

Environment Hazardous Substances Compliance

Taiwan Semiconductor hereby declare that all of our products and packaging materials are compliant on RoHS directives and do not contain any of the hazardous substances except for currently exempted RoHS directive or impurities listed on Table 1. Hazardous Substance List

Taiwan Semiconductor is committed in conforming to our corporate responsibilities for the protection of the environment.

Table 1. Hazardous Substance List

No.	Substance Name	CAS Number	Targets	Limit (ppm)
RoHS directive (2011/65/EU)				
1	Cadmium and cadmium compounds 鎘以及鎘化合物	7440-43-9	Plastics , Ink 塑膠 , 油墨	100
			Solders 錫料	20
			Other all applications uses 其他所有用途	100
2	Lead and lead compounds 鉛以及鉛化合物 (Note1)	7439-92-1	Plastics , Ink 塑膠 , 油墨	100
			other all applications uses 其他所有用途	1000
3	Mercury and mercury compounds 汞以及汞化合物	7439-97-6	All uses 所有用途	1000
4	Hexavalent chromium compounds 六價鉻化合物	1333-82-0	All uses 所有用途	1000
5	Polybrominated biphenyls (PBB) 多溴聯苯	-	All uses 所有用途	1000
6	Polybrominated diphenylethers (PBDE) (including decabromodiphenyl ether [DecaBDE]) 20 多溴聯苯醚 包含十溴聯苯醚	-	All uses 所有用途	1000
RoHS directive(2015/863/EU)				
7	Bis (2- ethylhexyl) phthalate (DEHP) 鄰苯二甲酸二(2-乙基己基)酯	117-81-7	All uses 所有用途	1000
8	Butyl benzyl phthalate (BBP) 鄰苯二甲酸甲苯基丁酯	85-68-7	All uses 所有用途	1000

No.	Substance Name	CAS Number	Targets	Limit (ppm)
9	Dibutyl phthalate (DBP) 鄰苯二甲酸二丁酯	84-74-2	All uses 所有用途	1000
10	Diisobutyl phthalate (DIBP) 鄰苯二甲酸二異丁酯	84-69-5	All uses 所有用途	1000
PFOA/PFOS directive (2006/122/EC)				
11	Perfluorooctanoic acid (PFOA) 全氟辛酸	335-67-1	All uses 所有用途	1000
12	Perfluorooctane sulfonates (PFOS) 全氟辛烷硫磺酸	2795-39-3	All uses 所有用途	1000
SONY SS-00259 19th edition				
13	Cadmium and cadmium compounds 鎘以及鎘化合物	7440-43-9	Plastics , Ink 塑膠 , 油墨	100
			Solders 錫料	20
			other all applications uses 其他所有用途	100
14	Lead and lead compounds 鉛以及鉛化合物 (Note1)	7439-92-1	Plastics , Ink 塑膠 , 油墨	100
			other all applications uses 其他所有用途	1000
15	Mercury and mercury compounds 汞以及汞化合物	7439-97-6	All uses 所有用途	1000
16	Hexavalent chromium compounds 六價鉻化合物	1333-82-0	All uses 所有用途	1000
17	Polybrominated biphenyls (PBB) 多溴聯苯	-	All uses 所有用途	1000
18	Polybrominated diphenylethers (PBDE) (including decabromodiphenyl ether [DecaBDE]) 多溴聯苯醚包含十溴聯苯醚	-	All uses 所有用途	1000
19	Hexabromocyclododecane (HBCDD) 六溴環十二烷	25637-99-4	All uses 所有用途	100
20	Other brominated organic compounds 其他有機溴化合物	-	Plastics 塑膠	900
21	Polychlorinated biphenyls (PCB) 多氯聯苯	1336-36-3	All uses 所有用途	Banned 禁用
22	Polychlorinated naphthalenes (PCN) 多氯化萘	70776-03-3	All uses 所有用途	Banned 禁用

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No.	Substance Name	CAS Number	Targets	Limit (ppm)
23	Polychlorinated terphenyls (PCT) 多氯三聯苯	61788-33-8	All uses 所有用途	Banned 禁用
24	Short-chain chlorinated paraffins (SCCP) 短鍊型氯代烷烴	-	All uses 所有用途	1000
25	Tris(2-chloroethyl) phosphate (TCEP) 磷酸三(2-氯乙基)酯	115-96-8	Flame retardants use in plastics and resins. 塑膠,樹脂阻燃劑	1000
26	Tris(2-chloro-1 methylethyl) phosphate (TCPP) 磷酸三(2-氯丙基)酯	13674-84-5	Flame retardants use in plastics and resins. 塑膠,樹脂阻燃劑	1000
27	Tris(1,3-dichloro-2-propyl) phosphate (TDCPP) 磷酸三(2,3-二-氯丙基)酯	13674-87-8	Flame retardants use in plastics and resins. 塑膠,樹脂阻燃劑	1000
28	Perchlorates 高氯酸鹽	-	All uses 所有用途	0.006
29	Polyvinyl chloride (PVC) and PVC blends 聚氯乙炔以及聚氯乙炔混合物	9002-86-2	All uses 所有用途	1000
30	Other chlorinated organic compounds 其他有機氯化物	-	Plastics 塑膠	900
31	Hydrofluorocarbon (HFC) 氫氟碳化合物, Perfluorocarbon (PFC) 全氟化碳 Sulfur hexafluoride(SF6) 六氟化硫	- 75-73-0 2551-62-4	All uses 所有用途	Banned 禁用
32	Ozone depleting substances (ODS) 臭氧層破壞物質	-	All uses 所有用途	Banned 禁用
33	Hydrochlorofluorocarbons (HCFC) 氫氯氟烴	-	All uses 所有用途	Banned 禁用
34	Perfluorooctane sulfonates (PFOS) 全氟辛烷硫磺酸	2795-39-3	All uses 所有用途	1000
35	Perfluorooctanoic acid (PFOA) 全氟辛酸	335-67-1	All uses 所有用途	1000
36	Trisubstituted organotin compounds (including tributyltin (TBT) 三丁基錫化合物	-	All uses 所有用途	Banned 禁用
37	Dibutyltin (DBT) compounds 二丁基錫化合物	-	All uses 所有用途	1000
38	Diocetyl tin (DOT) compounds 二辛基錫化合物	-	All uses 所有用途	1000
39	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetra	15571-58-1	All uses 所有用途	1000

No.	Substance Name	CAS Number	Targets	Limit (ppm)
	decanoate (DOTE) 硫代甘醇酸異辛酯二正辛基錫			
40	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetra decanoate 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) 以硫代甘醇酸異辛酯二正辛基錫和甲基錫三(巰基乙酸異 辛酯)為組成要素的物質(以 DOTE 和 MOTE 為組成要素 的物質)	-	All uses 所有用途	1000
41	Beryllium oxide 氧化鈹	1304-56-9	All uses 所有用途	Banned 禁用
42	Beryllium copper 鈹青銅	-	All uses 所有用途	Banned 禁用
43	Cobalt dichloride 二氯化鈷	7646-79-9	All uses 所有用途	Banned 禁用
44	Diarsenic trioxide 三氧化二砷	1327-53-3	All uses 所有用途 (Excluding Wafer) 晶圓除外	1000
45	Diarsenic pentaoxide 五氧化二砷	1303-28-2	All uses 所有用途 (Excluding Wafer) 晶圓除外	1000
46	Bis (2- ethylhexyl) phthalate (DEHP) 鄰苯二甲酸二(2-乙基己基)酯	117-81-7	All uses 所有用途	1000
47	Dibutyl phthalate (DBP) 鄰苯二甲酸二丁酯	84-74-2	All uses 所有用途	1000
48	Butyl benzyl phthalate (BBP) 鄰苯二甲酸甲苯基丁酯	85-68-7	All uses 所有用途	1000
49	Diisobutyl phthalate (DIBP) 鄰苯二甲酸二異丁酯	84-69-5	All uses 所有用途	1000
50	Di-isononyl phthalate (DINP) 鄰苯二甲酸二異壬酯	28553-12-0 68515-48-0	All uses 所有用途	1000
51	Di-isodecyl phthalate (DIDP) 鄰苯二甲酸二異癸酯	26761-40-0 68515-49-1	All uses 所有用途	1000
52	Di-n-octyl phthalate (DNOP) 鄰苯二甲酸二異辛酯	117-84-0	All uses 所有用途	1000
53	Dihexyl phthalate (DNHP) 鄰苯二甲酸二乙酯	84-75-3	All uses 所有用途	1000
54	(1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	All uses 所有用途	1000

No.	Substance Name	CAS Number	Targets	Limit (ppm)
	鄰苯二甲酸二(C6-8 支鏈)烷基酯富 C7			
55	(1,2-Benzenedicarboxylic acid, 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	68515-42-4	All uses 所有用途	1000
56	Bis(2-methoxyethyl) phthalate (DMEP) 鄰苯二甲酸二甲氧乙酯	117-82-8	All uses 所有用途	1000
57	Diisopentylphthalate (DIPP) 鄰苯二甲酸二異戊酯	605-50-5	All uses 所有用途	1000
58	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear 支鏈與直鏈的鄰苯二甲酸二戊酯	84777-06-0	All uses 所有用途	1000
59	N-pentyl-isopentylphthalate 鄰苯二甲酸正戊基異戊基酯	776297-69-9	All uses 所有用途	1000
60	Dipentyl phthalate (DPP) 鄰苯二甲酸二戊酯	131-18-0	All uses 所有用途	1000
61	Asbestos 石棉	1332-21-4 132207-32-0 132207-33-1	All uses 所有用途	Banned 禁用
62	Specific azo compounds 特定偶氮化合物	-	All uses 所有用途	30
63	Formaldehyde 甲醛	50-00-0	All uses 所有用途	Banned 禁用
64	1,2-Benzenedicarboxylic acid, dihexylester, branched and linear 支鏈和直鏈鄰苯二甲酸二庚酯	68515-50-4	All uses 所有用途	1000
65	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) 2-(2'-羥基-3',5'-二叔戊基苯基)苯並三唑	25973-55-1	All uses 所有用途	1000
66	Specific benzotriazole 特定苯並三氮唑	3846-71-7	All uses 所有用途	Banned 禁用
67	Dimethyl fumarate (DMF) 富馬酸二甲酯	624-49-7	All uses 所有用途	0.1
68	Polycyclic aromatic hydrocarbons(PAHs) 多環芳香烴化合物	-	Plastics 塑膠	0.1
69	Boric acid, specific sodium borates 硼酸、特定硼酸鈉	-	All uses 所有用途	1000

No.	Substance Name	CAS Number	Targets	Limit (ppm)
70	4-(1,1,3,3-tetramethylbutyl) phenol 4-(1,1,3,3-四甲基丁基)苯酚	140-66-9	All uses 所有用途	1000
71	Bis(2-methoxyethyl) ether 二乙二醇二甲醚	111-96-6	All uses 所有用途	1000
72	N,N-dimethylacetamide(DMAC) N,N-二甲基乙醯胺	127-19-5	All uses 所有用途	1000
73	Ethylene glycol dimethyl ether (EGDME) 乙二醇二甲醚	110-71-4	All uses 所有用途	1000
74	Trixylyl phthalate (TXP) 磷酸三(二甲苯)酯	25155-23-1	All uses 所有用途	1000
75	Nickel 鎳	7440-02-0	All uses 所有用途	Declarable 宣告
76	Brominated flame retardants 溴系阻燃劑 (BFR)	-	Non-metallic category, plastics 非金屬, 塑膠	900
77	Chlorinated flame retardants 氯系阻燃劑 (CFR)	-	Non-metallic category, plastics 非金屬, 塑膠	900
78	Radioactive substances 放射性物質	-	All uses 所有用途	Banned 禁用
79	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™) 德克隆(涵蓋各個反式及順式同分異構物或者相關組合)	-	All uses 所有用途	Banned 禁用
80	Halogenated flame retardants (other than brominated and chlorinated flame retardants) 鹵化阻燃劑(溴化及氯化阻燃劑除外)	-	Plastics 塑膠	1000
81	Long-chain(C9-C20) perfluorocarboxylic acids(PFCAs) and its salts and related substances 長鏈(C9-C20)全氟羧酸(PFCAs)及其鹽類和相關物質	-	All uses 所有用途	Banned 禁用
82	Perfluorohexanoic acid(PFHxA)and its salts and related substances 全氟己酸(PFHxA)及其鹽類和相關物質	-	All uses 所有用途	Banned 禁用
83	Decabromodiphenylethane (DBDPE) 十溴二苯乙烷(DBDPE)	84852-53-9	All uses 所有用途	Banned 禁用
84	Long-chain perfluoroalkyl carboxylate(LCPFAC)and perfluoroalkyl sulfonate chemicals 長鏈全氟烷基羧酸鹽(LCPFAC)和全氟烷基磺酸鹽	-	Follow Annex D of SS-00259 19 th Edition	Banned 禁用

No.	Substance Name	CAS Number	Targets	Limit (ppm)
Halogen 鹵素 (IEC 61249-2-21 definition) (Note 2)				
85	Total Bromine (Br) 總溴	10097-32-2	Non-metallic category, plastics 非金屬, 塑膠	900
86	Total Chlorine (Cl) 總氯	22537-15-1	Non-metallic category, plastics 非金屬, 塑膠	900
87	Br+Cl 總溴+總氯	-	Non-metallic category, plastics 非金屬, 塑膠	1500
Packaging and Packaging Waste directive (94/62/EC)				
88	Packaging 包裝材 (Pb+Cd+Hg+Cr+6)	-	Packaging Materials 包裝材	<100
PAHs directive				
89	Sum of 18 PAHs (多環芳香烴)	-	Plastics 塑膠	0.1
Other Hazardous Substances				
90	Phosphorus 磷	7723-14-0	Plastics 塑膠	1000
91	Red Phosphorus 紅磷	7723-14-0	Plastics 塑膠	Banned 禁用
92	Sb ₂ O ₃ 三氧化二銻	1309-64-4	Non-metallic category, plastics 非金屬, 塑膠	1000
93	Beryllium 鈹	7440-41-7	All uses 所有用途	1000
POPs Regulation (EU) No 2019/1021				
94	Tetrabromodiphenyl Ether 四溴二苯醚	40088-47-9	All uses 所有用途	Banned 禁用
95	1,3-dibromo-2-(3,4-dibromophenoxy)benzene 1,3-二溴-2-(3,4-二溴苯氧基)苯	189084-62-6	All uses 所有用途	Banned 禁用
96	1,2-Dibromo-4-(3,4-dibromophenoxy)benzene 1,2-二溴-4-(3,4-二溴苯氧基)苯	93703-48-1	All uses 所有用途	Banned 禁用
97	2,3',4,4'-Tetrabromodiphenyl ether 2,3',4,4'-四溴二苯醚	189084-61-5	All uses 所有用途	Banned 禁用
98	2,4,4',6-Tetrabromodiphenyl ether 2,4,4',6-四溴二苯醚	189084-63-7	All uses 所有用途	Banned 禁用
99	Pentabromodiphenyl Ether 五溴二苯醚	32534-81-9	All uses 所有用途	Banned 禁用
100	2,2',3,4,4'-Pentabromodiphenyl ether	182346-21-0	All uses 所有用途	Banned 禁用

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No.	Substance Name	CAS Number	Targets	Limit (ppm)
	2,2', 3,4,4'-五溴二苯醚			
101	2,3',4,4',6-Pentabromodiphenyl ether 2,3', 4,4', 6-五溴二苯醚	189084-66-0	All uses 所有用途	Banned 禁用
102	Hexabromodiphenyl Ether 六溴二苯醚	36483-60-0	All uses 所有用途	Banned 禁用
103	2,2',3,4,4',5'-Hexabromodiphenyl ether 2,2', 3,4,4', 5'-六溴二苯醚	182677-30-1	All uses 所有用途	Banned 禁用
104	Heptabromodiphenyl Ether七溴二苯醚	68928-80-3	All uses 所有用途	Banned 禁用
105	Bis(Pentabromophenyl)Ether雙(五溴苯基)醚	1163-19-5	All uses 所有用途	Banned 禁用
106	Perfluorooctane Sulfonic Acid And Its Derivatives (PFOS)全氟辛烷磺酸及其衍生物	307-35-7 1691-99-2 1763-23-1 2795-39-3 4151-50-2 24448-09-7 29081-56-9 29457-72-5 31506-32-8 56773-42-3 70225-14-8 251099-16-8	All uses 所有用途	Banned 禁用
107	DDT (1,1,1-Trichloro-2,2-Bis(4-Chlorophenyl)Ethane) 滴滴涕(1,1,1-三氯-2,2-雙(4-氯苯基)乙烷)	50-29-3	All uses 所有用途	Banned 禁用
108	Chlordane 氯丹	57-74-9	All uses 所有用途	Banned 禁用
109	Hexachlorocyclohexanes, Including Lindane 六氯環己烷, 包括林丹	58-89-9 319-84-6 319-85-7 608-73-1	All uses 所有用途	Banned 禁用
110	Dieldrin 狄氏劑	60-57-1	All uses 所有用途	Banned 禁用
111	Endrin 異狄氏劑	72-20-8	All uses 所有用途	Banned 禁用
112	Heptachlor 七氯	76-44-8	All uses 所有用途	Banned 禁用
113	Endosulfan 硫丹	115-29-7 959-98-8	All uses 所有用途	Banned 禁用

No.	Substance Name	CAS Number	Targets	Limit (ppm)
		33213-65-9		
114	Hexachlorobenzene 六氯苯	118-74-1	All uses 所有用途	Banned 禁用
115	Chlordecone 十氯酮	143-50-0	All uses 所有用途	Banned 禁用
116	Aldrin 奧爾德林	309-00-2	All uses 所有用途	Banned 禁用
117	Pentachlorobenzene 五氯苯	608-93-5	All uses 所有用途	Banned 禁用
118	Polychlorinated Biphenyls (PCB) 多氯聯苯	1336-36-3	All uses 所有用途	Banned 禁用
119	Pentachloro[1,1'-biphenyl] 五氯[1,1'-聯苯]	25429-29-2	All uses 所有用途	Banned 禁用
120	2,2',4,4'-tetrachlorobiphenyl 2,2', 4,4'-四氯聯苯	2437-79-8	All uses 所有用途	Banned 禁用
121	Chloro-1,1'-biphenyl 氯-1,1'-聯苯	27323-18-8	All uses 所有用途	Banned 禁用
122	Heptachloro-1,1'-biphenyl 七氯-1,1'-聯苯	28655-71-2	All uses 所有用途	Banned 禁用
123	Tetrachloro(tetrachlorophenyl)benzene 四氯(四氯苯基)苯	31472-83-0	All uses 所有用途	Banned 禁用
124	2,2',4,4',6,6'-hexachlorobiphenyl 2,2', 4,4', 6,6'-六氯聯苯	33979-03-2	All uses 所有用途	Banned 禁用
125	Nonachloro-1,1'-biphenyl 九氯-1,1'-聯苯	53742-07-7	All uses 所有用途	Banned 禁用
126	2,4,4'-trichlorobiphenyl 2,4,4'-三氯聯苯	7012-37-5	All uses 所有用途	Banned 禁用
127	1,1'-Biphenyl, chloro derivs. 1,1'-聯苯，氯衍生物。	1336-36-3	All uses 所有用途	Banned 禁用
128	4,4'-dichlorobiphenyl 4,4'-二氯聯苯	2050-68-2	All uses 所有用途	Banned 禁用
129	Decachloro-1,1'-biphenyl 十氯-1,1'-聯苯	2051-24-3	All uses 所有用途	Banned 禁用
130	2-chlorobiphenyl 2-氯聯苯	2051-60-7	All uses 所有用途	Banned 禁用
131	3-chlorobiphenyl 3-氯聯苯	2051-61-8	All uses 所有用途	Banned 禁用
132	4-chlorobiphenyl 4-氯聯苯	2051-62-9	All uses 所有用途	Banned 禁用
133	Dichlorobiphenyl 二氯聯苯	25512-42-9	All uses 所有用途	Banned 禁用
134	Mirex 滅蟻靈	2385-85-5	All uses 所有用途	Banned 禁用
135	Toxaphene 毒殺芬	8001-35-2	All uses 所有用途	Banned 禁用
136	Hexabromobiphenyl 六溴代二苯	36355-01-8	All uses 所有用途	Banned 禁用
137	Hexabromocyclododecane 六溴環十二烷	25637-99-4 3194-55-6	All uses 所有用途	Banned 禁用

No.	Substance Name	CAS Number	Targets	Limit (ppm)
		134237-50-6 134237-51-7 134237-52-8		
138	Hexachlorobutadiene 六氯丁二烯	87-68-3	All uses 所有用途	Banned 禁用
139	Pentachlorophenol And Its Salts And Esters 五氯苯酚及其鹽和酯	87-86-5	All uses 所有用途	Banned 禁用
140	N2-benzyl pentachlorophenyl N2-carboxy-L-(2-aminoglutaramate) N2-苄基五氯苯基 N2-羧基-L-(2-氨基戊二酸酯)	13673-51-3	All uses 所有用途	Banned 禁用
141	Perchlorophenyl N-(benzyloxycarbonyl)-L-isoleucinate N-(苄氧羰基)-L-異亮氨酸全氯苯基	13673-53-5	All uses 所有用途	Banned 禁用
142	Perchlorophenyl S-benzyl-N-(benzyloxycarbonyl)-L-cysteinate 全氯苯基 S-苄基-N-(苄氧羰基)-L-半胱氨酸	13673-54-6	All uses 所有用途	Banned 禁用
143	Pentachlorophenyl N-[(4-methoxyphenyl)methoxy]carbonyl]-L-serinate 五氯苯基 N-[(4-甲氧基苯基)甲氧基]羰基]-L-絲氨酸	23234-97-1	All uses 所有用途	Banned 禁用
144	Perchlorophenyl 5-oxo-L-prolinate 5-氯-L-脯氨酸全氯苯基	28990-85-4	All uses 所有用途	Banned 禁用
145	Sodium pentachlorophenolate 五氯酚鈉	131-52-2	All uses 所有用途	Banned 禁用
146	Pentachlorophenol esters 五氯酚酯	-	All uses 所有用途	Banned 禁用
147	Pentachlorophenol salts 五氯酚鹽	-	All uses 所有用途	Banned 禁用
148	Zinc bis(pentachlorophenolate) 雙(五氯酚酸鋅)	2917-32-0	All uses 所有用途	Banned 禁用
149	Pentachlorophenyl laurate 五氯苯基月桂酸酯	3772-94-9	All uses 所有用途	Banned 禁用
150	Potassium pentachlorophenolate 五氯酚酸鉀	7778-73-6	All uses 所有用途	Banned 禁用
151	Polychlorinated Naphthalenes 多氯萘	70776-03-3	All uses 所有用途	Banned 禁用
152	Alkanes C10-C13, Chloro (SCCPs) 烷烴 C10-C13, 氯(短鏈氯化石蠟)	85535-84-8	All uses 所有用途	Banned 禁用
153	Polychlorinated Dibenzo-P-Dioxins And Dibenzofurans (PCDD/PCDF) 多氯二苯並對二噁英和二苯並呋喃	-	All uses 所有用途	Banned 禁用
154	Polycyclic Aromatic Hydrocarbons (PAHS) 多環芳烴	-	All uses 所有用途	Banned 禁用

No.	Substance Name	CAS Number	Targets	Limit (ppm)
155	Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds 全氟辛酸 (PFOA) , 其鹽和 PFOA 相關化合物	335-67-1	All uses 所有用途	Banned 禁用
156	Dicofol 三氯殺蟎醇	115-32-2	All uses 所有用途	Banned 禁用
Toxic Substances Control Act_TSCA(EPA-HQ-OPPT-2019-0080-0001)				
157	Decabromodiphenyl ether (DecaBDE) 十溴二苯醚	1163-19-5	All uses 所有用途	Banned 禁用
158	Phenol, isopropylated phosphate (3:1) (PIP (3:1)) 苯酚, 異丙基磷酸酯 (3:1)	68937-41-7	All uses 所有用途	Banned 禁用
159	2,4,6-tris(tert-butyl) phenol (2,4,6-TTBP) 2,4,6-三(叔丁基) 苯酚	732-26-3	All uses 所有用途	Banned 禁用
160	Hexachlorobutadiene (HCBd) 六氯丁二烯	87-68-3	All uses 所有用途	Banned 禁用
161	Pentachlorothiophenol (PCTP) 五氯硫酚	133-49-3	All uses 所有用途	Banned 禁用

Notes:

1. The following applicable exemptions are currently outlined in RoHS directive 2011/534/EU.

These are identified in the product lists (TSC Environmental Compliance)

1.1 7a. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead)

1.2 7(C)-I. Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound.

2. Halogen (Cl / Br) PPM limit only applies to Halogen Free products.



Smile Chung
Quality Reliability Assurance
Taiwan Semiconductor Co., Ltd.
January 21, 2022

Signature: Smile Chung