide (Lead oxide) 一氧化鉛	215-267-0	1317-36-8
99	Orange lead (Lead tetroxide) 四氧化三鉛	215-235-6	1314-41-6
100	Lead bis (Tetrafluoroborate) 氟硼酸鉛	237-486-0	13814-96-5
101	Trilead bis(carbonate)dihydroxide 鹼式碳酸鉛	215-290-6	1319-46-6
102	Lead titanium trioxide 鈦酸鉛	235-038-9	12060-00-3
103	Lead Titanium Zirconium Oxide 鈦酸鉛鋇	235-727-4	12626-81-2

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No.	Substance Name	EC Number	CAS Number
104	Silicic acid, lead salt 矽酸鉛	234-363-3	11120-22-2
105	Silicic acid, barium salt, lead-doped 摻雜鉛的矽酸鋇	272-271-5	68784-75-8
106	1-bromopropane (n-propyl bromide) 1-溴丙烷	203-445-0	106-94-5
107	Methyloxirane (propylene oxide) 1,2-環氧丙烷	200-879-2	75-56-9
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear 1,2-苯二羧二戊酯(支鏈和直鏈)	284-032-2	84777-06-0
109	Diisopentylphthalate (DIPP) 鄰苯二甲酸二異戊酯	210-088-4	605-50-5
110	N-pentyl-isopentylphthalate 鄰苯二甲酸正戊基異戊基酯	-	776297-69-9
111	1,2-Diethoxyethane 乙二醇二乙醚	211-076-1	629-14-1
112	Acetic acid, lead salt, basic 鹼式乙酸鉛	257-175-3	51404-69-4
113	Lead oxide sulfate 鹼式硫酸鉛	234-853-7	12036-76-9
114	[Phthalato(2-)]dioxotrilead 二鹽基鄰苯二甲酸鉛	273-688-5	69011-06-9
115	Dioxobis(stearato)trilead 雙(十八酸基)二氧代三鉛	235-702-8	12578-12-0
116	Fatty acids, C16-18, lead salts C16-C18 脂肪酸鉛鹽	292-966-7	91031-62-8
117	Lead cyanidate 氨基氰鉛鹽	244-073-9	20837-86-9
118	Lead dinitrate 硝酸鉛	233-245-9	10099-74-8
119	Pentalead tetraoxide sulphate 氧化鉛與硫酸鉛的複合物	235-067-7	12065-90-6
120	Pyrochlore, antimony lead yellow 顏料黃 41	232-382-1	8012-00-8
121	Sulfurous acid, lead salt, dibasic 亞硫酸鉛 (II)	263-467-1	62229-08-7
122	Tetraethyllead 四乙基鉛	201-075-4	78-00-2
123	Tetralead trioxide sulphate 三鹼式硫酸鉛	235-380-9	12202-17-4
124	Trilead dioxide phosphonate 磷酸氧化鉛	235-252-2	12141-20-7
125	Furan 呋喃	203-727-3	110-00-9
126	Diethyl sulphate 硫酸二乙酯	200-589-6	64-67-5
127	Dimethyl sulphate 硫酸二甲酯	201-058-1	77-78-1
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-ox Azolidine 3-乙基-2-甲基-2-(3-甲基丁基)噁唑烷	421-150-7	143860-04-2
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol) 地樂酚	201-861-7	88-85-7
130	4,4'-methylenedi-o-toluidine 4,4'- -二胺基-3,3'-二甲基二苯甲烷	212-658-8	838-88-0
131	4,4'-oxydianiline and its salts 4,4'-二氨基二苯醚	202-977-0	101-80-4
132	4-Aminoazobenzene 4-胺基偶氮苯	200-453-6	60-09-3
133	4-methyl-m-phenylenediamine(toluene-2,4-diamine)	202-453-1	95-80-7

No.	Substance Name	EC Number	CAS Number
	2,4-二氨基甲苯		
134	6-methoxy-m-toluidine (p-cresidine) 2-甲氧基-5-甲基苯胺	204-419-1	120-71-8
135	Biphenyl-4-ylamine 4-胺基聯苯	202-177-1	92-67-1
136	o-aminoazotoluene[o-aminoazotoluene[(4-o-tolylazo-o-toluidine)]] 鄰氨基偶氮甲苯	202-591-2	97-56-3
137	o-Toluidine 鄰-甲苯胺	202-429-0	95-53-4
138	N-methylacetamide N-甲基乙醯胺	201-182-6	79-16-3
6 substances of SVHC list		ECHA Original Announcement (ECHA/PR/13/26)	
139	Cadmium 鎘	231-152-8	7440-43-9
140	Cadmium oxide 氧化鎘	215-146-2	1306-19-0
141	Ammonium Pentadecafluorooctanoate (APFO) 全氟辛酸銨	223-320-4	3825-26-1
142	Pentadecafluorooctanoic acid (PFOA) 全氟辛酸	206-397-9	335-67-1
143	Dipentyl phthalate (DPP) 鄰苯二甲酸二戊酯	205-017-9	131-18-0
144	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] 分支或線性的乙氧化壬基酚，包括含有9個碳烷基鏈的所有獨立的同分異構體和所有含有線性或分支9個碳烷基鏈的 UVCB 物質	-	-
7 substances of SVHC list		ECHA Original Announcement (ECHA/PR/13/40)	
145	Cadmium sulphide 硫化鎘	215-147-8	1306-23-6
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulpho- nate) (C.I. Direct Red 28) 直接紅 28	209-358-4	573-58-0
147	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) 直接黑 38	217-710-3	1937-37-7
148	Dihexyl phthalate (DNHP) 鄰苯二甲酸二己酯	201-559-5	84-75-3

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No.	Substance Name	EC Number	CAS Number
149	Imidazolidine-2-thione (2-imidazoline-2-thiol) 亞乙基硫脒	202-506-9	96-45-7
150	Lead di(acetate) 醋酸鉛	206-104-4	301-04-2
151	Trixylyl phosphate 磷酸三(二甲苯)酯	246-677-8	25155-23-1
4 substances of SVHC list ECHA Original Announcement (ECHA/PR/14/11)			
152	Cadmium chloride 氯化鎘	233-296-7	10108-64-2
153	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linea 鄰苯二甲酸二己酯(支鏈和直鏈)	271-093-5	68515-50-4
154	Sodium peroxometaborate 過氧偏硼酸鈉	231-556-4	7632-04-4
155	Sodium perborate; perboric acid, sodium salt 過硼酸鈉	239-172-9 234-390-0	-
6 substances of SVHC list ECHA Original Announcement (ECHA/PR/14/18)			
156	Cadmium fluoride 氟化鎘	232-222-0	7790-79-6
157	Cadmium sulphate 硫酸鎘	233-331-6	10124-36-4 31119-53-6
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) 2-苯并三唑-2-基-4,6-二-三級-丁基苯酚 (UV-320)	223-346-6	3846-71-7
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) 2-(2H-苯并三唑-2-基)-4,6-二-三級-戊基苯酚 (UV-328)	247-384-8	25973-55-1
160	2-ethylhexyl10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE) 10-乙基-4,4-二辛基-7-側氧-8-氧代-3,5-二硫代-4-錫代十四酸 2-乙基己酯(DOTE)	239-622-4	15571-58-1
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-oxo 10-乙基-4,4-二辛基-7-氧-8-氧代-3,5-二硫代-4-錫代十四酸 2-乙基己酯和 10-乙基-4-[[2-[(2-乙基己基)氧]-2-	-	-

No.	Substance Name	EC Number	CAS Number
	氧乙基]硫代]-4-辛基-7-氧-8-氧		
2 substances of SVHC list		ECHA Original Announcement (ECHA/PR/15/09)	
162	1,2-benzenedicarboxylic acid, di-C6-10-alkylesters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with $\geq 0.3\%$ of dihexyl phthalate (EC No.201-559-5) 1,2-苯二甲酸二 C6-10 烷基酯; 1,2-苯二甲酸混合癸與己和辛二酯, 包含 $\geq 0.3\%$ 的鄰苯二甲酸二己酯 (DNHP, EC No 201-559-5, CAS No.84-75-3)	271-094-0 272-013-1	68515-51-5 68648-93-1
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] 包含以下[1]與[2]之所有單獨立體異構物與其組成。[1]5-二級丁基-2-(2,4-二甲基環己-3-烯-1-基)-5-甲基-1,3-二【口罈】【口束】 [2]5-二級丁基-2-(4,6-二甲基環己-3-烯-1-基)-5-甲基-1,3-二【口罈】【口束】	-	-
5 substances of SVHC list		ECHA Original Announcement (ECHA/PR/15/17)	
164	Nitrobenzene 硝基苯	202-716-0	98-95-3
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) 紫外線吸收劑 UV-327	223-383-8	3864-99-1
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) 紫外線吸收劑 UV-350	253-037-1	36437-37-3
167	1,3-propanesultone 1,3-丙烷磺內酯	214-317-9	1120-71-4
168	Perfluorononan-1-oic acid and its sodium and ammonium salts 全氟壬酸及其鈉鹽和銨鹽鄰苯二甲酸丁苄酯	206-801-3	375-95-1 21049-39-8 4149-60-4
1 substance of SVHC list		ECHA Original Announcement (ECHA/PR/16/07)	
169	Benzo[def]chrysene (Benzo[a]pyrene) 苯并(a)芘	200-028-5	50-32-8
4 substances of SVHC list		ECHA Original Announcement (ECHA/NA/16/38)	
170	4,4'-isopropylidenediphenol (bisphenol A) 雙酚 A	201-245-8	80-05-7

No.	Substance Name	EC Number	CAS Number
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-庚基苯酚, 支鍊及直鍊 包括含有 7 個碳烷基鏈的所有獨立的同分異構體和所有含有線性或分支 7 個碳烷基鏈的 UVCB 物質	-	-
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts 十九氟癸酸及其鈉和銨鹽	3108-42-7 335-76-2 3830-45-3	- 206-400-3 221-470-5
173	p-(1,1-dimethylpropyl)phenol 對(1,1-二甲基丙基)苯酚	80-46-6	201-280-9
1 substance of SVHC list		ECHA Original Announcement (ECHA/PR/17/12)	
174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS) 全氟己基磺酸及其鹽類	206-587-1	355-46-4
7 substances of SVHC list		ECHA Original Announcement (ECHA/PR/18/01)	
175	Chrysene 屈	205-923-4	218-01-9
176	Benz[a]anthracene 苯并[a]蒽	200-280-6	56-55-3, 1718-53-2
177	Cadmium nitrate 硝酸鎘	233-710-6	10325-94-7
178	Cadmium hydroxide 氫氧化鎘	244-168-5	21041-95-2
179	Cadmium carbonate 碳酸鎘	208-168-9	513-78-0
180	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] 1,6,7,8,9,14,15,16,17,17,18, 18-十二氯五環 [12.2.1.16,9.02,13.05,10]十八碳-7,15-二烯 ("Dechlorane Plus"™) [含有其任何單獨的反式和順式異構體或其任何組合]	-	-
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	-	-

No.	Substance Name	EC Number	CAS Number
	4-heptylphenol, branched and linear 1,3,4-噻二唑-2,5-二硫醇與 甲醛和支鏈和直鏈 4-庚基酚 的反應產物 (RP-HP) [含有 ≥0.1%w/w 支鏈和直鏈的 4- 庚基酚]		
10 SUBSTANCES OF SVHC LIST		ECHA Original Announcement ECHA/PR/18/11	
182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride; TMA)1,2,4-苯三甲酸酐	209-008-0	552-30-7
183	Benzo[ghi]perylene 苯并[g,h,i]芘	205-883-8	191-24-2
184	Decamethylcyclopentasiloxane (D5) 十甲基環五矽氧烷	208-764-9	541-02-6
185	Dicyclohexyl phthalate (DCHP) 鄰苯二甲酸二環己酯	201-545-9	84-61-7
186	Disodium octaborate 八硼酸二鈉	234-541-0	12008-41-2
187	Dodecamethylcyclohexasiloxane (D6) 十二甲基環六矽氧烷	208-762-8	540-97-6
188	Ethylenediamine (EDA) 乙二胺	203-468-6	107-15-3
189	Lead 鉛	231-100-4	7439-92-1
190	Octamethylcyclotetrasiloxane (D4) 八甲基環四矽氧烷	209-136-7	556-67-2
191	Terphenyl, hydrogenated 氫化聯三苯	262-967-7	61788-32-7
6 SUBSTANCES OF SVHC LIST		ECHA Original Announcement ECHA/PR/19/01	
192	1,7,7-trimethyl-3-(phenylmethylene) bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor) 1,7,7-三甲基-3-(苯亞甲基)雙環[2,2,1]庚烷-2-酮(3-苯亞甲基樟腦)	239-139-9	15087-24-8
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane 2,2-雙(4'-羥基苯基)-4-甲基戊烷	401-720-1	6807-17-6
194	Benzo[k]fluoranthene 苯并[k]芘	205-916-6	207-08-9
195	Fluoranthene 芘	205-912-4	206-44-0 93951-69-0
196	Phenanthrene 菲	201-581-5	85-01-8
197	Pyrene 芘	204-927-3	129-00-0 1718-52-1

No.	Substance Name	EC Number	CAS Number
4 SUBSTANCES OF SVHC LIST ECHA Original Announcement ECHA/PR/19/12			
198	2-methoxyethyl acetate 2-甲氧基乙酸乙酯	203-772-9	110-49-6
199	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP) 三(4-壬基苯基, 支鍊和直鍊)亞磷酸酯(TNPP) (4-壬基酚 4-NP, 支鍊和直鍊濃度≥ 0.1%重量比)	-	-
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) 2,3,3,3-四氟-2-(七氟丙氧基)丙酸, 即其鹽類與鹵化醯類 (包括它們各自的異構物及其組合)	-	-
201	4-tert-butylphenol 4-叔丁基苯酚	202-679-0	98-54-4
4 SUBSTANCES OF SVHC LIST ECHA Original Announcement ECHA/PR/20/02			
202	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone 2-苄基-2-二甲基氨基-1-(4-嗎啉基)丁酮	404-360-3	119313-12-1
203	2-methyl-1-(4-methylthiophenyl)-2-morpholino propan-1-one 2-甲基-1-[4-(甲基硫代)苯基]-2-(4-嗎啉基)-1-丙酮	400-600-6	71868-10-5
204	Diisohexyl phthalate 二異己基鄰苯二甲酸酯	276-090-2	71850-09-4
205	Perfluorobutane sulfonic acid (PFBS) and its salts 全氟丁烷磺酸及其鹽類	-	-
4 SUBSTANCES OF SVHC LIST ECHA Original Announcement ECHA/PR/20/05			
206	1-vinylimidazole 1-乙烯基咪唑	214-012-0	1072-63-5
207	2-methylimidazole 2-甲基咪唑	211-765-7	693-98-1
208	Dibutylbis(pentane-2,4-dionato-O,O')tin 二丁基雙(2,4-戊二酸根合-O,O')錫	245-152-0	22673-19-4
209	Butyl 4-hydroxybenzoate (Butylparaben) 4-羥基苯甲酸丁酯	202-318-7	94-26-8
2 substances of SVHC list ECHA Original Announcement ECHA/NR/21/05			
210	Bis(2-(2-methoxyethoxy)ethyl)ether 四乙二醇二甲醚	205-594-7	143-24-8
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. 二月桂酸二辛基錫, 錫烷, 二辛基-, 雙椰油醯氧基衍生物, 及其它錫烷, 二辛基-, 雙脂肪醯氧基衍生物 (其中 C12 為脂肪醯氧基部分的主要碳原子數)	-	-

No.	Substance Name	EC Number	CAS Number
8 substances of SVHC list ECHA Original Announcement (ECHA/NR/21/20)			
212	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers 2-(4-叔丁基苄基)丙醛及其立體異構體	-	-
213	Orthoboric acid, sodium salt 硼酸鈉	237-560-2	13840-56-7
214	2,2-bis(bromomethyl)propane1,3-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) 2,2-雙(溴甲基)-1,3-丙二醇 (BMP) 三溴新戊醇 (TBNPA) 2,3-二溴-1-丙醇 (2,3-DBPA)	221-967-7, 253-057-0, 202-480-9	3296-90-0, 36483-57-5, 1522-92-5, 96-13-9
215	Glutaral 戊二醛	203-856-5	111-30-8
216	Medium-chain chlorinated paraffins (MCCP) (UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17) 中鏈氯化石蠟 (MCCP) UVCB 物質，由≥80%的直鏈氯代烷烴組成，碳鏈長度在 C14 到 C17 之 間	-	-
217	Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP) 碳鏈(C12 為主，直鏈或支鏈)主要在對位的烷基酚物質及其任何單個異構 體或組合	-	-
218	1,4-dioxane 1,4-二氧六環 (二惡烷)	204-661-8	123-91-1
219	4,4'-(1-methylpropylidene)bisphenol 4,4'-(1-甲基亞丙基)雙酚；(雙酚 B)	201-025-1	77-40-7
4 substances of SVHC list ECHA Original Announcement (ECHA/NR/22/01)			
220	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol 6,6'-二叔丁基-2,2'-亞甲基二對甲酚	204-327-1	119-47-1

No.	Substance Name	EC Number	CAS Number
221	tris(2-methoxyethoxy)vinylsilane 三(2-甲氧基乙氧基)乙烯基矽烷	213-934-0	1067-53-4
222	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC) 涵蓋任何單個異構體和/或其組合 (4-MBC)	-	-
223	S-(tricyclo(5.2.1.0 ^{2,6})deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate S-(三環(5.2.1.0 ^{2,6})deca-3-en-8(或 9)-基 O-(異丙基或異丁基或 2-乙基己基)O-(異丙基或異丁基或 2-乙基己基)二硫代磷酸酯	401-850-9	255881-94-8
1 substance of SVHC list		ECHA Original Announcement (ECHA/NR/22/12)	
224	N-(hydroxymethyl)acrylamide N-羥甲基丙烯醯胺	213-103-2	924-42-5

The following SVHCs, exceeding 0.1% by weight, may be present in some of products. And TSC declare not to exceed one ton for each product per year. These are identified in the product lists ([TSC Environmental Compliance](#)).

- **4,4'- Diaminodiphenylmethane (EC number 202-974-4, CAS number 101-77-9)**
- **Lead Monoxide (EC number 215-267-0, CAS number 1317-36-8)**

EU Decision number ED/169/2012 dated 19 December 2012 added Lead Monoxide to REACH Annex XIV as a substance of very high concern (SVHC). Certain Rectifier products contain glass with lead (Lead Monoxide) as a substance exceeding 0.1% by weight is present within the die glass passivation and/or glass encapsulation.

Under the REACH regulation, glass is classified as a UVCB substance (a substance of unknown or variable composition, complex reaction products or biological material) containing such elements as silicon, calcium, sodium, potassium, magnesium bonded together by oxygen; these elements are bonded into a non-crystalline molecular structure with completely different properties to the starting raw materials. Glass is not a mixture of compounds such as SiO₂, Na₂O, CaO, B₂O₃, PbO, etc. and since glass itself is not considered hazardous and is not included in the SVHC list, there are no obligations to communicate information according to Article 33 of the REACH regulation concerning SVHC in articles and related to lead monoxide in glass.

- **Lead (EC number 231-100-4, CAS number 7439-92-1)**

Articles already covered by specific Union legislation regulating lead content or migration should, for reasons of consistency, be exempted. Amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals ('REACH') as regards lead and its compounds.

https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.104.01.0002.01.ENG

Taiwan Semiconductor will continue to monitor developments of the REACH legislation and is committed to meeting our corporate responsibilities for protection of the environment.

Smile Chung
Quality Reliability Assurance
Taiwan Semiconductor Co., Ltd.
June 14, 2022



Signature: Smile Chung