

## 測試報告

## Test Report

號碼(No.): CC/2017/B0285B 日期(Date): 2018/03/09 頁數(Page): 1 of 19

薩摩亞商史巴克電子有限公司台灣分公司  
SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

新北市中和區建康路79號2F

2F., NO. 79, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN (R.O.C.)



以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by/on behalf of the applicant as):

樣品名稱(Sample Description) : DIODES(DO-41, DO-15, DO-27, DO-201, R6)  
收件日期(Sample Receiving Date) : 2015/12/29, 2016/07/01, 2017/01/13, 2017/07/10 AND 2017/11/29  
測試期間(Testing Period) : 2015/12/29 TO 2016/01/06, 2016/07/01 TO 2016/07/11,  
2017/01/13 TO 2017/01/20, 2017/07/10 TO 2017/07/17 AND  
2017/11/29 TO 2017/12/06

測試需求(Test Requested) : 依據客戶要求，進行高關注物質(SVHC)篩檢。 / As requested by client, SVHC Screening was performed.

測試方法(Test Method) : 參照SGS內部方法RSTS-EE-SVHC-007。以感應耦合電漿原子發射光譜儀、紫外光可見光譜儀、氣相層析/質譜儀、液相層析質譜儀、氣相層析儀/火焰光度偵測器、液相層析/質譜儀/二極體陣列偵測器、超高效能液相層析串聯質譜儀進行分析。(SGS In-House method-RSTS-EE-SVHC-007. Analyzed by ICP-AES, UV-VIS, GC/MS, LC/MS, GC/FPD, LC/MS/DAD, UPLC-MSMS.)

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

\* 此份報告為合併CR/2017/70037A及CC/2017/B0285之報告 \*  
(This report is combined with reports of CR/2017/70037A and CC/2017/B0285)

  
Troy Chang, Manager - Tech  
Signed for and on behalf of  
SGS TAIWAN LTD  
Chemical Laboratory - Taipei

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### 測試樣品(Test Sample):

No. 1 :	整體混測 (MIXED ALL PARTS (CR/2015/C0087A))
No. 2 :	整體混測 (MIXED ALL PARTS (CR/2016/70012))
No. 3 :	整體混測 (MIXED ALL PARTS (CR/2017/10135))
No. 4 :	整體混測 (MIXED ALL PARTS (CR/2017/70037))
No. 5 :	整體混測 (MIXED ALL PARTS (CC/2017/B0285))

### 測試結果 (Test Results) (單位Unit: %)

物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
4,4' - 二氨基二苯甲烷 / 4,4' - Diaminodiphenylmethane (MDA) (CAS No. : 101-77-9)	0.05	n. d.	---
二甲苯麝香 / 5-tert-butyl-2,4,6-trinitro- m-xylene (Musk Xylene) (CAS No. : 81-15-2)	0.05	n. d.	---
短鏈氯化石蠟 / Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No. : 85535-84-8)	0.05	n. d.	---
蒽 / Anthracene (CAS No. : 120-12-7)	0.05	n. d.	---
鄰苯二甲酸丁苯甲酯 / BBP (Butyl Benzyl phthalate) (CAS No. : 85-68-7)	0.05	n. d.	---
鄰苯二甲酸二丁酯 / DBP (Dibutyl phthalate) (CAS No. : 84-74-2)	0.05	n. d.	---
鄰苯二甲酸二(2-乙基己基)酯 / DEHP (Bis (2-ethyl(hexyl) phthalate)) (CAS No. : 117-81-7)	0.05	n. d.	---
氧化雙三丁基錫 / Bis(tributyltin)oxide (TBTO)*** (CAS No. : 56-35-9)	-	n. d.	---
砷酸氫鉛 / Lead hydrogen arsenate*** (CAS No. : 7784-40-9) (※1)	-	n. d.	---
疊氮化鉛 / Lead diazide, Lead azide*** (CAS No. : 13424-46-9)	-	0.571	---
中性斯蒂酚酸鉛 / Lead styphnate*** (CAS No. : 15245-44-0)	-	0.882	---
苦味酸鉛 / Lead dipicrate*** (CAS No. : 6477-64-1)	-	1.30	---
甲基磺酸鉛 / Lead(II) bis(methanesulfonate)*** (CAS No. : 17570-76-2)	-	0.779	---
城式醋酸鉛 / Acetic acid, lead salt, basic*** (CAS No. : 51404-69-4)	-	0.555	---
城式碳酸鉛 / Trilead bis(carbonate) dihydroxide (basic lead carbonate)*** (CAS No. : 1319-46-6)	-	0.507	---
城式硫酸鉛 / Lead oxide sulfate*** (CAS No. : 12036-76-9)	-	0.516	---

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物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
[1, 2- 苯二羧酸根合] 二氧化三鉛 / [Phthalato(2-)] dioxotrilead*** (CAS No.: 69011-06-9)	-	0.534	---
雙(十八酸基) 二氧代三鉛 / Dioxobis(stearato) trilead*** (CAS No.: 12578-12-0)	-	0.797	---
C16-18- 脂肪酸鉛鹽 / Fatty acids, C16-18, lead salts*** (CAS No.: 91031-62-8)	-	1.52	---
四氟硼酸鉛 (II) / Lead bis(tetrafluoroborate)*** (CAS No.: 13814-96-5)	-	0.746	---
氨基氰鉛鹽 / Lead cyanamidate*** (CAS No.: 20837-86-9)	-	0.488	---
硝酸鉛 / Lead dinitrate*** (CAS No.: 10099-74-8)	-	0.649	---
氧化鉛 / Lead oxide (lead monoxide)*** (CAS No.: 1317-36-8)	-	0.437	---
四氧化鉛 / Lead tetroxide (orange lead)*** (CAS No.: 1314-41-6)	-	0.448	---
鈦酸鉛 / Lead titanium trioxide*** (CAS No.: 12060-00-3)	-	0.594	---
鈦酸鉛鋯 / Lead Titanium Zirconium Oxide*** (CAS No.: 12626-81-2)	-	0.679	---
C.I. 顏料黃41 / Pyrochlore, antimony lead yellow*** (CAS No.: 8012-00-8)	-	0.754	---
氧化鉛與硫酸鉛的複合物 / Pentalead tetraoxide sulphate*** (CAS No.: 12065-90-6)	-	0.469	---
矽酸鉛 / Silicic acid, lead salt*** (CAS No.: 11120-22-2)	-	0.555	---
亞硫酸鉛(II) / Sulfurous acid, lead salt, dibasic*** (CAS No.: 62229-08-7)	-	0.518	---
四乙基鉛 / Tetraethyllead*** (CAS No.: 78-00-2)	-	0.634	---
三鹼式硫酸鉛 / C.I. 顏料白 / Tetralead trioxide sulphate*** (CAS No.: 12202-17-4)	-	0.477	---
磷酸氧化鉛 / Trilead dioxide phosphonate*** (CAS No.: 12141-20-7)	-	0.479	---
醋酸鉛 / Lead di(acetate)*** (CAS No.: 301-04-2)	-	0.637	---
含鉛的矽酸鋇 / Silicic acid, barium salt, lead-doped (※4) (CAS No.: 68784-75-8)	0.05	n. d.	---
五氧化二砷 / Diarsenic pentaoxide*** (CAS No.: 1303-28-2)	-	n. d.	---
三氧化二砷 / Diarsenic trioxide*** (CAS No.: 1327-53-3)	-	n. d.	---
三乙基砷酸酯 / Triethyl arsenate*** (CAS No.: 15606-95-8)	-	n. d.	---
砷酸 / Arsenic acid*** (CAS No.: 7778-39-4)	-	n. d.	---

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物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
砷酸鈣 / Calcium arsenate*** (CAS No.: 7778-44-1)	-	n. d.	---
砷酸鉛 / Trilead diarsenate*** (CAS No.: 3687-31-8) (※1)	-	n. d.	---
硼酸 / Boric acid*** (CAS No.: 10043-35-3; 11113-50-1)	-	n. d.	---
無水四硼酸二鈉 / Disodium tetraborate, anhydrous*** (CAS No.: 1303-96-4, 1330-43-4, 12179-04-3)	-	n. d.	---
水合硼酸鈉 / Tetraboron disodium heptaoxide, hydrate (CAS No.: 12267-73-1) (*2)	-	n. d.	---
三氧化二硼 / Diboron trioxide*** (CAS No.: 1303-86-2)	-	n. d.	---
過硼酸鈉 / Sodium perborate; perboric acid, sodium salt***	-	n. d.	---
過氧偏硼酸鈉 / Sodium peroxometaborate*** (CAS No.: 7632-04-4)	-	n. d.	---
硫酸鈷(二價) / Cobalt(II) sulphate*** (CAS No.: 10124-43-3)	-	n. d.	---
硝酸鈷(二價) / Cobalt(II) dinitrate*** (CAS No.: 10141-05-6)	-	n. d.	---
碳酸鈷(二價) / Cobalt(II) carbonate*** (CAS No.: 513-79-1)	-	n. d.	---
醋酸鈷(二價) / Cobalt(II) diacetate*** (CAS No.: 71-48-7)	-	n. d.	---
重鉻酸鈉 / Sodium dichromate*** (CAS No.: 7789-12-0; 10588-01-9(*))	-	n. d.	---
鉻酸鈉 / Sodium chromate*** (CAS No.: 7775-11-3)	-	n. d.	---
重鉻酸銨 / Ammonium dichromate*** (CAS No.: 7789-09-5)	-	n. d.	---
重鉻酸鉀 / Potassium dichromate*** (CAS No.: 7778-50-9)	-	n. d.	---
鉻酸鉀 / Potassium chromate*** (CAS No.: 7789-00-6)	-	n. d.	---
三氧化鉻 / Chromium trioxide *** (CAS No.: 1333-82-0)	-	n. d.	---
從三氧化鉻與其它寡聚體生成的酸類: 鉻酸 / Acids generated from chromium trioxide and their oligomers: Chromic acid*** (CAS No.: 7738-94-5)	-	n. d.	---
從三氧化鉻與其它寡聚體生成的酸類: 重鉻酸 / Acids generated from chromium trioxide and their oligomers: Dichromic acid*** (CAS No.: 13530-68-2)	-	n. d.	---
從三氧化鉻與其它寡聚體生成的酸類: 鉻酸與重鉻酸的寡聚體 / Acids generated from chromium trioxide and their oligomers: Oligomers of chromic acid and dichromic acid (*1)	-	n. d.	---
鉻酸鋇 / Strontium chromate*** (CAS No.: 7789-06-2)	-	n. d.	---
鉻酸鉻 / Dichromium tris (chromate)*** (CAS No.: 24613-89-6)	-	n. d.	---

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物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
氫氧化鉻酸鋅鉀 / Potassium hydroxyoctaoxidizincatedi- chromate*** (CAS No.: 11103-86-9)	-	n. d.	---
八氫氧化五鉻酸鋅 / Pentazinc chromate octahydroxide*** (CAS No.: 49663-84-5)	-	n. d.	---
鉻酸鉛 / Lead chromate*** (CAS No.: 7758-97-6) (*5)	-	n. d.	---
鉬鉻紅; 顏色索引: 顏料紅104 / Lead chromate molybdate sulphate red*** (C.I. Pigment Red 104) (CAS No.: 12656-85-8) (*5)	-	n. d.	---
鉻酸鉛; 顏色索引: 顏料黃34 / Lead sulfochromate yellow*** (C.I. Pigment Yellow 34) (CAS No.: 1344-37-2) (*5)	-	n. d.	---
六溴環十二烷及所有主要被辨別出的異構物 / Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD) (CAS No.: 25637-99-4 and 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8))	0.05	n. d.	---
二氯化鈷 / Cobalt dichloride (CAS No.: 7646-79-9)	0.005	n. d.	---
2,4-二硝基甲苯 / 2,4-Dinitrotoluene (CAS No.: 121-14-2)	0.05	n. d.	---
蔥油 / Anthracene oil (CAS No.: 90640-80-5) (**)	0.05	n. d.	---
蔥油, 蔥糊 / Anthracene oil, anthracene paste (CAS No.: 90640-81-6)	0.05	n. d.	---
蔥油, 蔥糊, 蔥餾分 / Anthracene oil, anthracene paste, anthracene fraction (CAS No.: 91995-15-2) (**)	0.05	n. d.	---
蔥油, 蔥糊, 輕油 / Anthracene oil, anthracene paste, distn. Lights (CAS No.: 91995-17-4) (**)	0.05	n. d.	---
蔥油, 含蔥量少 / Anthracene oil, anthracene-low (CAS No.: 90640-82-7) (**)	0.05	n. d.	---
煤瀝青, 高溫 / Pitch, coal tar, high-temp. (CAS No.: 65996-93-2) (**)	0.05	n. d.	---
鄰苯二甲酸二異丁酯 / DIBP (Di-isobutyl phthalate) (CAS No.: 84-69-5)	0.05	n. d.	---
磷酸三(2-氯乙基)酯 / Tris(2-chloroethyl) phosphate (TCEP) (CAS No.: 115-96-8)	0.05	n. d.	---
丙烯醯胺 / Acrylamide (CAS No.: 79-06-1)	0.05	n. d.	---
三氯乙烯 / Trichloroethylene (CAS No.: 79-01-6)	0.05	n. d.	---
乙二醇乙醚 / 2-Ethoxyethanol (CAS No.: 110-80-5)	0.05	n. d.	---

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物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
乙二醇甲醚 / 2-Methoxyethanol (CAS No.: 109-86-4)	0.05	n. d.	---
1, 2, 3-三氯丙烷 / 1, 2, 3-trichloropropane (CAS No.: 96-18-4)	0.05	n. d.	---
鄰苯二甲酸二 (C6-8支鏈與直鏈) 烷基酯, 富C7 / 1, 2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) (CAS No.: 71888-89-6)	0.05	n. d.	---
鄰苯二甲酸二 (C7-11支鏈與直鏈) 烷基酯 / 1, 2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) (CAS No.: 68515-42-4)	0.05	n. d.	---
N-甲基吡咯烷酮 / 1-methyl-2-pyrrolidone (CAS No.: 872-50-4)	0.05	n. d.	---
乙二醇乙醚乙酸酯 / 2-ethoxyethyl acetate (CAS No.: 111-15-9)	0.05	n. d.	---
聯氨 / Hydrazine (CAS No.: 7803-57-8; 302-01-2)	0.05	n. d.	---
1, 2-二氯乙烷 / 1, 2-Dichloroethane (CAS No.: 107-06-2)	0.05	n. d.	---
4, 4'-亞甲雙 (2-氯苯胺) / 2, 2'-dichloro- 4, 4'-methylenedianiline (MOCA) (CAS No.: 101-14-4)	0.05	n. d.	---
鄰甲氧基苯胺 / 2-Methoxyaniline; o-Anisidine (CAS No.: 90-04-0)	0.05	n. d.	---
對特辛基苯酚 / 辛基酚 / 4-(1, 1, 3, 3-tetramethylbutyl) phenol, (4-tert-Octylphenol) (CAS No.: 140-66-9)	0.05	n. d.	---
矽酸鋁, 耐火陶瓷纖維 (主要成分濃度於可變範圍內) / Aluminosilicate, Refractory Ceramic Fibres 【oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges】	0.05	n. d.	---
雙(2-甲氧基乙基)醚 / Bis(2-methoxyethyl) ether (CAS No.: 111-96-6)	0.05	n. d.	---
鄰苯二甲酸二甲氧基乙酯 / Bis(2-methoxyethyl) phthalate (CAS No.: 117-82-8)	0.05	n. d.	---
甲醛與苯胺的寡聚體 / Formaldehyde, oligomeric reaction products with aniline (technical MDA) (CAS No.: 25214-70-4)	0.05	n. d.	---
N, N-二甲基乙醯胺 / N, N-dimethylacetamide (DMAC) (CAS No.: 127-19-5)	0.05	n. d.	---
酚酞 / Phenolphthalein (CAS No.: 77-09-8)	0.05	n. d.	---

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薩摩亞商史巴克電子有限公司台灣分公司  
SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

新北市中和區建康路79號2F

2F., NO. 79, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN (R.O.C.)



物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
鋁矽酸鋁，耐火陶瓷纖維（主要成分濃度於可變範圍內） / Zirconia Aluminosilicate, Refractory Ceramic Fibres 【oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges】	0.05	n. d.	---
鹼性藍 26 [內含≥ 0.1% 的米氏酮或米氏鹼] / [4-[[4-anilino-1-naphthyl] [4-(dimethylamino) phenyl] methylene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) (CAS No.: 2580-56-5) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n. d.	---
鹼性紫 3 [內含≥ 0.1% 的米氏酮或米氏鹼] / [4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3) (CAS No.: 548-62-9) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n. d.	---
三甘醇二甲醚 / 1,2-bis (2-methoxyethoxy) ethane (TEGDME; triglyme) (CAS No.: 112-49-2)	0.05	n. d.	---
乙二醇二甲醚 / 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) (CAS No.: 110-71-4)	0.05	n. d.	---
異氰尿酸三縮水甘油酯 / TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6 (1H,3H,5H)-trione) (CAS No.: 2451-62-9)	0.05	n. d.	---
異氰尿酸β-三縮水甘油酯 / β-TGIC (1,3,5-tris [(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6- (1H,3H,5H)-trione) (CAS No.: 59653-74-6) (※3)	0.05	n. d.	---
α, α'-二[(二甲氨基)苯基]-4-甲氨基苯甲醇 [內含≥ 0.1% 的米氏酮或米氏鹼] / 4,4'-bis (dimethylamino)-4'-(methylamino) trityl alcohol (CAS No.: 561-41-1) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n. d.	---
4,4'-二(N,N-二甲氨基)二苯甲酮 (米氏酮) / 4,4'-bis (dimethylamino) benzophenone (Michler's ketone) (CAS No.: 90-94-8)	0.05	n. d.	---
甲醯胺 / Formamide (CAS No.: 75-12-7)	0.05	n. d.	---
4,4'-(對二甲氨基)二苯基甲烷 (米氏鹼) / N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base) (CAS No.: 101-61-1)	0.05	n. d.	---

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# 測試報告

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薩摩亞商史巴克電子有限公司台灣分公司

SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

新北市中和區建康路79號2F

2F., NO. 79, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN (R.O.C.)



物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
溶劑藍 4 [內含≥ 0.1% 的米氏酮或米氏鹼] / $\alpha, \alpha$ -Bis[4-(dimethylamino)phenyl]-4 (phenylamino) naphthalene-1-methanol (C. I. Solvent Blue 4) (CAS No.: 6786-83-0) [with ≥ 0.1% of Michler's ketone or Michler's base]	0.05	n. d.	---
支鏈和直鏈1,2-苯二羧二戊酯 / 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (CAS No.: 84777-06-0)	0.05	n. d.	---
鄰苯二甲酸二異戊酯 / Diisopentylphthalate (CAS No.: 605-50-5)	0.05	n. d.	---
鄰苯二甲酸正戊異戊酯 / N-pentyl-isopentylphthalate (CAS No.: 776297-69-9)	0.05	n. d.	---
乙二醇二乙醚 / 1,2-Diethoxyethane (CAS No.: 629-14-1)	0.05	n. d.	---
正丙基溴 / 1-bromopropane (CAS No.: 106-94-5)	0.05	n. d.	---
3-乙基-2-甲基-2-(3-甲基丁基)-1,3-惡唑烷 / 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine (CAS No.: 143860-04-2)	0.05	n. d.	---
4-(1,1,3,3-四甲基丁基)苯酚, 乙氧基 [以及所有的被定義的物質, 未知成分或可變成分的物質, 聚合物和同系物] / 4-(1,1,3,3-tetramethylbutyl) phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	0.05	n. d.	---
4,4'-二氨基-3,3'-二甲基聯苯基甲烷 / 4,4'-methylenedi-o-toluidine (CAS No.: 838-88-0)	0.05	n. d.	---
4,4'-二氨基二苯醚 / 4,4'-oxydianiline and its salts (CAS No.: 101-80-4)	0.05	n. d.	---
4-苯基偶氮基苯胺 / 4-Aminoazobenzene (CAS No.: 60-09-3)	0.05	n. d.	---
2,4-二氨基甲苯 / 4-methyl-m-phenylenediamine (2,4-toluenediamine) (CAS No.: 95-80-7)	0.05	n. d.	---
3-甲基-6-甲氧基苯胺 / 6-methoxy-m-toluidine (p-cresidine) (CAS No.: 120-71-8)	0.05	n. d.	---
4-胺基聯苯 / Biphenyl-4-ylamine (CAS No.: 92-67-1)	0.05	n. d.	---
鄰氨基偶氮甲苯 / o-aminoazotoluene (CAS No.: 97-56-3)	0.05	n. d.	---
鄰甲苯胺 / o-Toluidine; 2-Aminotoluene (CAS No.: 95-53-4)	0.05	n. d.	---

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# 測試報告

## Test Report

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薩摩亞商史巴克電子有限公司台灣分公司  
SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

新北市中和區建康路79號2F

2F., NO. 79, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN (R.O.C.)



物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
分支或線性的壬基酚，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 / 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	n. d.	---
十溴聯苯醚 / Bis(pentabromophenyl) ether (DecaBDE) (CAS No.: 1163-19-5)	0.05	n. d.	---
六氫苯二甲酸酐 / Cyclohexane-1,2-dicarboxylic anhydride (HHPA), cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA) (CAS No.: 85-42-7, 13149-00-3, 14166-21-3)	0.05	n. d.	---
偶氮[二]甲醯胺 / Diazene-1,2-dicarboxamide (C, C'-azodi(formamide)) (CAS No.: 123-77-3)	0.05	n. d.	---
二氯二丁基錫 / Dibutyltin dichloride (DBTC)***(CAS No.: 683-18-1)	-	n. d.	---
硫酸二乙酯 / Diethyl sulphate (CAS No.: 64-67-5)	0.05	n. d.	---
硫酸二甲酯 / Dimethyl sulphate (CAS No.: 77-78-1)	0.05	n. d.	---
2-(1-甲基丙基)-4,6-二硝基苯酚 / Dinoseb (CAS No.: 88-85-7)	0.05	n. d.	---
呋喃 / Furan (CAS No.: 110-00-9)	0.05	n. d.	---
全氟十一酸 / Henicosafluoroundecanoic acid (CAS No.: 2058-94-8)	0.05	n. d.	---
全氟十四酸 / Heptacosafuorotetradecanoic acid (CAS No.: 376-06-7)	0.05	n. d.	---
全氟十三酸 / Pentacosafuorotridecanoic acid (CAS No.: 72629-94-8)	0.05	n. d.	---
全氟十二酸 / Tricosafuorododecanoic acid (CAS No.: 307-55-1)	0.05	n. d.	---
甲基六氫苯酐 / Hexahydromethylphthalic anhydride (CAS No.: 25550-51-0)	0.05	n. d.	---
4-甲基六氫苯酐 / Hexahydro-4-methylphthalic anhydride (CAS No.: 19438-60-9)			
1-甲基六氫苯酐 / Hexahydro-1-methylphthalic anhydride (CAS No.: 48122-14-1)			
3-甲基六氫苯酐 / Hexahydro-3-methylphthalic anhydride (CAS No.: 57110-29-9)			
甲氧基乙酸 / Methoxy acetic acid (CAS No.: 625-45-6)	0.05	n. d.	---
環氧丙烷 / Propylene oxide; 1,2-epoxypropane; methyloxirane (CAS No.: 75-56-9)	0.05	n. d.	---
N,N-二甲基甲醯胺 / N,N-dimethylformamide; dimethyl formamide (CAS No.: 68-12-2)	0.05	n. d.	---

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薩摩亞商史巴克電子有限公司台灣分公司  
SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

新北市中和區建康路79號2F

2F., NO. 79, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN (R.O.C.)



物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
N-甲基乙醯胺 / N-methylacetamide (CAS No.: 79-16-3)	0.05	n. d.	---
分支或線性的乙氧基壬基酚, 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 / 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	n. d.	---
全氟辛酸銨 / Ammoniumpentadecafluorooctanoate (APFO)*** (CAS No.: 3825-26-1)	-	n. d.	---
全氟辛酸 / Pentadecafluorooctanoic acid (PFOA) (CAS No.: 335-67-1)	0.05	n. d.	---
鎘 / Cadmium (Cd) (CAS No.: 7440-43-9)	0.005	n. d.	---
氧化鎘 / Cadmium oxide*** (CAS No.: 1306-19-0)	-	n. d.	---
硫化鎘 / Cadmium sulphide*** (CAS No.: 1306-23-6)	-	n. d.	---
氯化鎘 / Cadmium chloride*** (CAS No.: 10108-64-2)	-	n. d.	---
氟化鎘 / Cadmium fluoride*** (CAS No.: 7790-79-6)	-	n. d.	---
硫酸鎘 / Cadmium sulphate*** (CAS No.: 10124-36-4; 31119-53-6)	-	n. d.	---
鄰苯二甲酸二戊酯 / Dipentyl phthalate (CAS No.: 131-18-0)	0.05	n. d.	---
鄰苯二甲酸二己酯 / Dihexyl phthalate (CAS No.: 84-75-3)	0.05	n. d.	---
直接紅28 / Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28) (CAS No.: 573-58-0)	0.05	n. d.	---
直接黑38 / 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) (CAS No.: 1937-37-7)	0.05	n. d.	---
亞乙基硫脲 / Imidazolidine-2-thione; 2-imidazoline-2-thiol (CAS No.: 96-45-7)	0.05	n. d.	---
磷酸三(二甲苯)酯 / Trixylyl phosphate (CAS No.: 25155-23-1)	0.05	n. d.	---
鄰苯二甲酸二己酯(支鏈和直鏈) / 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (CAS No.: 68515-50-4)	0.05	n. d.	---

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# 測試報告

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SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

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物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
2-(2'-羥基-3',5'-二叔戊基苯基)苯並三唑 (紫外線吸收劑328) / 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) (CAS No.: 25973-55-1)	0.05	n. d.	---
2-[2-羥基-3',5'-二叔丁基苯基]-苯並三唑 (紫外線吸收劑320) / 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (CAS No.: 3846-71-7)	0.05	n. d.	---
二正辛基-雙(2-乙基己基巰基乙酸酯)錫 / 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)*** (CAS No.: 15571-58-1)	-	n. d.	---
二正辛基-雙(2-乙基己基巰基乙酸酯)錫和單辛基-三(2-乙基己基巰基乙酸酯)錫的反應物 / 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.	---
鄰苯二甲酸二(C6-10)烷基酯; 鄰苯二甲酸二己、二辛、二癸酯混合物; 鄰苯二甲酸二己酯 ≥ 0.3% / 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (CAS No.: 68515-51-5; 68648-93-1)	0.05	n. d.	---
5-二級丁基-2-(2,4-二甲基環己-3-烯-1-基)-5-甲基-1,3-二氧環己烷[1], 5-二級丁基-2-(4,6-二甲基環己-3-烯-1-基)-5-甲基-1,3-二氧環己烷[2], [任何[1]和[2]或者其任意組合的單獨異構物或其任何組合] / 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	n. d.	---
1,3-丙烷磺內酯 / 1,3-propanesultone (CAS No.: 1120-71-4)	0.05	n. d.	---
2,4-二叔丁基-6-(5-氯-2H-苯并三唑-2-基)苯酚 (紫外線吸收劑327) / 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) (CAS No.: 3864-99-1)	0.05	n. d.	---
2-(3-仲丁基-5-叔丁基-2-羥基)苯并三唑 (紫外線吸收劑 UV-350) / 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) (CAS No.: 36437-37-3)	0.05	n. d.	---

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SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

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2F., NO. 79, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN (R.O.C.)



物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
硝基苯 / Nitrobenzene (CAS No.: 98-95-3)	0.05	n. d.	---
全氟壬酸 / Perfluorononan-1-oic acid (2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 7, 7, 8, 8, 9, 9, 9-heptadecafluorononanoic acid and its sodium and ammonium salts (CAS No.: 375-95-1; 21049-39-8; 4149-60-4)	0.05	n. d.	---
苯并(a)芘 / Benzo[def]chrysene (Benzo[a]pyrene) (CAS No.: 50-32-8)	0.05	---	n. d.

物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 3	No. 4
雙酚A / 4,4'-isopropylidenediphenol (Bisphenol A) (CAS No.: 80-05-7)	0.05	n. d.	---
4-庚基苯酚，支鍊及直鍊 (4-HPb1)，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 / 4-Heptylphenol, branched and linear (4-HPb1) [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]	0.05	n. d.	---
十九氟癸酸及其鈉和銨鹽 / Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts (CAS No.: 3108-42-7, 335-76-2, 3830-45-3)	0.05	n. d.	---
對(1,1-二甲基丙基)苯酚 / p-(1,1-dimethylpropyl) phenol (CAS No.: 80-46-6)	0.05	n. d.	---
全氟己基磺酸及其鹽類 / Perfluorohexane-1-sulphonic acid and its salts (PFHxS) (CAS No.: 355-46-4)	0.05	---	n. d.

物質名稱 (Substance Name)	RL	結果 (Result)
		No. 5
德克隆(涵蓋各個反式及順式同分異構物或者相關組合) / 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" TM) [covering any of its individual anti- and syn-isomers or any combination thereof]	0.05	n. d.

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SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

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物質名稱 (Substance Name)	RL	結果 (Result)
		No. 5
苯並[a]蔥 / Benz[a]anthracene (CAS No.: 56-55-3)	0.05	n. d.
苯並[a]菲 / Chrysene (CAS No.: 218-01-9)	0.05	n. d.
四氧化三銻含≥ 0.1% w/w 氧化鎳 / Tricobalt tetraoxide containing ≥ 0.1% w/w nickel oxides (※6) (CAS No.: 1308-06-1)	-	n. d.
雙酚A / 4,4'-isopropylidenediphenol (Bisphenol A) (CAS No.: 80-05-7)	0.05	n. d.
硝酸鎘 / Cadmium nitrate*** (CAS No.: 10325-94-7)	-	n. d.
碳酸鎘 / Cadmium carbonate*** (CAS No.: 513-78-0)	-	n. d.
氫氧化鎘 / Cadmium hydroxide*** (CAS No.: 21041-95-2)	-	n. d.
1,3,4-噻唑烷-2,5-二硫酮, 甲醛及4-庚基苯酚支鏈及直鏈反應物, (RP-HP) [含≥ 0.1% w/w 支鏈及直鏈4-庚基苯酚] / 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] (※7)	-	n. d.

### 備註(Note):

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. RL = Reporting Limit / 報告極限值
3. n. d. = not detected = below Reporting Limit / 未檢出
4. 分類/Classification: Please refer to [http://twap.sgs.com/sgsrsts/chn/download-REACH\\_tw.asp](http://twap.sgs.com/sgsrsts/chn/download-REACH_tw.asp)
5. (\*): 重鉻酸鈉二水合物(CAS No.: 7789-12-0)含量 = 重鉻酸鈉含量 × 1.1374  
(conc. of Sodium dichromate dihydrate = conc. of sodium dichromate × 1.1374)
6. (\*\*): 上述混合物的濃度是經由所獲得的成分比例介於被選擇標靶物及混合物所推估出來。 / The concentrations of above-mentioned mixtures are evaluated per the gained composition rate between the selected marks and the mixtures.
7. (\*1): 鉻酸與重鉻酸的寡聚體: 因為其寡聚體是由未知數的鉻酸或與重鉻酸所組成, 而導致沒有固定分子量, 因此以單體鉻酸或重鉻酸較為重要並應被考慮。 / Oligomers of chromic acid and dichromic acid: since the oligomers are made of the unknown amount of chromic acid or dichromic acid that results in no fixed molecular weight, therefore the monomer of chromic acid or dichromic acid is relevant and considered.



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SPARKTEK TECHNOLOGY CO., LTD. (SAMOA) TAIWAN BRANCH

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8. (\*2): 水合硼酸鈉: 依照歐洲化學總署解釋以無水四硼酸二鈉數據作為代表(歐洲化學總署回信編號 Ref no.: INC 000000032519) / Tetraboron disodium heptaoxide, hydrate: Only anhydrous form of disodium tetraborate is relevant and considered according to ECHA explanation (Ref no.: INC 000000032519).
9. "-" = Not Regulated (無規格值)
10. \*\*\*: 該物質是由單辛基錫、二辛基錫、三丁基錫、二丁基錫、全氟辛酸或各別元素(例如: 砷、鉛、六價鉻、硼、鈷、鋇、鎘)之測試結果計算得知。 / The substance was calculated by the test results of MonoctylTin, Dioctyl Tin, Tributyl Tin, Dibutyl Tin, PFOA or element (Ex. Arsenic, Lead, Cr(VI), Boron, Cobalt, Barium, Cadmium respectively).

測試結果如下(The test result is given as): (Unit: %)

物質名稱 (Substance Name)	RL	結果 (Result)	
		No. 1	No. 2
三丁基錫 / Tributyl Tin (TBT)	0.05	n. d.	---
鉛 / Lead (Pb)	0.005	0.406	---
鋇 / Barium (Ba)	0.005	n. d.	---
砷 / Arsenic (As) (*2)	0.005	n. d.	---
硼 / Boron (B) (*2)	0.005	n. d.	---
鈷 / Cobalt (Co)	0.005	n. d.	---
六價鉻 / Hexavalent Chromium Cr(VI)	0.005	n. d.	---
二丁基錫 / Dibutyl Tin (DBT)	0.05	n. d.	---
二辛基錫 / Dioctyl Tin (DOT)	0.0230	n. d.	---
單辛基錫 / MonoctylTin (MOT)	0.0138	n. d.	---

物質名稱 (Substance Name)	RL	結果 (Result)
		No. 5
鎘 / Cadmium (Cd)	0.005	n. d.
鈷 / Cobalt (Co)	0.005	n. d.

11. (\*1): 此砷鉛化合物之濃度是取砷及鉛兩者各別換算出砷鉛化合物濃度, 並取其最小值做為最後出報告之依據。(Regarding the compound containing arsenic and lead, lead and arsenic are tested and respectively used for the calculation of the independent concentration of the compound containing arsenic and lead. The minimum value of the two independently calculated concentrations is used as the final concentration for the report.)

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12. F 參數換算表/F Parameter Conversion Table : Please refer to [http://twap.sgs.com/sgsrsts/chn/download-REACH\\_tw.asp](http://twap.sgs.com/sgsrsts/chn/download-REACH_tw.asp)
13. (※2): 被萃取出之溶出硼/砷是以感應耦合電漿原子發射光譜儀檢測得之。 / The extracted soluble Boron / Arsenic are detected by ICP-AES.
14. "---" = Not Conducted (未測項目)
15. (※3): 由於TGIC本身含有 $\beta$ -TGIC, 依照ECHA 技術文件  $\beta$ -TGIC與 TGIC 約為 1:10 比例, 因此 $\beta$ -TGIC將以1/10的TGIC計算濃度。 / TGIC is a mixture and also contains  $\beta$ -TGIC. According to the ECHA's technical dossier the ratio of  $\beta$ -TGIC to TGIC is around 1 to 10. Therefore  $\beta$ -TGIC is issued based on the above-mentioned ratio.
16. (※4): 只有在矽與鉛定性結果為陽性時, 再以鋇之濃度換算之。 / Only if both qualitative results of lead and silicon are positive, the test result of the compound will be calculated based on the concentration of barium.
17. (※5): 此化合物之濃度是取六價鉻及鉛兩者各別換算出化合物濃度, 並取其最小值做為最後出報告之依據。(Regarding the compound containing Cr(VI) and lead, lead and Cr(VI) are tested and respectively used for the calculation of the independent concentration of the compound containing Cr(VI) and lead. The minimum value of the two independently calculated concentrations is used as the final concentration for the report.)
18. 依據申請人要求混合測試, 報告中的濃度不代表其中單一樣品的含量。 / The mixed test was implemented according to the applicant's request. The obtained test result doesn't stand for the test result of the respective sample.
19. (※6): 鎳之檢測結果為陽性時, 再以鈷之濃度換算之。 / If the result of nickel is positive, the test result of compound will be calculated based on the concentration of Cobalt.
20. (※7): RP-HP無法直接測得且無法自特定元素計算含量, RP-HP之所以被定義於SVHC是因為4-HPb1, 因此分析4-HPb1取代RP-HP。 / RP-HP can't be identified directly and test result can't be calculated based on specific element(s) or compound. RP-HP is identified as SVHC because of 4-HPb1, therefore 4-HPb1 is analysed instead of RP-HP.

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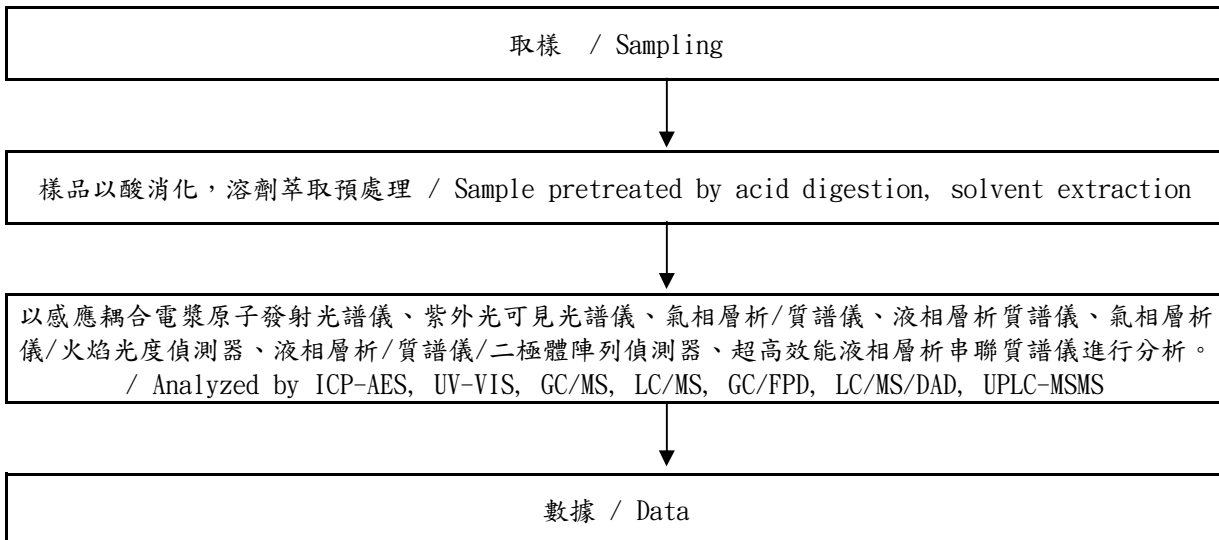


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### 分析流程圖 / Analytical flow chart

- 測試人員：涂雅苓 / 王志瑋 / 林建宇 / Technician : Yaling Tu / JR Wang / Roy Lin
- 測試負責人：張啟興 / Supervisor : Troy Chang



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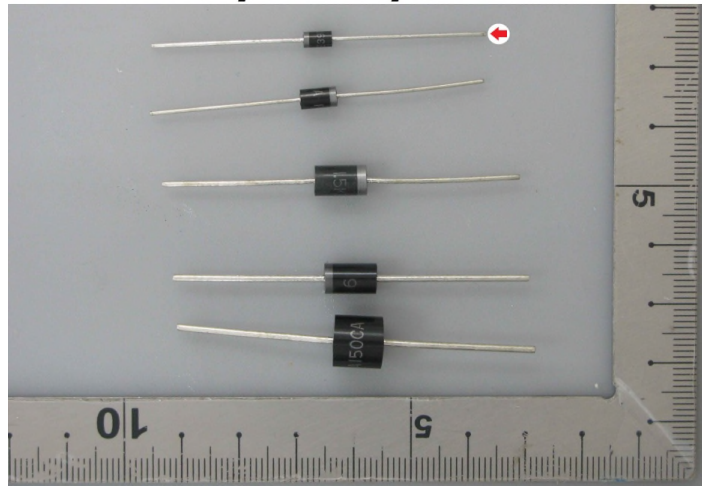
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\* 照片中如有箭頭標示，則表示為實際檢測之樣品/部位。\*  
(The tested sample / part is marked by an arrow if it's shown on the photo.)

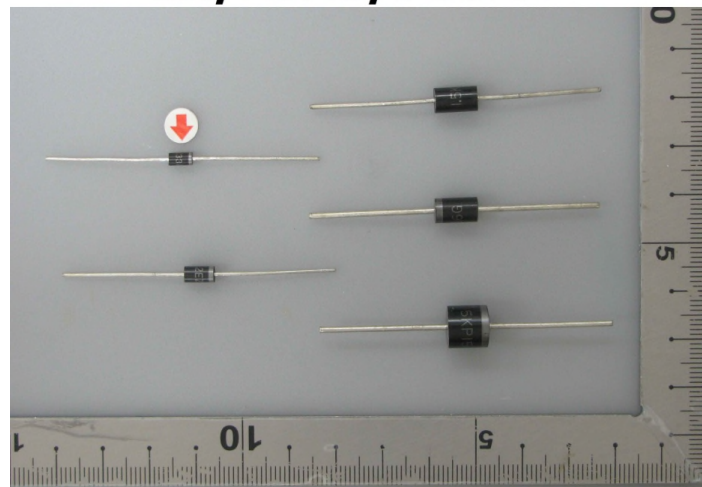
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No. 2

### CR/2016/70012



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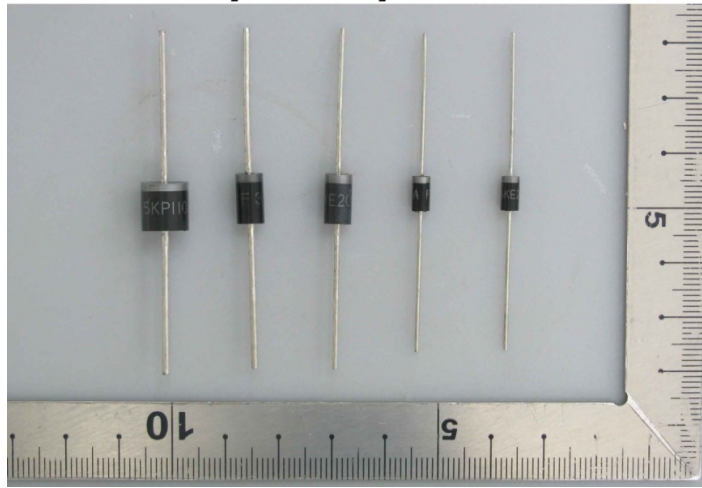
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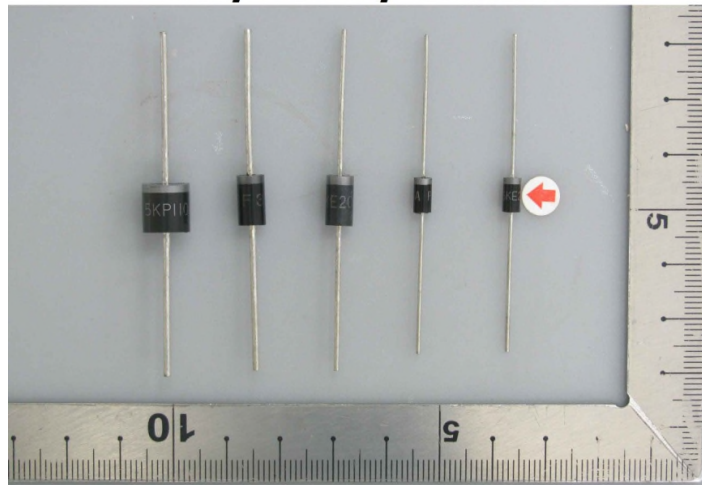


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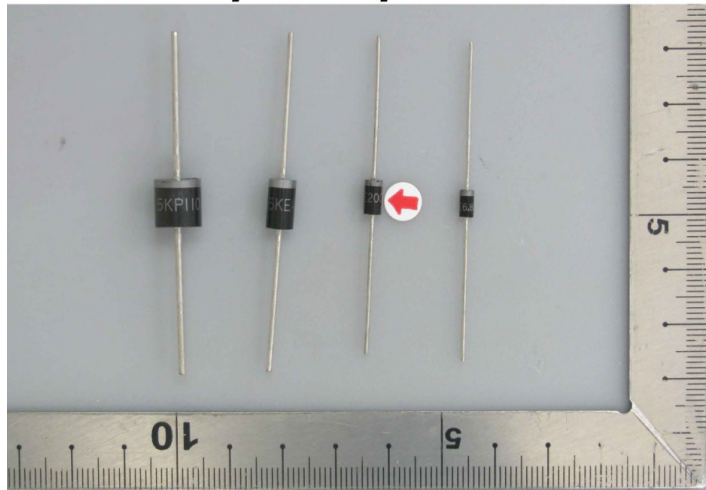
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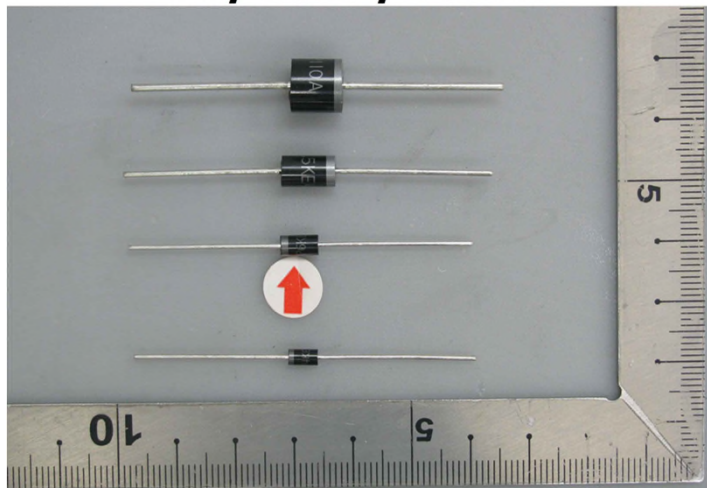
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### CR/2017/70037



No. 5

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