

Company name:

ICP Test Report Certification Packet

Littelfuse, Inc.

Product Series:	Ultra-low Capacitance Protection Array				
Product #:	SP3003-02JTG (SC70-5L)				
Issue Date:	April 20, 2012				
2002/95/EC)-restricted supacking/packaging materi In addition, it is hereby refor unit parts, the packing/	by Littelfuse, Inc. that there is neither RoHS (EU Directions of the following substance nor such use, for materials to be used for unit parterials, and for additives and the like in the manufacturing processes exported to you that the parts and sub-materials, the materials to be /packaging materials, and the additives and the like in the manufactures of the following components.	s, foi usec			
	Issued by: KRISTEEN BACILA <global ehs="" engineer=""></global>				
(1) Parts, sub-materials a This document cove by Littelfuse, Inc.	and unit parts ers the SP3003-02JTG RoHS-Compliant series products manufac	turec			
< Raw Materials U Please see Tab					
(2) The ICP data on all r	measurable substances propriate pages as identifed in Table 1				
Remarks : .					



Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	2200D	Adhesive (RoHS)	3-8
2	2200D	Adhesive (Halogen)	9-12
3	EME-G600	Epoxy Molding Compound (RoHS, Halogen, RoHS 2)	13-20
4	A194 Alloy	Leadframe	21-59
5	N/A	Au Bonding Wire	60-72
6	N/A	Wafer	73-76
7	N/A	Tin	77-84



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Test Report

No.: CE/2011/A3053

Date: 2011/10/24

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HENKEL CORPORATION

HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE,

CALIFORNIA, 92606 U.S.A.

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Description

: ADHESIVE

Style/Item No.

2200D

Sample Receiving Date

2011/10/18

Testing Period

2011/10/18 TO 2011/10/24

Test Requested

: In accordance with the RoHS Directive 2011/65/EU Annex II.

Test Result(s)

: Please refer to next page(s).



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HENKEL CORPORATION

HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE,

CALIFORNIA, 92606 U.S.A.

Test Result(s)

: SILVER COLORED PASTE PART NAME No.1

	The said	1.00	MDL	Result	
Test Item (s):	Unit	Method	MDL	No.1	
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.	
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.	
Sum of PBBs	mg/kg			n.d.	
Monobromobiphenyl	mg/kg	1 [5	n.d.	
Dibromobiphenyl	mg/kg		5	n.d.	
Tribromobiphenyl	mg/kg		5	n.d.	
Tetrabromobiphenyl	mg/kg		5	n.d.	
Pentabromobiphenyl	mg/kg		5	n.d.	
Hexabromobiphenyl	mg/kg		5	n.d.	
Heptabromobiphenyl	mg/kg		5	n.d.	
Octabromobiphenyl	mg/kg		5	n.d.	
Nonabromobiphenyl	mg/kg		5	n.d.	
Decabromobiphenyl	mg/kg	With reference to IEC 62321: 2008 and	5	n.d.	
Sum of PBDEs	mg/kg	performed by GC/MS.	1-	n.d.	
Monobromodiphenyl ether	mg/kg		5	n.d.	
Dibromodiphenyl ether	mg/kg		5	n.d.	
Tribromodiphenyl ether	mg/kg		5	n.d.	
Tetrabromodiphenyl ether	mg/kg		5	n.d.	
Pentabromodiphenyl ether	mg/kg		5	n.d.	
Hexabromodiphenyl ether	mg/kg		5	n.d.	
Heptabromodiphenyl ether	mg/kg		5	n.d.	
Octabromodiphenyl ether	mg/kg	1	5	n.d.	
Nonabromodiphenyl ether	mg/kg	→ .	5	n.d.	
Decabromodiphenyl ether	mg/kg		5	n.d.	

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Date: 2011/10/24

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Note:

1. mg/kg = ppm : 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. " - " = Not Regulated

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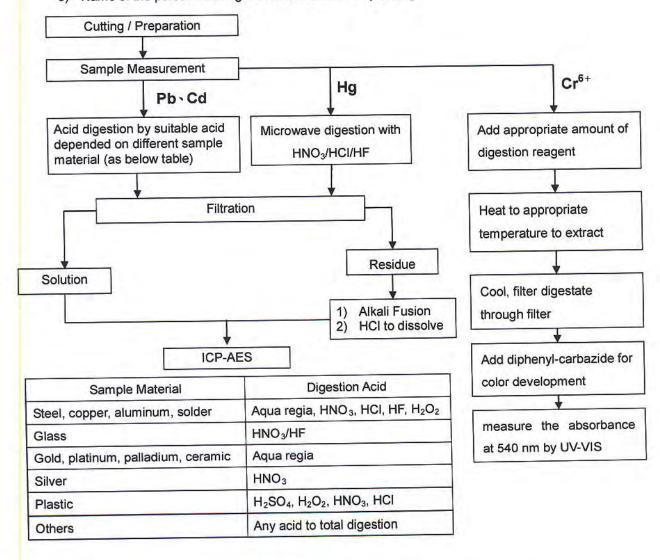
HENKEL CORPORATION

(Cr6+ test method excluded)

HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

These samples were dissolved totally by pre-conditioning method according to below flow chart.

- Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



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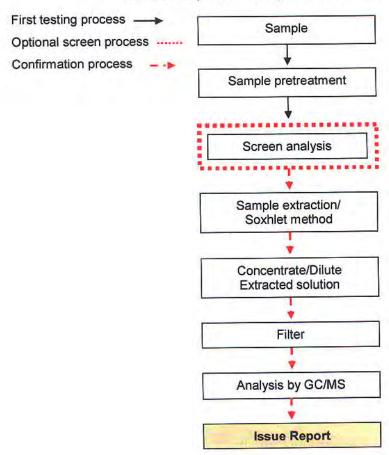
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HENKEL CORPORATION HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A.

PBB/PBDE analytical FLOW CHART

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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CALIFORNIA, 92606 U.S.A.

* The tested sample / part is marked by an arrow if it's shown on the photo. *



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The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description

: ADHESIVE

Style/Item No.

2200D

Sample Receiving Date

: 2011/10/18

Testing Period

: 2011/10/18 TO 2011/10/24

Test Result(s)

Please refer to next page(s).



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HENKEL CORPORATION

HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE,

CALIFORNIA, 92606 U.S.A.

Test Result(s)

PART NAME No.1

: SILVER COLORED PASTE

24 9 A Con wile	111	4.00		Result	
Test Item (s):	Unit	Method	MDL	No.1	
Halogen			1)		
Halogen-Fluorine (F) (CAS No.: 14762-94-8)			50	n.d.	
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)		With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.	
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.	
Halogen-lodine (I) (CAS No.: 14362-44-8)			50	n.d.	

Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit



No.: CE/2011/A3050

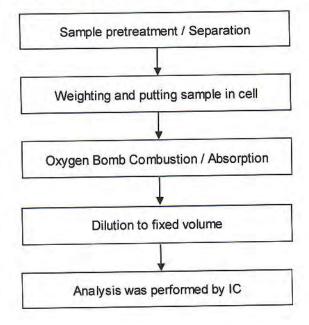
Date: 2011/10/24

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Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Rita Chen
- Name of the person in charge of measurement: Troy Chang



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* Œ/ 2011/ A3050*

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* The tested sample / part is marked by an arrow if it's shown on the photo. *



** End of Report **



No. SHAEC1110406121

Date: 05 Jul 2011

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SUMITOMO BAKELITE (SUZHOU) CO., LTD.

140JINJIHU ROAD, START-UP AREA, CHINA-SINGAPORE SUZHOU INDUSTRIAL PARK

The following sample(s) was/were submitted and identified on behalf of the clients as: EME-G600F SERIES

SGS Job No. : SP11-020560 - SH

Date of Sample Received: 01 Jul 2011

Testing Period : 01 Jul 2011 - 05 Jul 2011

Test Requested: Selected test(s) as requested by client.

Test Method: Please refer to next page(s).

Test Results: Please refer to next page(s).

Signed for and on behalf of SGS-CSTC Ltd.

Fan Jingjie, JJ Approved Signatory

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No. SHAEC1110406121

Date: 05 Jul 2011

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Test Results:

Test Part Description:

Specimen No. SGS Sample ID Description

1 SHA11-104061.012 Dark grey solid grain

Remarks:

(1) 1 mg/kg = 1 ppm = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected (< MDL)

(4) "-" = Not Regulated

RoHS Directive 2002/95/EC

- Test Method: (1) With reference to IEC 62321:2008 (Section 8) for Cadmium content. Analysis was performed by ICP-OES and AAS.
 - (2) With reference to IEC 62321:2008 (Section 8) for Lead content. Analysis was performed by ICP-OES and AAS.
 - (3) With reference to IEC 62321:2008 (Section 7) for Mercury content. Analysis was performed by ICP-OES.
 - (4) With reference to IEC 62321:2008 (ANNEX C) for Hexavalent Chromium by Spot test / Colorimetric Method.

Analysis was performed by UV/Vis Spectrophotometer.

(5) With reference to IEC 62321:2008 (ANNEX A) for PBBs / PBDEs content. Analysis was performed by GC/MS.

Test Item(s)	Limit	Unit	MDL	012
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	ND
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1,000	mg/kg	2	ND
Sum of PBBs	1,000	mg/kg	100	ND
Monobromobiphenyl	4	mg/kg	5	ND
Dibromobiphenyl	191	mg/kg	5	ND
Tribromobiphenyl	12	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	4	mg/kg	5	ND
Hexabromobiphenyl		mg/kg	5	ND
Heptabromobiphenyl	- -	mg/kg	5	ND

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Test Report	No. SHAEC111040612	21	Date: 05	Jul 2011	Page 3 of 8
Test Item(s)	Limit	<u>Unit</u>	MDL	012	
Octabromobiphenyl	8	mg/kg	5	ND	
Nonabromobiphenyl	(4)	mg/kg	5	ND	
Decabromobiphenyl	, <u>, , , , , , , , , , , , , , , , , , </u>	mg/kg	5	ND	
Sum of PBDEs	1,000	mg/kg	-	ND	
Monobromodiphenyl ether	1971	mg/kg	5	ND	
Dibromodiphenyl ether		mg/kg	5	ND	
Tribromodiphenyl ether		mg/kg	5	ND	
Tetrabromodiphenyl ether	-	mg/kg	5	ND	
Pentabromodiphenyl ether	2	mg/kg	5	ND	
Hexabromodiphenyl ether	4	mg/kg	5	ND	
Heptabromodiphenyl ether	C 2 6	mg/kg	5	ND	
Octabromodiphenyl ether	2	mg/kg	5	ND	
Nonabromodiphenyl ether	+	mg/kg	5	ND	
Decabromodiphenyl ether	C 2	mg/kg	5	ND	

Notes:

(1) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

<u>Halogen</u>

Test Method: With reference to EN 14582: 2007, analysis was performed by Ion Chromatograph (IC).

Test Item(s)	<u>Unit</u>	MDL	012
Bromine (Br)	mg/kg	50	ND
Fluorine (F)	mg/kg	50	ND
Chlorine (CI)	mg/kg	50	ND
lodine (I)	mg/kg	50	ND

Phthalates

Test Method: With reference to EN14372: 2004, analysis was performed by GC-MS.

Test Item(s)	<u>Unit</u>	MDL	012
Dibutyl Phthalate (DBP)	%	0.003	ND
Benzylbutyl Phthalate (BBP)	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	%	0.003	ND
Diisononyl Phthalate (DINP)	%	0.010	ND

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Test Item(s)		Unit	MDL	012	
Di-n-octyl Phthalate (DNOP)		%	0.003	ND	
Diisodecyl Phthalate (DIDP)		%	0.010	ND	

Notes:

- (1) DBP,BBP,DEHP Reference information: Entry 51 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC):
 - i) Shall not be used as substances or in mixtures, in concentrations greater than 0,1 % by weight of the plasticised material, in toys and childcare articles.
 - ii) Toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.

Please refer to Regulation (EC) No 552/2009 to get more detail information DINP, DNOP, DIDP Reference information: Entry 52 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2005/84/EC).

- i) Shall not be used as substances or in mixtures, in concentrations greater than 0.1 % by weight of the plasticised material, in toys and childcare articles which can be placed in the mouth by children.
- ii) Such toys and childcare articles containing these phthalates in a concentration greater than 0.1 % by weight of the plasticised material shall not be placed on the market.

Please refer to Regulation (EC) No 552/2009 to get more detail information

Polynuclear Aromatic Hydrocarbons (PAH)

Test Method: With reference to ZEK 01.2-08 of German ZLS and its amendments, analysis was performed by GC-MS.

Test Item(s)	<u>Unit</u>	MDL	012
Sum of 16 PAH	mg/kg	-	2.1
Naphthalene(NAP)	mg/kg	0.2	ND
Acenaphthylene(ANY)	mg/kg	0.2	ND
Acenaphthene(ANA)	mg/kg	0.2	ND
Fluorene(FLU)	mg/kg	0.2	ND
Phenanthrene(PHE)	mg/kg	0.2	ND
Anthracene(ANT)	mg/kg	0.2	ND
Fluoranthene(FLT)	mg/kg	0.2	ND
Pyrene(PYR)	mg/kg	0.2	2.1
Benzo(a)anthracene(BaA)	mg/kg	0.2	ND
Chrysene(CHR)	mg/kg	0.2	ND
Benzo(b)fluoranthene(BbF)	mg/kg	0.2	ND
Benzo(k)fluoranthene(BkF)	mg/kg	0.2	ND
Benzo(a)pyrene(BaP)	mg/kg	0.2	ND

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Test Report	No. SHAEC1110406121		Date: 05	Jul 2011	Page 5 of 8
Test Item(s)		<u>Unit</u>	MDL	012	
Indeno(1,2,3-c,d)pyrene(IPY)		mg/kg	0.2	ND	
Dibenzo(a,h)anthracene(DBA)		mg/kg	0.2	ND	
Benzo(g,h,i)perylene(BPE)		mg/kg	0.2	ND	

ZEK 01.2-08: Restraining maximum values for products

Parameter	Category 1	Category 2	Category 3	
	Material indented to be put in the mouth or material for toys with normal skin contact for children aged < 36 months	Materials which are not included in Category 1, with predictable contact with the skin longer than 30 s. (long-term skin contact)	Materials which are not included in Category 1 or 2 with predictable skin contact up to 30 s (short-term skin contact).	
Benzo[a]pyrene (mg/kg)	<mdl (<0.2)***<="" td=""><td>1</td><td>20</td></mdl>	1	20	
Sum of 16 PAH(US EPA) (mg/kg)**	<mdl (<0.2)***<="" td=""><td>10</td><td>200</td></mdl>	10	200	

Remark: ** = Only PAH substances >0.2 mg/kg are taken into account while calculating the sum of PAH

*** = In case that the maximum values exceed the limits of category 1, but are within the limits of category 2, one may confirm the suitability of the tested material which is indented to be put in the mouth by additional specific migration tests of PAH components based on DIN EN 1186ff and §64 LFGB 80.30-1. The conclusion of the migration test results must be made based on food law criteria.

Tetrabromobisphenol A (TBBP-A)

Test Method: With reference to US EPA 3550C: 2007, analysis was performed by GC-MS.

 Test Item(s)
 Unit
 MDL
 012

 Tetrabromobisphenol A (TBBP-A)
 mg/kg
 10
 ND

PFOS (Perfluorooctane Sulfonates) and PFOA (Perfluorooctanoic Acid)

Test Method: With reference to US EPA 3550C: 2007, analysis was performed by HPLC-MS.

 Test Item(s)
 Unit
 MDL
 012

 Perfluorooctane Sulfonates (PFOS) and related
 mg/kg
 10
 ND

 Acid,Metal Salt and Amide
 mg/kg
 10
 ND

 Perfluorooctyl Acid (PFOA)
 mg/kg
 10
 ND

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Notes:

- (1) PFOS Reference Information: Entry 53 of Regulation (EC) No 552/2009 amending Annex XVII of REACH Regulation (EC) No 1907/2006 (previously restricted under Directive 2006/122/EC)
 - (i) May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.
 - (ii) May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than 1μg /m² of the coated material. Please refer to Regulation (EC) No 552/2009 to get more detail information

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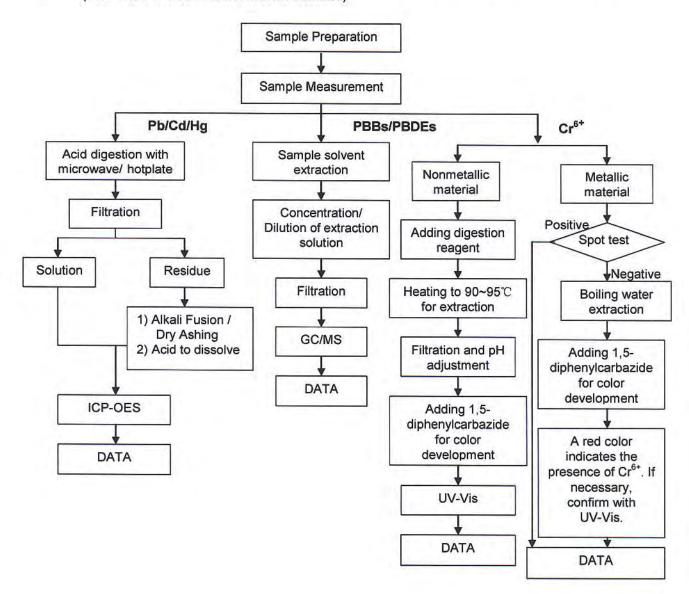
Date: 05 Jul 2011

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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Jan Shi/Yoyo Wang/Allen Xiao/Gary Xu
- 2) Name of the person in charge of testing: Jeff Zhang/George Xu/ Elim Lin
- These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ and PBBs/PBDEs test method excluded)



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Sample photo:



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測試報告 **Test Report**

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ASM HK & ASM TECHNOLOGY SINGAPORE

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以下測試樣品係由客户送樣,且由客户聲稱並經客户確認如下 (The following samples was/were submitted and identific by/on behalf of the client as):

樣品名稱(Sample Description) : A194 ALLOY 收件日期(Sample Receiving Date) : 2011/12/23

: 2011/12/23 TO 2012/01/05 測試期間(Testing Period)

: 香港商先進太平洋股份有限公司 (ASM HK & ASM TECHNOLOGY SINGAPORE) 送樣廠商(Sample Submitted By)

測試結果(Test Results)

: 請見下一頁 (Please refer to next pages).

Ray Chang / Asst. Manage Signed for and on behalf of SGS Taiwan Limited



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測試結果(Test Results)

測試部位(PART NAME) NO.1

: 銅紅色 A194 ALLOY (COPPER RED A194 ALLOY)

测试項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
鎬 / Cadmium (Cd)	mg/kg	參考IEC 62321: 2008方法, 用感應藕合電 漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
鉛 / Lead (Pb)	mg/kg	參考IEC 62321: 2008方法, 用感應藕合電 漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	23.5
汞 / Mercury (Hg)	mg/kg	參考IEC 62321: 2008方法, 用感應藕合電 漿原子發射光譜儀檢測. / With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
六價絡 / Hexavalent Chromium Cr(VI) by boiling water extraction#	**	参考IEC 62321: 2008方法,用 boiling water extraction方法檢測./With reference to IEC 62321: 2008 and performed by boiling water extraction Method.	0.02mg/kg with 50 cm ² surface area	Negative
绨 / Antimony (Sb)	mg/kg	参考US EPA 3052方法, 用感應藕合電漿原子發射光譜儀檢測錦含量. / With reference to US EPA Method 3052 for Antimony Content. Analysis was performed by ICP-AES.	2	n.d.
鈹 / Beryllium (Be)	mg/kg	参考US EPA 3052方法、用感應藕合電漿原子發射光譜儀檢測鈹含量. / With reference to US EPA Method 3052 for Beryllium Content. Analysis was performed by ICP-AES.	2	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
多氣聯苯 / Polychlorinated Biphenyls (PCBs) (CAS No.: 001336-36-3)	mg/kg	參考US EPA 3540C方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	(MDL) 0.5	NO.1
多氣奈 / Polychlorinated Naphthalene (PCNs)	mg/kg	參考US EPA 3540C方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	5	n.d.
多氣三聯苯 / Polychlorinated Terphenyls (PCTs)	mg/kg	參考US EPA 3540C方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	0.5	n.d.
氯化石蠟 / Chlorinated Paraffin (C10-C13) (CAS No.: 085535-84-8)	%	參考US EPA 3540C: 1996方法,以氣相層析儀/電子補捉偵測器檢測. / With reference to US EPA 3540C: 1996 method. Analysis was performed by GC/ECD.	0.01	n.d.
2-(3', 5'-二叔丁基-2'-羟基苯基)苯並三氮唑 / 2-(3,5-di-tert-butyl-2- hydroxyphenyl)-2H-benzotriazole (CAS No.: 003846-71-7)	mg/kg	参考US EPA 3540C方法, 以氣相層析質譜儀 检測之. / With reference to US EPA 3540C method. Analysis was performed by GC/MS.	.5	n.d.
全氟辛烷磺酸 / Perfluorooctane sulfonates (PFOS) PFOS — Acid PFOS — Metal Salt PFOS — Amide	mg/kg	參考US EPA 3540C: 1996方法,以液相層析質譜儀檢測全氣辛烷磺酸含量. / With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
全氣辛酸(銨) / PFOA (CAS No.: 000335-67-1)	mg/kg	參考US EPA 3540C: 1996方法,以液相層析質譜儀檢測全氣辛酸(銨)含量. / With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
聚氯乙烯 / PVC	**	以紅外光譜分析及焰色法檢測. / Analysis was performed by FTIR and FLAME Test.	(MDL)	NO.1 Negative
鹵素 / Halogen				
鹵素(氣)/ Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	參考BS EN 14582:2007, 以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素(氣) / Halogen-Chlorine (C1) (CAS No.: 022537-15-1)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素(溴)/ Halogen-Bromine (Br) (CAS No.: 010097-32-2)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析. / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
鹵素(碘)/ Halogen-Iodine (I) (CAS No.: 014362-44-8)	mg/kg	参考BS EN 14582:2007, 以離子層析儀分析, / With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
石棉 / Asbestos				
陽起石 / Actinolite (CAS No.; 77536-66- 4)	%	參考EPA 600/R-93/116 / 立體顯微鏡, 偏 光顯微鏡 (PLM)及X光绕射定性分析法 (XRD) / With reference to EPA 600/R-	1	Negative
斜方角閃石 / Anthophyllite (CAS No.: 77536-67-5)	%	參考EPA 600/R-93/116 / 立體顯微鏡,偏 光顯微鏡 (PLM)及X光鏡射定性分析法 (XRD) / With reference to EPA 600/R-	1	Negative
棕石棉 / Amosite (CAS No.: 12172-73-5)	%	參考EPA 600/R-93/116 / 立體顯微鏡,偏 光顯微鏡 (PLM)及X光鏡射定性分析法 (XRD) / With reference to EPA 600/R-	1	Negative
白石棉 / Chrysotile (CAS No.: 12001-29- 5)	%	參考EPA 600/R-93/116 / 立體顯微鏡、偏 光顯微鏡 (PLM)及X光繞射定性分析法 (XRD) / With reference to EPA 600/R-	1	Negative

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測試項目	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
(Test Items)	(Unit)	(method)	(MDL)	NO.1
青石棉 / Crocidolite (CAS No.: 12001- 28-4)	%	参考EPA 600/R-93/116 / 立體顯微鏡,偏 光顯微鏡 (PLM)及X光绕射定性分析法 (XRD) / With reference to EPA 600/R-	1	Negative
透閃石 / Tremolite (CAS No.: 77536-68- 6)	%	參考EPA 600/R-93/116 / 立體顯微鏡,偏 光顯微鏡 (PLM)及X光绕射定性分析法 (XRD) / With reference to EPA 600/R-	1	Negative
有機錫 / Organic-tin compounds				
三丁基錫 / Tributyl Tin (TBT)	mg/kg	本測試多考DIN 38407-13方法,以氣相層析 儀/火焰光度偵測器檢測,/With reference to DIN 38407-13, Analysis was performed by GC/FPD.	0.03	n.d.
三苯基錫 / Triphenyl Tin (TphT)	mg/kg	本測試參考DIN 38407-13方法,以氣相層析 儀/火焰光度偵測器檢測。/ With reference to DIN 38407-13. Analysis was performed by GC/FPD.	0.03	n.d.
三丁基錫氧化物 / Tributyl Tin Oxide (TBTO)*** (CAS No.: 000056-35-9)	mg/kg	本測試參考DIN 38407-13方法,以氣相層析儀/火焰光度偵測器檢測. / With reference to DIN 38407-13. Analysis was performed by GC/FPD.	•	n.d.
多溴聯苯總和 / Sum of PBBs			- 4	n.d.
一溴聯苯 / Monobromobiphenyl			5	n.d.
二溴聯苯 / Dibromobiphenyl			5	n.d.
三溴聯苯 / Tribromobiphenyl			5	n.d.
四溴聯苯 / Tetrabromobiphenyl		参考IEC 62321: 2008方法, 以氣相層析儀/	5	n.d.
五溴聯苯 / Pentabromobiphenyl	mg/kg	質譜儀檢測. / With reference to IEC	5	n.d.
六溴聯苯 / Hexabromobiphenyl		62321: 2008 and performed by GC/MS.	5	n.d.
七溴聯苯 / Heptabromobiphenyl			5	n.d.
八溴聯苯 / Octabromobiphenyl			5	n.d.
九溴聯苯 / Nonabromobiphenyl			5	n.d.
十溴聯苯 / Decabromobiphenyl			5	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
(lest Items)	(Onit)	(Method)	(MDL)	NO.1
多溴聯苯醚總和 / Sum of PBDEs			-	n.d.
一溴聯苯醚 / Monobromodiphenyl ether			5	n.d.
二溴聯苯醚 / Dibromodiphenyl ether			5	n.d.
三溴聯苯醚 / Tribromodiphenyl ether			5	n.d.
四溴聯苯醚 / Tetrabromodiphenyl ether		参考IEC 62321: 2008方法, 以氣相層析儀/	5	n.d.
五溴聯苯醚 / Pentabromodiphenyl ether	mg/kg	質譜儀檢測. / With reference to IEC	5	n.d.
六溴聯苯醚 / Hexabromodiphenyl ether		62321: 2008 and performed by GC/MS.	5	n.d.
七溴聯苯醚 / Heptabromodiphenyl ether			5	n.d.
八溴聯苯醚 / Octabromodiphenyl ether		10	5	n.d.
九溴聯苯醚 / Nonabromodiphenyl ether		17	5	n.d.
十溴聯苯醚 / Decabromodiphenyl ether			5	n.d.
偶氮 (AZO)				
1): 4-氨基二苯 / 4-AMINODIPHENYL (CAS No.: 000092-67-1)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
2): 聯苯胺 / BENZIDINE (CAS No.: 00092- 87-5)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
3): 4-氣鄰甲苯胺 / 4-CHLORO-O-TOLUIDINE (CAS No.: 000095-69-2)	mg/kg	参考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
4): 2-萘胺 / 2-NAPHTHYLAMINE (CAS No.: 000091-59-8)	mg/kg	参考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
5): 鄰氨基二甲基偶氮 / O- AMINOAZOTOLUENE (CAS No.: 000097-56-3)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
6): 對硝基鄰甲苯胺 / 2-AMINO-4- NITROTOLUENE (CAS No.: 000099-55-8)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
7): 對氣苯胺 / P-CHLOROANILINE (CAS No.: 000106-47-8)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	-3	n.d.
8): 4-甲氧基-問苯二胺 / 2,4- DIAMINOANISOLE (CAS No.: 000615-05-4)	mg/kg	参考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
9): 4,4'-二氨基二苯甲烷 / 4,4'- DIAMINODIPHENYLMETHANE (CAS No.: 000101-77-9)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
10): 3,3'-二氯聯苯胺 / 3,3'- DICHLOROBENZIDINE (CAS No.: 000091-94- 1)	mg/kg	参考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
11): 3,3'-二甲氧基聯苯胺 / 3,3'- DIMETHOXYBENZIDINE (CAS No.: 000119-90- 4)	mg/kg	参考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
12): 3,3'-二甲基聯苯胺 / 3,3'- DIMETHYLBENZIDINE (CAS No.: 000119-93- 7)	mg/kg	参考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
13): 3,3'-二甲基-4,4'-二氨基二苯甲烷 / 3,3'-DIMETHYL-4,4'- DIAMINODIPHENYLMETHANE (CAS No.: 000838-88-0)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.

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测試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
14): 2-甲氧基-5-甲基聯苯 / P-CRESIDINE (2-METHOXY-5-METHYLANILINE) (CAS No.: 000120-71-8)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
15): 4,4'-亞甲基雙(氯苯胺)/ 4,4'- METHYLENE-BIS- (2-CHLOROANILINE) (CAS No.: 000101-14-4)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
16): 4,4'-氧化雙苯胺 / 4,4'- OXYDIANILINE (CAS No.: 000101-80-4)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
17): 4,4'-硫代雙苯胺 / 4,4'- THIODIANILINE (CAS No.: 000139-65-1)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
18): 鄭甲苯胺 / O-TOLUIDINE (CAS No.: 000095-53-4)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
19): 2,4-二氨基甲苯 / 2,4- TOLUYLENEDIAMINE (CAS No.: 000095-80-7)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
20): 2,4,5-三甲基苯胺 / 2,4,5- TRIMETHYLANILINE (CAS No.: 000137-17-7)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
21): 鄰位甲氧基苯胺 / O-ANISIDINE (CAS No.: 000090-04-0)	mg/kg	参考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
22): 對氨基偶氮苯 / P-AMINOAZOBENZENE (CAS No.: 000060-09-3)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
23): 2,4-二甲基苯胺 / 2,4-XYLIDINE (CAS No.: 000095-68-1)	mg/kg	參考LFGB 82.02-2方法, 以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
24): 2,6-二甲基苯胺 / 2,6-XYLIDINE (CAS No.: 000087-62-7)	mg/kg	參考LFGB 82.02-2方法,以氣相層析/質譜 儀檢測. / With reference to LFGB 82.02-2. Analysis was performed by GC/MS.	3	n.d.
氯氯碳化物 / CFCs (Chlorofluorocarbons)				
Group I				n.d.
氣氣碳化物(Chlorofluorocarbon)-11 (CAS No.: 000075-69-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣氣碳化物(Chlorofluorocarbon)-12 (CAS No.: 000075-71-8)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物(Chlorofluorocarbon)-113 (CAS No.: 000076-13-1)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物(Chlorofluorocarbon)-114 (CAS No.: 000076-14-2)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company, 图 1971年 图 1872年 图 1

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値	結果 (Result)
氣氣碳化物(Chlorofluorocarbon)-115 (CAS No.: 000076-15-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	(MDL)	NO.1
Group III				n.d.
氟氯碳化物(Chlorofluorocarbon)-13 (CAS No.: 000075-72-9)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物(Chlorofluorocarbon)-111 (CAS No.: 000354-56-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣氣碳化物(Chlorofluorocarbon)-112 (CAS No.: 000076-12-0)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物(Chlorofluorocarbon)-211 (CAS No.: 000422-78-6)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1.	n.d.
氣氣碳化物(Chlorofluorocarbon)-212 (CAS No.: 003182-26-1)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯碳化物(Chlorofluorocarbon)-213 (CAS No.: 002354-06-5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氯氯碳化物(Chlorofluorocarbon)-214 (CAS No.: 029255-31-0)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	测試方法 (Method)	方法偵測極限値	結果 (Result)
氟氯碳化物(Chlorofluorocarbon)-215 (CAS No.: 004259-43-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	(MDL) 1	NO.1
氣氣碳化物(Chlorofluorocarbon)-216 (CAS No.: 000661-97-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	.1	n.d.
氣氣碳化物(Chlorofluorocarbon)-217 (CAS No.: 000422-86-6)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
海龍 (Halons)				
海龍(Halon)-1211 (CAS No.: 000353-59-3)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
海龍(Halon)-1301 (CAS No.: 000075-63-8)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測, / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
海龍(Halon)-2402 (CAS No.: 000124-73-2)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物 / HCFCs (Hydrochlorofluorocarbons)				
氣氣氢碳化物(HCFC)-21 (CAS No.: 000075-43-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氫碳化物(HCFC)-22 (CAS No.: 000075- 45-6)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
氟氯氢碳化物(HCFC)-31 (CAS No.: 000593- 70-4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測。/ With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氢碳化物(HCFC)-121 (CAS No.: 000354-14-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	ĵ.	n.d.
氟氯氢碳化物(HCFC)-122 (CAS No.: 000354-21-2)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	п.d.
氟氯氫碳化物(HCFC)-123 (CAS No.: 000306-83-2)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣氣氫碳化物(HCFC)-124 (CAS No.: 002837-89-0)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	i i	n.d.
氟氯氫碳化物(HCFC)-131 (CAS No.: 000359-28-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氧氧碳化物(HCFC)-132b (CAS No.: 001649-08-7)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物(HCFC)-133a (CAS No.: 000075-88-7)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法負測 極限值 (MDL)	結果 (Result) NO.1
氟氯氢碳化物(HCFC)-141b (CAS No.: 001717-00-6)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氫碳化物(HCFC)-142b (CAS No.: 000075-68-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物(HCFC)-221 (CAS No.: 000422-26-4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氢碳化物(HCFC)-222 (CAS No.: 000422-49-1)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氫碳化物(HCFC)-223 (CAS No.: 000422-52-6)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物(HCFC)-224 (CAS No.: 000422-54-8)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測, / With reference to US EPA 5021 method, Analysis was performed by GC/MS.	1	n.d.
氟氧氢碳化物(HCFC)-225ca (CAS No.: 000422-56-0)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣氣氫碳化物(HCFC)-225cb (CAS No.: 000507-55-1)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測, / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	ĭ	n.d.

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测試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
氟氟氢碳化物(HCFC)-226 (CAS No.: 000431-87-8)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1.	n.d.
氣氣氢碳化物(HCFC)-231 (CAS No.: 000421-94-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氢碳化物(HCFC)-232 (CAS No.: 000460-89-9)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氢碳化物(HCFC)-233 (CAS No.: 007125-84-0)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物(HCFC)-234 (CAS No.: 000425-94-5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氫碳化物(HCFC)-235 (CAS No.: 000460-92-4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氧氫碳化物(HCFC)-241(CAS No.: 000666- 27-3)	mg/kg	多考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測,/ With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氧氫碳化物(HCFC)-242 (CAS No.: 000460-63-9)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.



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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
氟氯氢碳化物(HCFC)-243 (CAS No.: 000460-69-5)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氢碳化物(HCFC)-244	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氢碳化物(HCFC)-251 (CAS No.: 000421-41-0)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氢碳化物(HCFC)-252 (CAS No.: 000819-00-1)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氟氫碳化物(HCFC)-253 (CAS No.: 000460-35-5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氟氯氩碳化物(HCFC)-261 (CAS No.: 000420-97-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測, / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣氣氫碳化物(HCFC)-262 (CAS No.: 000421-02-03)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n,d.
氣氣氫碳化物(HCFC)-271 (CAS No.: 000430-55-7)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測極限値	結果 (Result)
不完全鹵化氣溴化物 / HBFCs (Hydrobromofluorocarbons)			(MDL)	NO.1
不完全鹵化氣溴化物(HBFC)-21B2 (CHFBr2) (CAS No.: 001868-53-7)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1)	n.d.
不完全鹵化氟溴化物(HBFC)-22B1 (CHF2Br) (CAS No.: 001511-62-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-31B1 (CH2FBr) (CAS No.: 000373-52-4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-121B4 (C2HFBr4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-122B3 (C2HF2Br3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-123B2 (C2HF3Br2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-124B1 (C2HF4Br)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測, / With reference to US EPA 5021 method, Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-131B3 (C2H2FBr3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This test report cannot be reproduced, except in full, without prior written permission of the Company 医反应 1.00 +

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
不完全鹵化氟溴化物(HBFC)-132B2 (C2H2F2Br2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-133B1 (C2H2F3Br)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-141B2 (C2H3FBr2)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-142B1 (C2H3F2Br)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-151B1 (C2H4FBr)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-221B6 (C3HFBr6)	mg/kg	多考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-222B5 (C3HF2Br5)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氟溴化物(HBFC)-223B4 (C3HF3Br4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測。/ With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
不完全鹵化氣溴化物(HBFC)-224B3 (C3HF4Br3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氟溴化物(HBFC)-225B2 (C3HF5Br2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氟溴化物(HBFC)-226B1 (C3HF6Br)	mg/kg	冬考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-231B5 (C3H2FBr5)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氟溴化物(HBFC)-232B4 (C3H2F2Br4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-233B3 (C3H2F3Br3)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	-1	n.d.
不完全鹵化氣溴化物(HBFC)-234B2 (C3H2F4Br2)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-235B1 (C3H2F5Br)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
不完全鹵化氟溴化物(HBFC)-241B4 (C3H3FBr4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氟溴化物(HBFC)-242B3 (C3H3F2Br3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-243B2 (C3H3F3Br2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氟溴化物(HBFC)-244B1 (C3H3F4Br)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-251B3 (C3H4FBr3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-252B2 (C3H4F2Br2)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-253B1 (C3H4F3Br)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-261B2 (C3H5FBr2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	I	n.d.

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測試項目 (Test Items)	單位 (Unit)	测試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
不完全鹵化氟溴化物(HBFC)-262B1 (C3H5F2Br)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
不完全鹵化氣溴化物(HBFC)-271B1 (C3H6FBr)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氯碳化物 / HFCs (Hydrofluorocarbon)				
氫氟碳化物(HFC)-23 (CHF3)(CAS No.: 000075-46-7)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測, / With reference to US EPA 5021 method, Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-32 (CH2F2)(CAS No.: 000075-10-5)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-41 (CH3F)(CAS No.: 000593-53-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-43-10mee (C5H2F10)	mg/kg	冬考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氢氟碳化物(HFC)-125 (C2HF5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-134 (C2H2F4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	-1	n.d.



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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
氫氯碳化物(HFC)-134a (CH2FCF3)(CAS No.: 000811-97-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-143 (CH3F3)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	-1	n.d.
氫氟碳化物(HFC)-143a (CH3F3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測。/ With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1.	n.d.
氫氟碳化物(HFC)-152a (C2H4F2)(CAS No.: 0000075-37-6)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-227ea (C3HF7)(CAS No.: 000431-89-0)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氢氟碳化物(HFC)-236ea (C3H2F6)(CAS No.: 000431-63-0)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-236fa (C3H2F6)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-245ca (C3H3F5)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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测試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	结果 (Result) NO.1
氫氟碳化物(HFC)-245fa (C3H3F5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氫氟碳化物(HFC)-365mfc (C4H5F5)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氣碳化物 / PFCs (Perfluorocarbon)				
四氟甲烷 / F14 (CAS No.: 000075-73-0)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	ń.d.
六氟乙烷 / Fluorocarbon 116 (CAS No.: 000076-16-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
八氟丙烷 / Freon 218 (CAS No.: 000076- 19-7)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
十氟丁烷 / Decafluorobutane (CAS No.; 000355-25-9)	mg/kg	多考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
八氟環丁烷 / Freon C318 (CAS No.: 000115-25-3)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟-1-丁烯 / Perfluor-1-butene (CAS No.: 000357-26-6)	mg/kg	参考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
全氣異丁烯 / perfluorisobutene (CAS No.: 000382-21-8)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,4-二氫八氟丁烷 / 1,4- dihydrooctafluorobutane (CAS No.: 000377-36-6)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
2-全氟甲基丁烷 / nonafluor-2- (trifluoromethyl)butanc (CAS No.: 000594-91-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟戊烷 / perfluoro-n-pentane (CAS No.: 000678-26-2)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n,d,
2-全氟甲基戊烷 / 2- perfluoromethylpentane (CAS No.: 000355-04-4)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
全氟己烷 / perfluorohexane (CAS No.; 000355-42-0)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氧化碳氫化物 / CHCs (Chlorinate hydrocarbon)				
1.1.1.2-四氯乙烷 / 1.1.1.2- Tetrachloroethane (CAS No.: 000630-20- 6)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測,/ With reference to US EPA 5021 method, Analysis was performed by GC/MS.	1	n.d.
1,1,1-三氯乙烷 / 1,1,1-Trichloroethane (CAS No.: 000071-55-6)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
1,1,2,2-四氯乙烷 / 1,1,2,2- Tetrachloroethane (CAS No.: 000079-34- 5)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,1,2-三氟乙烷 / 1,1,2-Trichloroethane (CAS No.: 000079-00-5)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,1-二氯乙烷 / 1,1-Dichloroethane (CAS No.: 000075-34-3)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,1-二氯乙烯 / 1,1-Dichloroethene (CAS No.: 000075-35-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,1-二氯丙烯 / 1,1-Dichloropropene (CAS No.: 000563-58-6)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,2,3-三氟丙烷 / 1,2,3-Trichloropropane (CAS No.: 000096-18-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測,/ With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,2-二氯乙烷 / 1,2-Dichloroethane (CAS No.: 000107-06-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
1,2-二氯丙烷 / 1,2-Dichloropropane (CAS No.: 000078-87-5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
1,3-二氯丙烷 / 1,3-Dichloropropane (CAS No.: 000142-28-9)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
2,2-二氯丙烷 / 2,2-Dichloropropane (CAS No.: 000594-20-7)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測。/ With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
四氯甲烷(四氯化碳) / Carbon tetrachloride (CAS No.: 000056-23-5)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氯乙烷 / Chloroethane (CAS No.: 000075-00-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣仿 / Chloroform (CAS No.: 000067-66-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
氣甲烷 / Chloromethane (CAS No.: 000074-87-3)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	п.d.
順-1,2-二氯乙烯 / cis-1,2- Dichloroethene (CAS No.: 000156-59-2)	mg/kg	多考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	-1	n.d.
順-1,3-二氯丙烯 / cis-1,3- Dichloropropene (CAS No.: 010061-01-5)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.



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測試項目 (Test Items)	單位 (Unit)	測試方法 (Method)	方法偵測 極限値 (MDL)	結果 (Result) NO.1
六氯丁二烯 / Hexachlorobutadiene (CAS No.: 000087-68-3)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
二氯甲烷 / Dichloromethane (CAS No.: 000075-09-2)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	L	n.d.
四氯乙烯 / Tetrachloroethene (CAS No.: 000127-18-4)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
反-1,2-二氯乙烯 / trans-1,2- Dichloroethene (CAS No.: 000156-60-5)	mg/kg	參考US EPA 5021方法, 以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
反-1,3-二氯丙烯 / trans-1,3- Dichloropropene (CAS No.: 010061-02-6)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
三氯乙烯 / Trichloroethylene (CAS No.: 000079-01-6)	mg/kg	参考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.
溴甲烷 / Bromomethane (CAS No.: 000074-83-9)	mg/kg	參考US EPA 5021方法,以氣相層析質譜儀 (GC/MS)檢測. / With reference to US EPA 5021 method. Analysis was performed by GC/MS.	1	n.d.

備註(Note):

- 1. mg/kg = ppm ; 0.1wt% = 1000ppm
- 2. n.d. = Not Detected (未檢出)
- 3. MDL = Method Detection Limit (方法偵測極限値)
- 4. "-" = Not Regulated (無規格值)

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- 5. **= Qualitative analysis (No Unit) 定性分析(無單位)
- 6. Negative = Undetectable 陰性(未偵測到); Positive = Detectable 陽性(已偵測到)
- 7. Negative = 陰性 (< 1.0 %), Positive = 陽性 (> 1.0 %)
- 8. 聚氯乙烯测試由SGS其他實驗室執行 (The PVC test was subcontracted to other SGS Laboratory.)
- 9. 石棉測試由SGS其他實驗室執行 (The Asbestos test was subcontracted to other SGS Laboratory.)
- 10. ***: 該物質是由"三丁基錫", 之測試結果計算得知, 其MDL是針對"三丁基錫"之評估. (The substance was calculated by the test results of Tributyl Tin. The MDL is evaluated for Tributyl Tin, Triphenyl Tin.)
- 11. # = a. Positive means the presence of CrVI on the tested areas (Positive表示測試區域偵測到六價鉻)
 - b. Negative means the absence of CrVI on the tested areas (Negative表示測試區域未偵測到六價絡)

The detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm2 tested areas . / 該溶液濃度≧0.02 mg/kg with 50 cm2 (tested areas)

PFOS参考資訊(Reference Information): 指令 2006/122/EC (Directive 2006/122/EC)

- (1) 該物質不可置於市場上或使用於特殊物質或配置成分重量濃度等於或大於0.005%. (May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.)
- (2) 該物質不可置於市場上的半成品或商品或其物件; 假若零件上明顯地具有PFOS並參照結構上及微細構造上計算 PFOS重量濃度等於或大於0.1%, 而紡織品或其他覆蓋物質, 如果PFOS在覆蓋物質中含量等於或大於1µg/m². (May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than lug/m2 of the coated material.)

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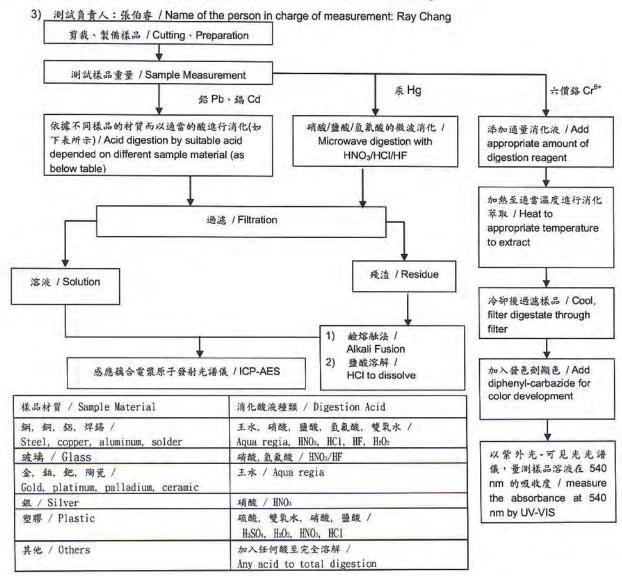


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2) 測試人員:張俊雄 / Name of the person who made measurement: Alex Chang



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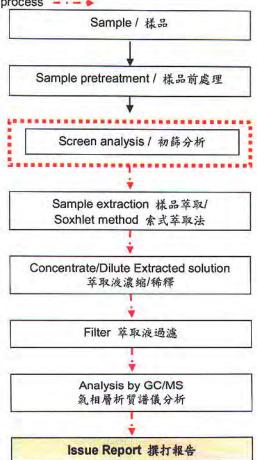
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多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART

1)測試人員:曹嘉琪 / Name of the person who made measurement: Anson Tsao 2)測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang

初次測試程序 / First testing process -----選擇性篩檢程序 / Optional screen process

確認程序 / Confirmation process - - - >



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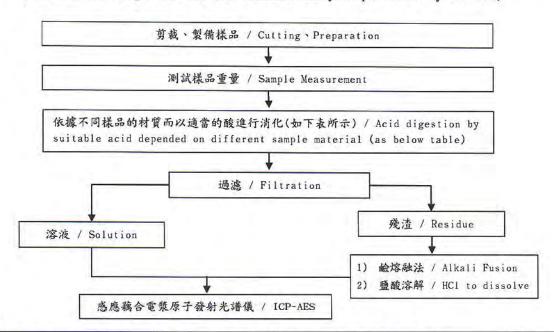
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- 1) 根據以下的流程圖之條件,樣品已完全溶解。 / These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) 測試人員:張俊雄 / Name of the person who made measurement: Alex Chang
- 3) 測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang

元素以 ICP-AES 分析的消化流程圖

(Flow Chart of digestion for the elements analysis performed by ICP-AES)



王水,硝酸,鹽酸,氫氟酸,雙氧水 / Aqua regia, HNOs, HC1, HF, H2O2
硝酸,氫氟酸 / HNOs/HF
王水 / Aqua regia
硝酸 / HNOs
硫酸,雙氧水,硝酸,鹽酸 / HaSO1, HaO2, HNO3, HC1
加入任何酸至完全溶解 / Any acid to total digestion

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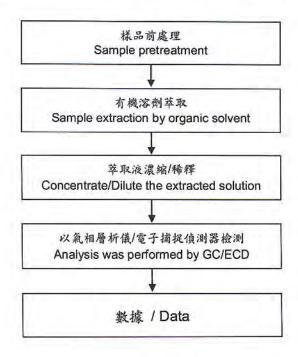
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含氯阻燃劑分析流程 /

Chlorinated Flame retardant analytical flow chart

- 1) 測試人員: 曹嘉琪 / Name of the person who made measurement: Anson Tsao
- 2) 測試負責人: 張伯容 / Name of the person in charge of measurement: Ray Chang
 - 多考方法(Reference method): USEPA 3540
 - 測試項目(Test Items): PCBs, CP, MCCP / 多氯聯苯, 氯化石蠟,中鏈氯化石蠟



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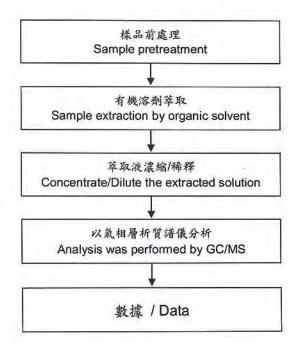
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含氯阻燃劑分析流程 /

Chlorinated Flame retardant analytical flow chart

- 1) 測試人員: 曹嘉琪 / Name of the person who made measurement: Anson Tsao
- 2) 測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang
 - 参考方法(Reference method): US EPA 8270D, US EPA 3540
 - 測試項目(Test Items): PCNs, PCTs, Mirex / 多氯奈, 多氯三聯苯,滅蟻靈,



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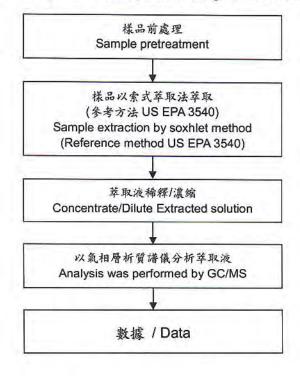
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苯並三唑類化合物分析流程圖 / Analytical flow chart of benzotriazole content

- 1) 測試人員: 曹嘉琪 / Name of the person who made measurement: Anson Tsao
- 2) 測試負責人: 張伯容 / Name of the person in charge of measurement: Ray Chang



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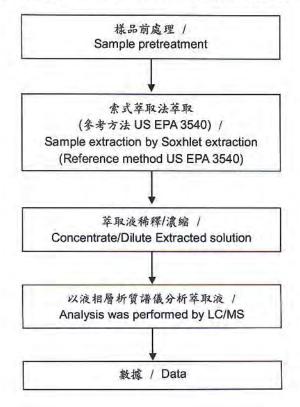
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全氟辛酸(銨)/ 全氟辛烷磺酸分析流程圖 /

Analytical flow chart of PFOA/PFOS content

1)測試人員: 曹嘉琪 / Name of the person who made measurement: Anson Tsao

2)测試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang



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號碼(No.): KA/2011/C1699 日期(Date): 2012/01/05 頁數(Page): 35 of 39

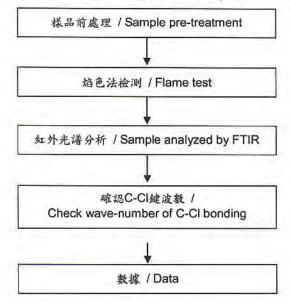
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聚氯乙烯物質判定分析流程圖 /

Analysis flow chart for determination of PVC in material

1)测試人員: 邱韻如 / Name of the person who made measurement: Joyce Chiu 2)測試負責人: 林立翔 / Name of the person in charge of measurement: Roger Lin



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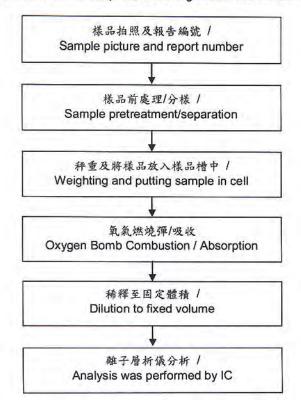
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鹵素分析流程圖 / Analytical flow chart of halogen content

- 1) 測試人員: 洪秀真/ Name of the person who made measurement: Jean Hung
- 2) 測試負責人: 張伯睿/ Name of the person in charge of measurement: Ray Chang



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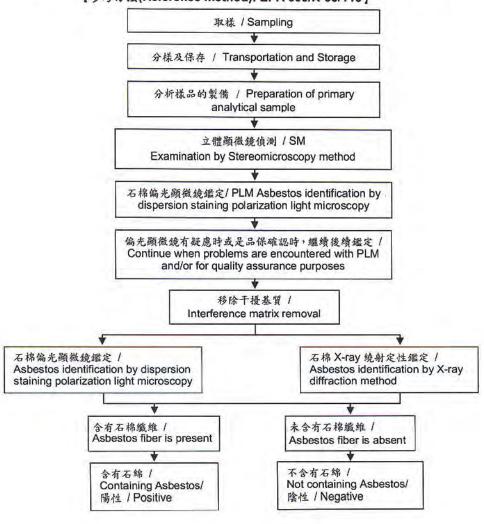
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石棉物質判定分析流程圖 / Analysis flow chart for determination of Asbestos

- 1) 測試人員:高鍵忠 / Name of the person who made measurement: Victor Kao
- 2) 測試負責人: 魏明芬 / Name of the person in charge of measurement: Wendy Wei 【参考方法(Reference method): EPA 600/R-93/116]



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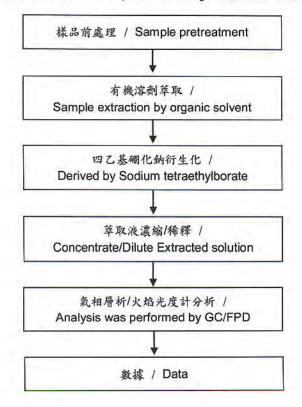
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有機錫分析流程圖 / Analytical flow chart of Organic-Tin content

- 1) 測試人員: 曹嘉琪 / Name of the person who made measurement: Anson Tsao
- 2) 測試負責人:張伯睿 / Name of the person in charge of measurement: Ray Chang



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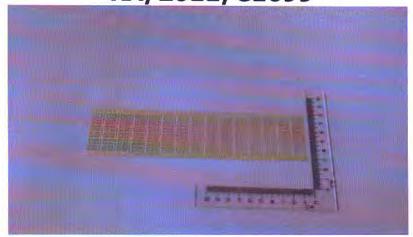
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> * 照片中如有箭頭標示,則表示為實際檢測之樣品/部位. * (The tested sample / part is marked by an arrow if it's shown on the photo.)

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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 1 of 13

CTS Ref. CTS/11/4539/Tanaka

TANAKA ELECTRONICS (MALAYSIA) SDN BHD PLOT 11, PHASE IV, BAYAN LEPAS FIZ 11900 PENANG, MALAYSIA

The following merchandise was (were) submitted and identified by the client as:

Sample Description : Au Bonding Wire

Sample Receiving Date : 21/11/2011

Testing Period : 21/11/2011 to 02/12/2011

Date Completed : 02/12/2011
Reporting Date : 02/12/2011

Test Requested : Selected test(s) as requested by client

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Analysts : Teh Pui Sean, Tay Siam Pine, Eileen Tan Yi Pin, Yee Sook Wai

& Lim Meng Hoe

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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 2 of 13

CTS Ref. CTS/11/4539/Tanaka

Test results:

Test Part Description:

Sample Description

Au Bonding Wire

RoHS Directive 2011/65/EU Annex II

Test Item(s):	Unit	Test Method	Results	MDL
Cadmium (Cd)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Lead (Pb)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Mercury (Hg)	mg/kg	With reference to IEC 62321:2008, and performed by ICP-OES	N.D.	2
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction (optional) #		With reference to IEC 62321:2008	Negative	
Hexavalent Chromium (CrVI)	mg/kg	With reference to JIS H 8625, and performed by UV-VIS Spectrophotometry	N.D.	2
Sum of PBBs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	1.
Monobromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromobiphenyl	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 3 of 13 CTS Ref. CTS/11/4539/Tanaka

Sum of PBDEs	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	-
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321:2008, and performed by GC-MS	N.D.	5

Note: (a) mg/kg = ppm; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) # = Spot-Test:

- a. Negative means the absence of Cr(VI) on the tested areas
- b. Positive means the presence of Cr(VI) on the tested areas

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed)

Boiling water extraction:

- a. Negative means the absence of Cr(VI) on the tested areas
- b. Positive means the presence of Cr(VI) on the tested areas; The detected concentration in 50 mL boiling water extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

(e) - = Not regulated

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Test results by chemical method:

Test Item (s):	Unit	Method	Result	MDL
Antimony (Sb)	ppm	With reference to EPA Method 3052, and performed by ICP-OES	N.D.	2
Polyvinylchloride (PVC)	**	Analysis was performed by FT-IR/ATR	Negative	
Halogen	- 220			
Halogen-Fluorine (F)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Fluorine content.	N.D.	50
Halogen-Chlorine (CI)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Chlorine content.	N.D.	50
Halogen-Bromine (Br)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Bromine content.	N.D.	50
Halogen-lodine (I)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for lodine content.	N.D.	50

Test Part Description:

Sample Description : Au Bonding Wire

Note: (a) mg/kg = ppm

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) --- = Not Conducted

(e) ** = Qualitative analysis (no unit)

(f) Negative = Undetectable / Positive = Detectable

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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 5 of 13

CTS Ref. CTS/11/4539/Tanaka

Test result:

Test Part Description :

Sample Description

Au Bonding Wire

Optional: RoHS Directive 2011/65/EU, priority substances

Test Item(s):	Unit	Test Method	Results	MDL
Hexabromocyclododecane (HBCDD)	mg/kg	Based on IEC 62321:2008, and performed by GC-MS	N.D.	10
Phthalates	***	-		***
DBP (Di-butyl phthalate) (CAS No.: 000084-74-2)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.003
DEHP(Di-(2-ethylhexyl phthalate) (CAS No.: 000117-81-7)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.003
BBP (Benzyl Butyl phthalate) (CAS NO.: 000085-68-7)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.003
DINP (Di-isononyl phthalate) (CAS No.: 028553-12-0)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.01
DIDP (Di-isodecyl phthalate) (CAS No.: 026761-40-0)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.01
DNOP (Di-n-octyl phthalate) (CAS No.: 000117-84-0)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.003
DNHP (Di-n-hexyl phthalate) (CAS No.: 000084-75-3)	%	With reference to Chromatographia Vol.47, No.784, 1998. Analysis was performed by GC/MS.	N.D.	0.003

Note: (a) mg/kg = ppm

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) --- = Not Conducted

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No. LPCI/25132(B)/11+KA/2011/B1388 Date : 02/12/2011 Page: 6 of 13 CTS Ref. CTS/11/4539/Tanaka

Test Item(s):	Unit	Test Method	Results	MDL
*Phosphorus (P)	mg/kg	With reference to US EPA Method 3052 for Phosphorus Content. Analysis was performed by ICP-AES.	N.D.	2
*Beryllium (Be)	mg/kg	With reference to US EPA Method 3052 for Beryllium Content. Analysis was performed by ICP-AES.	6.64	2
*Magnesium (Mg)	mg/kg	With reference to US EPA Method 3052 for Magnesium Content. Analysis was performed by ICP-AES.	N.D.	2
*Perfluorooctane sulfonates (PFOS - Acid, Metal Salt, Amide)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	N.D.	10
* PFOA (CAS No.: 335-67-1)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	N.D.	10
*Dimethyl Fumarate (CAS No.: 624-49-7)	mg/kg	With reference to US EPA 3540C method. Analysis was performed by GC/MS.	N.D.	0.1
*DMEP (Bis (2-methoxyethyl) phthalate) (CAS No.: 117-82-8)	%	With reference to EN 14372.Analysis was performed by GC/MS	N.D.	0.003

Note: (a) mg/kg = ppm; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) *The above tests were subcontracted to SGS Taiwan based on report no. KA/2011/B1388

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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 7 of 13

CTS Ref. CTS/11/4539/Tanaka

Test Part Description:

Sample Description

Au Bonding Wire



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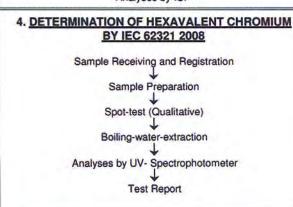
1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321 2008 Sample Receiving and Registration Cut sample in small pieces Weight sample (0.2-0.5g) into digestion vessel Acid digestion (Microwave) "Totally Dissolved"

Filtration Analyses by ICP 3. DETERMINATION OF MERCURY CONTENT BY IEC 62321 2008

Sample Receiving and Registration

Cut sample in small pieces Weight sample (0.2-0.5g) into digestion vessel Acid digestion (Microwave) "Totally Dissolved" Filtration

2. DETERMINATION OF LEAD CONTENT BY IEC 62321 2008 Sample Receiving and Registration Cut sample in small pieces Weight sample (0.2-0.5g) into digestion vessel Acid digestion (Microwave) "Totally Dissolved" Filtration Analyses by ICP



5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321 2008

Analyses by ICP

Cut sample in small pieces Weight sample (0.5-4.0g) into extraction thimble Soxhlet Extraction with Toluene Filter through 0.45 um membrane filter Analyses by GC-MS (with appropriate dilution)

7. DETERMINATION OF HEXAVALENT CHROMIUM **BY JIS H 8625** Sample Preparation Hot water extraction Add colour-developing reagent Let stand for 5-10 min Analyses by UV- Spectrophotometer (540 nm)

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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 9 of 13 CTS Ref. CTS/11/4539/Tanaka

8. MICROWAVE ASSISTED ACID DIGESTION OF SILICEOUS AND ORGANICALLY BASED METRICES (US EPA 3052)

Cut sample in small pieces

Weight sample (0.2-0.5g) into digestion vessel

Acid digestion (HF and HNO₃) – Microwave

"Totally Dissolved"

Filtration

Analyses by ICP

9. DETERMINATION OF HALOGEN CONTENT

Sample pretreatment

Weighting and putting sample in cell

Combustion / Absorption

Dilution to fixed volume

Analyses by IC

10. ANALYSIS FLOW CHART FOR DETERMINATION OF PVC

Cut sample in small pieces

Sample analysed by FTIR

Data

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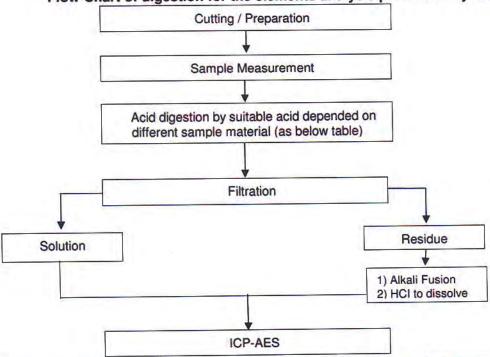
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No. LPCI/25132(B)/11+KA/2011/B1388 Date: 02/12/2011 Page: 10 of 13 CTS Ref. CTS/11/4539/Tanaka

- These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) Name of the person who made measurement: Alex Chang
- 3) Name of the person in charge of measurement: Ray Chang

Flow Chart of digestion for the elements analysis performed by ICP-AES



Steel, copper, aluminium, solder	Aqua regia, HNO ₃ , HCI, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCI
Others	Any acid to total digestion

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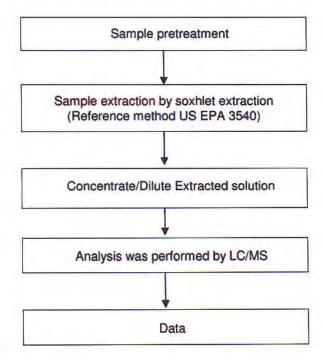
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No. LPCI/25132(B)/11+KA/2011/B1388 Date : 02/12/2011 Page: 11 of 13 CTS Ref. CTS/11/4539/Tanaka

Analytical flow chart of PFOA/PFOS content

- 1) Name of the person who made measurement: Anson Tsao
- 2) Name of the person in charge of measurement: Ray Chang



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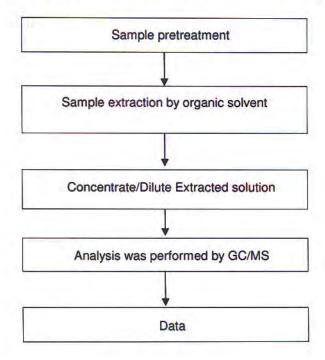
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No. LPCI/25132(B)/11+KA/2011/B1388 Date : 02/12/2011 Page: 12 of 13 CTS Ref. CTS/11/4539/Tanaka

Analytical flow chart of Dimethyl Fumarate content

- 1) Name of the person who made measurement: Anson Tsao
- 2) Name of the person in charge of measurement: Ray Chang



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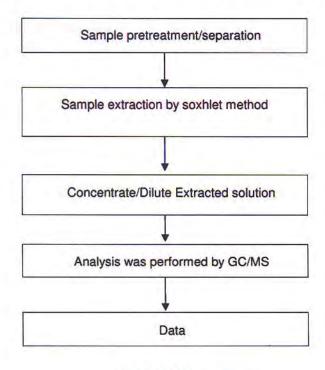
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Analytical flow chart of phthalate content

- 1) Name of the person who made measurement: Anson Tsao
- 2) Name of the person in charge of measurement: Ray Chang



****End of Report****

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No.: CE/2012/12342

Date: 2012/01/18

Page: 1 of 4

EPISIL TECHNOLOGIES INC.

THE REPORT OF THE PARTY OF THE

NO. 3, INNOVATION ROAD 1, SCIENCE BASED INDUSTRIAL PARK, HSINCHU, TAIWAN, R. O. C.

The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Description

: IC WAFER

Style/Item No.

: ALUMINUM PROCESS

Sample Receiving Date

: 2012/01/11

Testing Period

: 2012/01/11 TO 2012/01/18

Test Requested

: As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI) contents in the submitted sample.

Test Result(s)

: Please refer to next page(s).



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Date: 2012/01/18

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EPISIL TECHNOLOGIES INC.

NO. 3, INNOVATION ROAD 1, SCIENCE BASED INDUSTRIAL PARK, HSINCHU, TAIWAN, R. O. C.

Test Result(s)

PART NAME No.1

MULTICOLOR WAFER

Test Item(s)	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.

Note:

1. mg/kg = ppm : 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

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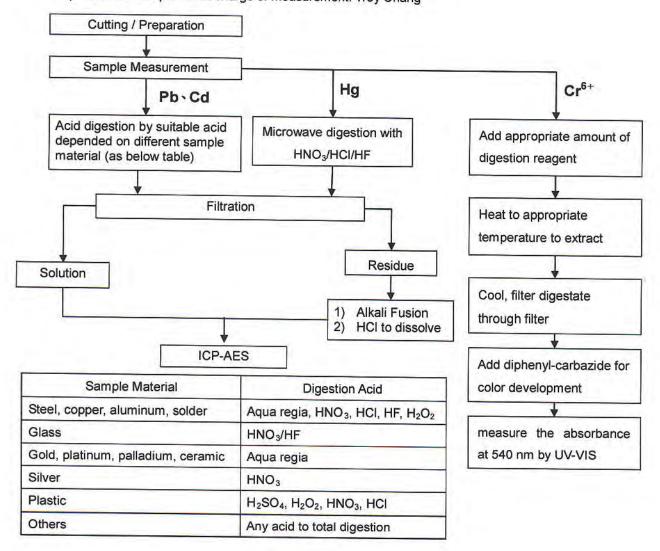
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EPISIL TECHNOLOGIES INC.

NO. 3, INNOVATION ROAD 1, SCIENCE BASED INDUSTRIAL PARK, HSINCHU, TAIWAN, R. O. C.

- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr6+ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang





No.: CE/2012/12342

Date: 2012/01/18

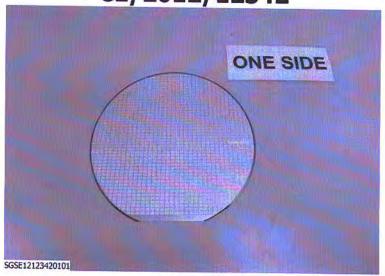
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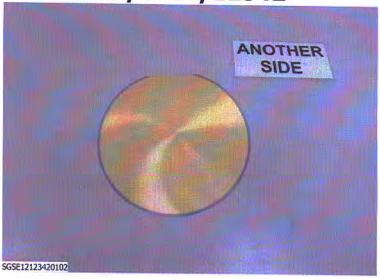
NO. 3, INNOVATION ROAD 1, SCIENCE BASED INDUSTRIAL PARK, HSINCHU, TAIWAN, R. O. C.

* The tested sample / part is marked by an arrow if it's shown on the photo. *

CE/2012/12342



CE/2012/12342



** End of Report **



No. CANEC1103340401

Date: 01 Sep 2011

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GEJIU ZILI MINING&SMEL TING CO.,LTD HUOGUDU,JIJIE TOWN,GEJIU CITY,HONGHE ZHOU,YUNNAN PROVINCE CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :

TIN

SGS Job No. : 13332781 - GZ Model No. : Sn 99.90

SGS Internal Reference No. : 2.1

Date of Sample Received : 26 Aug 2011

Testing Period : 26 Aug 2011 - 01 Sep 2011

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Conclusion : A:Based on the performed tests on submitted samples, the results of Lead,

Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE) comply with the limits as set by

RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.

Signed for and on behalf of SGS-CSTC Ltd.

1

Merry Lv

Approved Signatory



No. CANEC1103340401

Date: 01 Sep 2011

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Test Results:

ID for specimen 1 : CAN11-033404.001
Description for specimen 1 : Silvery metal block

A:RoHS Directive 2011/65/EU

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321:2008, ICP-OES	46	2	1000
Mercury (Hg)	mg/kg	IEC 62321:2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by	-	IEC 62321:2008, UV-Vis	Negative	♦	#
boiling water extraction					
Sum of PBBs	mg/kg	** *** *** *** *** *** *** *** *** ***	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg		N.D.	9	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	
Decabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	

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Note:

- 1. mg/kg = ppm
- 2. N.D. = Not Detected (< MDL)
- 3. MDL = Method Detection Limit
- 4. ♦ = Spot-Test:

Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result is negative or cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of CrVI coating

Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

5. # = Positive indicates the presence of CrVI on the tested areas.

Negative indicates the absence of CrVI on the tested areas.

6. "- " = Not regulated

B:Halogen

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Fluorine (F)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Chlorine (CI)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Bromine (Br)	mg/kg	BS EN 14582:2007, IC	N.D.	50
lodine (I)	mg/kg	BS EN 14582:2007, IC	N.D.	50

Note:

- 1. mg/kg = ppm
- 2. N.D. = Not Detected (< MDL)
- 3. MDL = Method Detection Limit

C:PFOA & PFOS (Perfluorooctanoic acid & Perfluorooctane sulfonates)

Test Item(s)	Unit	Test Method (Reference)	Result	MDL
Perfluorooctanoic acid (PFOA)	mg/kg	EPA 3550C: 2007, LC-MS	N.D.	10
Perfluorooctane sulfonates (PFOS)	mg/kg	EPA 3550C: 2007, LC-MS	N.D.	10
PFOS Acid				

PFOS Metal Salt

PFOS Amide

Note:

1. mg/kg = ppm

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N.D. = Not Detected (< MDL)
 MDL = Method Detection Limit

For reference: commission regulation (EU) No 757/2010 amending regulation (EC) No 850/2004:

- (1) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS equal to or below 10 mg/kg (0,001 % by weight) when it occurs in substances or in preparations.
- (2) For the purposes of this entry, Article 4(1) (b) shall apply to concentrations of PFOS in semi-finished products or articles, or parts thereof, if the concentration of PFOS is lower than 0,1 % by weight calculated with reference to the mass of structurally or micro-structurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is lower than 1µg /m² of the coated material.

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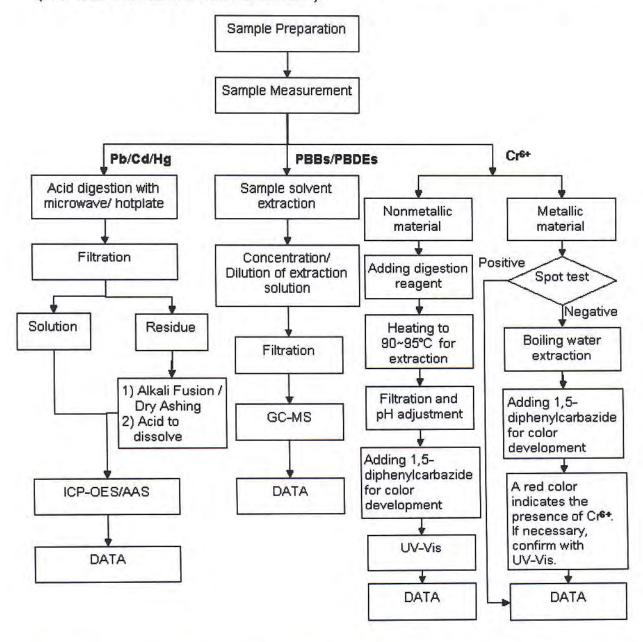
Date: 01 Sep 2011

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ATTACHMENTS

RoHS Testing Flow Chart

- 1) Name of the person who made testing: Bella Wang / Cutey Yu / Ross Zhan
- 2) Name of the person in charge of testing: Adams Yu / Ryan Yang
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart (Cr6+ and PBBs/PBDEs test method excluded).



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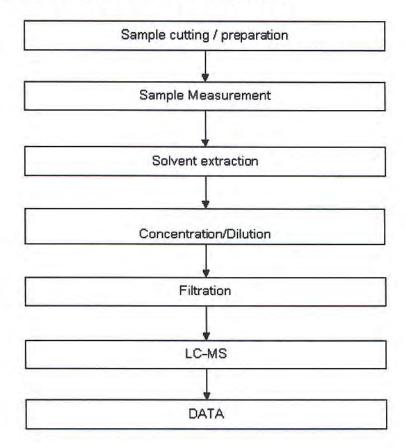
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ATTACHMENTS

PFOA / PFOS Testing Flow Chart

- 1) Name of the person who made testing: Cindy Huang
- 2) Name of the person in charge of testing: Ryan Yang



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Julius of the description of the content of the sample(s) tested.



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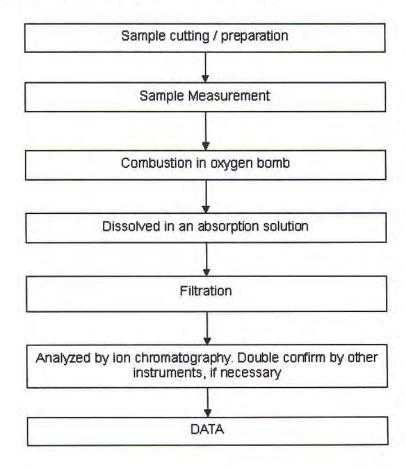
Date: 01 Sep 2011

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ATTACHMENTS

Halogen Testing Flow Chart

- 1) Name of the person who made testing: Liang Wang
- 2) Name of the person in charge of testing: Michelle Song



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Sample photo:



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