

Certificate of non-use of The Controlled Substances

Company name Littelfuse, Inc.
Product Covered Thyristor SOT-89 Package
Issue Date January 12, 2011

It is hereby certified by Littelfuse, Inc., that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance, nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes.

It is also certified by Littelfuse, Inc., that the products listed in this report do not contain Halogens and their compounds judged per widely accepted industrial guidelines.

In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by

< Koichiro Yoshimoto, Senior Product Engineer, Littelfuse, Inc.>

(1) Parts, sub-materials and unit parts

This document covers Thyristor SOT-89 Package, supplied by Littelfuse, Inc. Please see page 2 for the list of products covered.

< Materials used >

Please see table 1 on page 3 and table 2 on page 4 of this document.

(2) The analysis result on all measurable substances

Please see annex 1 through 8 attached to this document.

Remarks :

1. Pb (lead) contained in wafer (item 6) is from passivation glass and is categorized as exempt in RoHS Annex 5.

Please refer to Annex 7 of this report for the extract of the applicable exemptions of RoHS (EU Directive 2002/95/EC)

Table 3: RoHS-regulated substance in raw materials

| Components | Analysis Result | | | | | | |
|---|-----------------|----------------|---------------|---|---------|---------|------------------|
| | Cd Cadmium | Cr Chromium | Hg Mercury | Pb Lead | PBB | PBDE | TOTAL HALOGEN |
| As Component Total (Typical Values) | < 2ppm | < 2ppm | < 2ppm | <2 ppm* ¹ (0.5%* ²) | < 5 ppm | < 5 ppm | < 100ppm |
| Outside lead finish (Matte-Tin plating) See Annex 1 for the detail. | < 2ppm | < 2ppm | < 2ppm | 7ppm* ³ | < 5ppm | < 5ppm | < 50ppm |
| Epoxy Resin compound (mixture of resin, filler and fire retardant) See Annex 2 for the detail. | < 2ppm | < 2ppm | < 2ppm | < 2ppm | < 5ppm | < 5ppm | < 50ppm |
| Die Attach (Silver filled epoxy) See Annex 3 & 3A for the detail. | < 2ppm | < 2ppm | < 2ppm | < 2ppm | < 5ppm | < 5ppm | 173ppm |
| Die-bonding Wire (Copper wire) See Annex 4 for the detail. | < 2ppm | < 2ppm | < 2ppm | < 2ppm | < 5ppm | < 5ppm | < 50ppm |
| Lead frame (Copper Alloy KFC) See Annex 5 for the detail. | < 0.5ppm | < 2ppm | < 2ppm | 16ppm* ³ | < 5ppm | < 5ppm | --- |
| Silicon Die (Silicon + Metal electrode + passivation) See Annex 6 for the detail. | < 2ppm | < 2ppm | < 2ppm | 2.5 %* ⁴ | < 5ppm | < 5ppm | < 50ppm |

*1 Less than 5ppm Pb content overall, excluding Pb from the wafer passivation glass on silicon die.

*2 0.5% of Pb (lead) content overall, including the RoHS-exempted use of Pb

*3 Pb contained in Tin-plating material and lead frame is considered as process contamination.

Littelfuse does not add Pb intentionally.

*4 Pb (lead) contained in passivation glass is exempted from restriction by RoHS Annex 5.

Please refer to Annex 7 of this report for the applicable exemptions of RoHS (EU Directive 2002/95/EC)

Annex 1: Analysis Result of Outside Lead Plating Material (Page 1 of 7)



Test Report

No. LPCI00093/11
CTS Ref. CTS1114994/Redring

Date : 05/01/2011

Page: 1 of 7

REDRING SOLDER (M) SDN. BHD.
LOT 17486, JALAN DUA, TAMAN SELAYANG BARU
68100 BATU CAVES, SELANGOR DARUL EHSAN, MALAYSIA

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

Sample Description : PURE TIN SOLDER
Sample Received : 03/01/2011
Testing Date : 03/01/2011 to 05/01/2011

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).
Analysts : Ng Mei Kheng, Loi Woan Yee & Lim Meng Hoe

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company in respect of the General Conditions of Sale and Terms and Conditions for Electronic Devices (www.sgslab.com) and may be subject to the applicable laws, administrative and procedural rules of the jurisdiction. Any information contained herein reflects the Company's findings at the time of the analysis only and shall be limited to the information provided. The Company is not responsible for the results of the analysis unless the sample(s) are retained for the analysis. This is a preliminary report. The results shown in this report refer only to the sample(s) tested and such sample(s) are retained for the analysis only.

SGS Laboratory Services (M) Sdn. Bhd. No 26 Jalan Anggerik Vanilla 31/93 Kota Kemuning 40460 Selangor Darul Ehsan, Malaysia
(Company No. 63872-M) t +6 (03) 5121 2320 f +6 (03) 5121 9082 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 1: Analysis Result of Outside Lead Plating Material (Page 3 of 7)



Test Report

No. LPCI0009311

Date : 05/01/2011

Page: 3 of 7

CTS Ref. CTS1114994/Redrimg

| Test Item(s): | Unit | Test Method | Results | MDL |
|----------------------------|-------|--|---------|-----|
| 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

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to the General Conditions of Sale (www.sgslab.com) and Terms and Conditions for Electronic Documents (www.sgslab.com). Accuracy of data is the in factors of facility, administration and instrumentation used. This report and the electronic documents to be treated as an original with the integrity of PDF and other files. The original copy of documents may be written at www.sgslab.com. Any other form of document is advised that information contained herein reflects the Company's findings at the time of its analysis only and will be limited to the extent of the data provided. The Company is not responsible for the use of the data and the documents are not to be used for any other purpose than the intended one. All rights and obligations under the relevant documents. This is to be made in the result shown in this test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

SGS Laboratory Services (M) Sdn. Bhd.
(Company No. 63972-M)

No 26 Jalan Anggerik Vanilla 31/93 Kota Kemuning 40460 Selangor Damli Ehsan, Malaysia
t +6 (03) 5121 2320 f +6 (03) 5121 9082 www.sgslab.com

Member of the SGS Group (SGS SA)

Annex 1: Analysis Result of Outside Lead Plating Material (Page 4 of 7)



Test Report

No. LPCI0009311
CTS Ref. CTS1114994/Redring

Date : 05/01/2011

Page: 4 of 7

Test results by chemical method:

| Test Item (s): | Unit | Method | Result | MDL |
|-----------------------|-------|--|--------|-----|
| Antimony (Sb) | ppm | With reference to EPA Method 3051A, and performed by ICP-OES | N.D. | 2 |
| Halogen | --- | --- | --- | --- |
| Halogen-Chlorine (Cl) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC method for Chlorine content. | N.D. | 50 |
| Halogen-Fluorine (F) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC method for Fluorine 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-Iodine (I) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC method for Iodine content. | N.D. | 50 |

Test Part Description :

Sample Description : PURE TIN SOLDER

NOTE: (a) N.D. = Not detected (<MDL)
(b) ppm = mg/kg
(c) MDL = Method Detection Limit

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
B.Sc.(HONS) AMIC
LAB MANAGER

This document is issued by the Company subject to its General Conditions of Sale and Terms and Conditions for External Documents. The Company is not liable for any loss or damage caused by the use of this document. The information contained herein reflects the Company's findings at the time of the analysis and may be subject to change without notice. The Company is not responsible for the results of the analysis unless the sample is retained for the analysis. This is a summary of the results shown in full test report refer only to the sample(s) tested and such sample(s) are retained for three months only.

SGS Laboratory Services (M) Sdn. Bhd. No 26 Jalan Anggerik Vanilla 31/93 Kota Kemuning 40460 Selangor Damli Ehsan, Malaysia
(Company No. 63972-M) t +6 (03) 5121 2320 f +6 (03) 5121 9082 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 1: Analysis Result of Outside Lead Plating Material (Page 7 of 7)



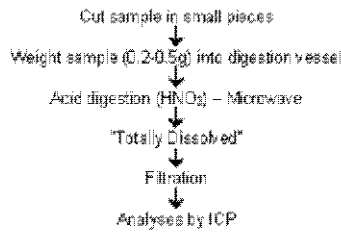
Test Report

No. LPCI0009311
 CTS Ref. CTS1114994/Redring

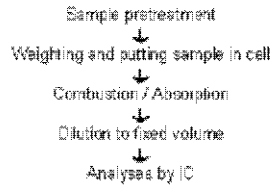
Date : 05/01/2011

Page: 7 of 7

1. MICROWAVE ASSISTED ACID DIGESTION OF ORGANICALLY BASED METRICES (US EPA 3051A)



2. DETERMINATION OF HALOGEN CONTENT



*** End of Report ***

SGS LABORATORY SERVICES (M) SDN. BHD.



CHONG KIEN LEN
 B.Sc.(HONS) AMIC
 LAB MANAGER

This document is issued by the Company in respect of the General Conditions of Service www.sgs.com and Terms and Conditions for External Clients www.sgs.com. The analysis is done in the laboratory of the Company and the results are subject to the accuracy of the data provided to the Company. The accuracy of the data provided to the Company is not guaranteed. Any information contained herein reflects the Company's findings at the time of the analysis only and shall be limited to the data provided to the Company. The Company is not responsible for the results of the analysis if the data provided to the Company is not accurate. The Company is not responsible for the results of the analysis if the data provided to the Company is not accurate. The Company is not responsible for the results of the analysis if the data provided to the Company is not accurate. This is a summary of the results shown in this report and only the sample(s) listed and such sample(s) are retained for three months only.

SGS Laboratory Services (M) Sdn. Bhd. No 26 Jalan Anggerik Vanilla 31/93 Kota Kemuning 40460 Selangor Damli Ehsan, Malaysia
 (Company No. 63972-M) t +6 (03) 5121 2320 f +6 (03) 5121 9082 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 2: Analysis Result of Molding Compound (Page 1 of 8)**Test Report**

No: 10193333(4)

Date: 26-Apr-10

Page 1 of 8

Sumitomo Bakelite Singapore Pte Ltd
1 Senoko South Road, Singapore

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

Sample Description : EME-G600
Type : Type
Lot No. : 0032203
Manufacturing Date : 3/17/10
Contact Name : Chen Yi Jun
Contact Tel : +65-67503782
Contact Email : yijun@sbs.sumibe.co.jp

Sample Receiving Date : 15-Apr-10
Testing Period : 15-Apr-10 to 26-Apr-10

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

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

Conclusion : Based on the performed tests on submitted sample(s), the results **comply with** the RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS Testing & Control Services Singapore Pte Ltd



Y.C. Tham
Laboratory Manager

Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 t +65 6379 0111 f+65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 2 of 8)



Test Report

No: 10193333(4)

Date: 26-Apr-10

Page 2 of 8

Test Result(s):

Sample Description : EME-G600
 Type : Type
 Lot No. : 0032203
 Manufacturing Date : 3/17/10

| Test Item(s): | Unit | Method | Results | MDL | RoHS Limit |
|----------------------------|-------|---|-------------|----------|-------------|
| Cadmium(Cd) | mg/kg | With reference to IEC62321, Ed1:2008. Analysis was performed by ICP/AES | n.d. | 2 | 100 |
| Lead (Pb) | mg/kg | With reference to IEC62321, Ed1:2008. Analysis was performed by ICP/AES | n.d. | 2 | 1000 |
| Mercury (Hg) | mg/kg | With reference to IEC62321, Ed1:2008. Analysis was performed by ICP/AES | n.d. | 2 | 1000 |
| Hexavalent Chromium (CrVI) | mg/kg | With reference to IEC62321, Ed1:2008. Analysis was performed by UV/Vis Spectrometry | n.d. | 2 | 1000 |
| Sum of PBBs | mg/kg | | n.d. | - | 1000 |
| Monobromobiphenyl | mg/kg | | n.d. | 5 | - |
| Dibromobiphenyl | mg/kg | | n.d. | 5 | - |
| Tribromobiphenyl | mg/kg | | n.d. | 5 | - |
| Tetrabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Hexabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Pentabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Heptabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Octabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Nonabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Decabromobiphenyl | mg/kg | | n.d. | 5 | - |
| Sum of PBDEs | mg/kg | | n.d. | - | 1000 |
| Monobromodiphenyl ether | mg/kg | With reference to IEC62321, Ed1:2008. Analysis was performed by GC/MS | n.d. | 5 | - |
| Dibromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Tribromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Tetrabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Pentabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Hexabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Heptabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Octabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Nonabromodiphenyl ether | mg/kg | | n.d. | 5 | - |
| Decabromodiphenyl ether ## | mg/kg | | n.d. | 5 | - |

Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 | +65 6379 0111 | +65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 3 of 8)



Test Report

No: 10193333(4)

Date: 26-Apr-10

Page 3 of 8

Test Result(s):

Sample Description : EME-G600
 Type : Type
 Lot No. : 0032203
 Manufacturing Date : 3/17/10

| Test Item(s): | Unit | Method | Results | MDL |
|---|-------|--|---------|-----|
| Antimony (Sb) | mg/kg | With reference to US EPA3051A. 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.: 000335-67-1)* | mg/kg | With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS. | n.d. | 10 |
| Halogen | | | | |
| Halogen - Bromine (Br) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC | n.d. | 50 |
| Halogen - Chlorine (Cl) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC | n.d. | 50 |
| Halogen - Fluorine (F) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC | n.d. | 50 |
| Halogen - Iodine (I) | mg/kg | With reference to BS EN 14582. Analysis was performed by IC | n.d. | 50 |

Note: (1) mg/kg = ppm ; 0.1wt% = 1000ppm
 (2) n.d.= Not Detected
 (3) MDL = Method Detection Limit

Remarks: Sample received was totally dissolved by pre-conditioning method.

Lab Analyst(s): Jenny

* Tested by SGS Lab (Ref: CE/2010/43692)

PFOS Reference Information : Directive 2006/122/EC

- (1) 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) 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.

Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07, Singapore 139944 t: +65 6379 0111 f: +65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 4 of 8)**SGS****Test Report**

No: 10193333(4)

Date: 26-Apr-10

Page 4 of 8

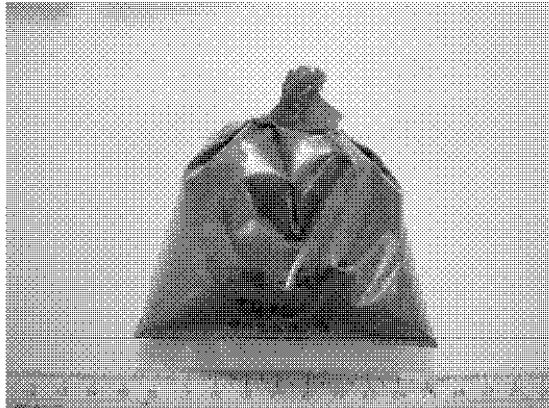
- Note:
- (1) mg/kg = ppm ; 0.1wt% = 1000ppm
 - (2) n.d.= Not Detected
 - (3) MDL = Method Detection Limit
 - (4) ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE will be included in the sum of PBDE after 01.07.2008.
 - (5) "-" = Not regulated
 - (6) * : Exceeds limit

Remarks: Sample received was totally dissolved by preconditioning method.
Lab Analyst(s): Jay, Ruihan and Jojo

Sample photo:

Sample Description : EME-G600
Type : Type
Lot No. : 0032203
Manufacturing Date : 3/17/10
Sample Submission Qty : 50gm

SGS authenticate the photo on original report only



Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 t +65 6379 0111 f+65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 5 of 8)



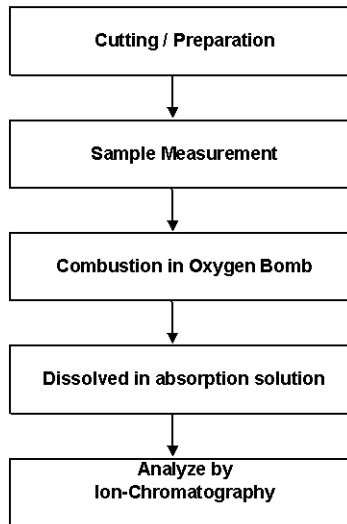
Test Report

No: 10193333(4)

Date: 26-Apr-10

Page 5 of 8

Process Flow of BS EN 14582 (Halogen Analysis)



Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 t +65 6379 0111 f+65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 6 of 8)



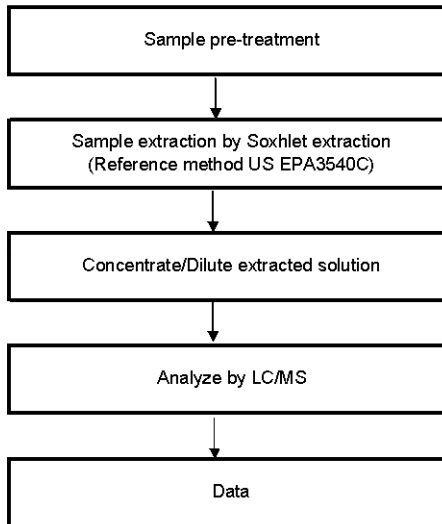
Test Report

No: 10193333(4)

Date: 26-Apr-10

Page 6 of 8

Process Flow of PFOS/PFOA



Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 t +65 6379 0111 f+65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 7 of 8)



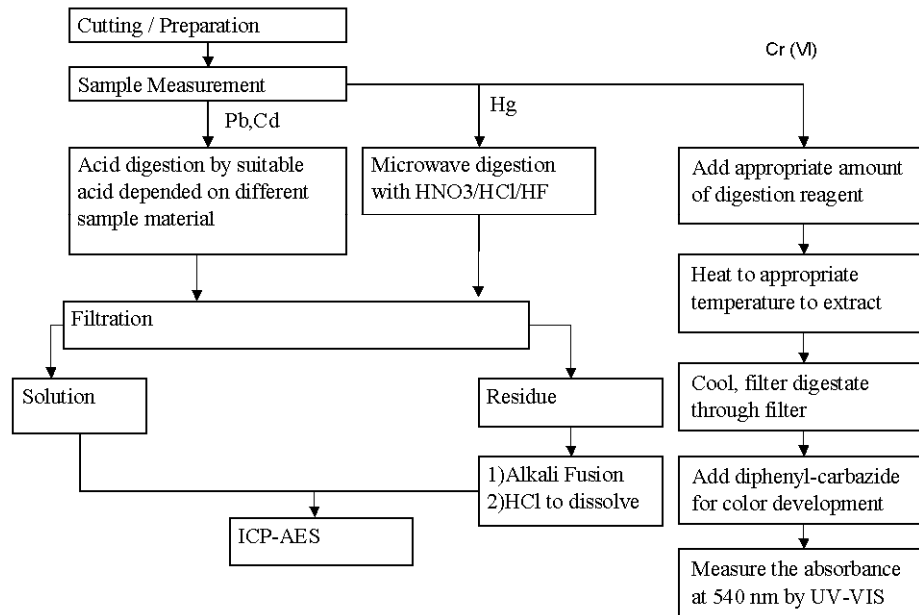
Test Report

No: 10193333(4)

Date: 26-Apr-10

Page 7 of 8

Process Flow of IEC 62321 (Pb, Cd, Hg & Cr⁶⁺)



Remarks: Sample received was totally dissolved by preconditioning method. (CrVI method excluded)

Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 t +65 6379 0111 f+65 6777 2914 www.sgs.com

Member of SGS Group

Annex 2: Analysis Result of Molding Compound (Page 8 of 8)



Test Report

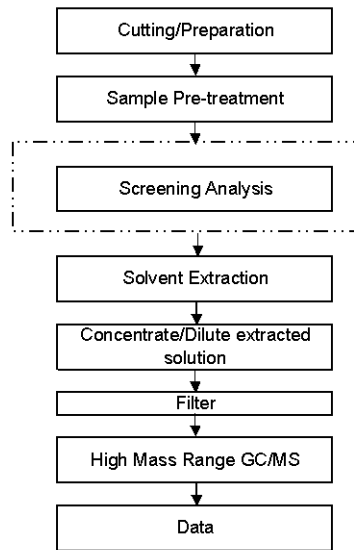
No: 10193333(4)

Date: 26-Apr-10

Page 8 of 8

Process Flow of PBBs and PBDEs by GC/MS (IEC 62321)

First Testing Process → Optional screen process Confirmation process ...→



End of Report

Test Location: 26 Ayer Rajah Crescent, #07-08, Singapore 139944

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. This document cannot be reproduced except in full, without prior approval of the Company.

SGS Testing & Control Services Singapore Pte Ltd

26 Ayer Rajah Crescent #03-07 Singapore 139944 t +65 6379 0111 f+65 6777 2914 www.sgs.com

Member of SGS Group

Annex 3: Analysis Result of Die-Attach Material (Page 1 of 26)



Validity unknown
For Question
Please Contact with SGS
www.tw.sgs.com

Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 1 of 26

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. : 84-1LMISR4
Sample Receiving Date : 2010/11/11
Testing Period : 2010/11/11 TO 2010/11/15

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


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory -- Taipei

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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t+ 886 (0)212299 3279 f+ 886 (0)212299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result of Die-Attach Material (Page 2 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 2 of 26

HENKEL CORPORATION

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



Test Result(s)

PART NAME No.1 : GRAY PASTE

| 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) by alkaline extraction | mg/kg | With reference to IEC 62321: 2008 and performed by UV-VIS. | 2 | n.d. |
| Beryllium (Be) | mg/kg | With reference to US EPA Method 3050B for Beryllium Content. Analysis was performed by ICP-AES. | 2 | n.d. |
| Antimony (Sb) | mg/kg | With reference to US EPA Method 3052 for Antimony Content. Analysis was performed by ICP-AES. | 2 | n.d. |
| Polychlorinated Biphenyls (PCBs) (CAS No.: 001336-36-3) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 0.5 | n.d. |
| Polychlorinated Naphthalene (PCNs) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 5 | n.d. |
| Polychlorinated Terphenyls (PCTs) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 0.5 | n.d. |
| Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 085535-84-8) | % | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 0.01 | n.d. |
| PVC | ** | Analysis was performed by FTIR and FLAME Test. | - | Negative |
| Sulfur Hexafluoride (SF6) (CAS No.: 002551-62-4) | mg/kg | 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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可節錄複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t+ 886 (0)22299 3279 f+ 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result of Die-Attach Material (Page 3 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 3 of 26

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



| Test Item (s): | Unit | Method | MDL | Result |
|---|-------|--|------|----------|
| | | | | No.1 |
| Perfluorooctane sulfonates (PFOS) PFOS – Acid PFOS – Metal Salt PFOS – Amide | mg/kg | With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS. | 10 | n.d. |
| PFOA (CAS No.: 000335-67-1) | mg/kg | With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS. | 10 | n.d. |
| 2-(3,5-di-tert-butyl-2-hydroxyphenyl)-2H-benzotriazole (CAS No.: 003846-71-7) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 5 | n.d. |
| Bromomethane (CAS No.: 000074-83-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Bromochloromethane (CAS No.: 000074-97-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Asbestos | | | | |
| Actinolite (CAS No.: 077536-66-4) | % | With reference to NIOSH 9000 method. Analysis was performed by XRD. | 1 | Negative |
| Amosite (CAS No.: 012172-73-5) | | | 1 | Negative |
| Anthophyllite (CAS No.: 077536-67-5) | | | 1 | Negative |
| Chrysotile (CAS No.: 012001-29-5) | | | 1 | Negative |
| Crocidolite (CAS No.: 012001-28-4) | | | 1 | Negative |
| Tremolite (CAS No.: 077536-68-6) | | | 1 | Negative |
| Halogen | | | | |
| Halogen-Fluorine (F) (CAS No.: 014762-94-8) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | 50 | n.d. |
| Halogen-Chlorine (Cl) (CAS No.: 022537-15-1) | | | 50 | 173 |
| Halogen-Bromine (Br) (CAS No.: 010097-32-2) | | | 50 | n.d. |
| Halogen-Iodine (I) (CAS No.: 014362-44-8) | | | 50 | n.d. |
| Organic-tin compounds | | | | |
| Tributyl Tin (TBT) (CAS No.: 000688-73-3) | mg/kg | With reference to DIN 38407-13. Analysis was performed by GC/FPD. | 0.03 | n.d. |
| Triphenyl Tin (TphT) (CAS No.: 000688-34-8) | mg/kg | With reference to DIN 38407-13. Analysis was performed by GC/FPD. | 0.03 | 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. 除非另有說明，此報告僅對測試樣品負責。本報告未經本公司書面許可，不可部分複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五權區五權路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 4 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 4 of 26

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

| Test Item (s): | Unit | Method | MDL | Result No.1 |
|---|-------|---|-----|-------------|
| Tributyl Tin Oxide (TBTO)*** (CAS No.: 000056-35-9) | mg/kg | With reference to DIN 38407-13. Analysis was performed by GC/FPD. | - | n.d. |
| Sum of PBBs | | | - | n.d. |
| Monobromobiphenyl | | | 5 | n.d. |
| Dibromobiphenyl | | | 5 | n.d. |
| Tribromobiphenyl | | | 5 | n.d. |
| Tetrabromobiphenyl | | | 5 | n.d. |
| Pentabromobiphenyl | | | 5 | n.d. |
| Hexabromobiphenyl | | | 5 | n.d. |
| Heptabromobiphenyl | | | 5 | n.d. |
| Octabromobiphenyl | | | 5 | n.d. |
| Nonabromobiphenyl | | | 5 | n.d. |
| Decabromobiphenyl | | | 5 | n.d. |
| Sum of PBDEs | | | - | n.d. |
| Monobromodiphenyl ether | mg/kg | With reference to IEC 62321: 2008 and performed by GC/MS. | 5 | n.d. |
| Dibromodiphenyl ether | | | 5 | n.d. |
| Tribromodiphenyl ether | | | 5 | n.d. |
| Tetrabromodiphenyl ether | | | 5 | n.d. |
| Pentabromodiphenyl ether | | | 5 | n.d. |
| Hexabromodiphenyl ether | | | 5 | n.d. |
| Heptabromodiphenyl ether | | | 5 | n.d. |
| Octabromodiphenyl ether | | | 5 | n.d. |
| Nonabromodiphenyl ether | | | 5 | n.d. |
| Decabromodiphenyl ether | | | 5 | n.d. |
| AZO | | | | |
| 1): 4-AMINODIPHENYL (CAS No.: 000092-67-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 2): BENZIDINE (CAS No.: 00092-87-5) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 3): 4-CHLORO-O-TOLUIDINE (CAS No.: 000095-69-2) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 4): 2-NAPHTHYLAMINE (CAS No.: 000091-59-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 5): O-AMINOAZOTOLUENE (CAS No.: 000097-56-3) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | 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. 除非另有說明，此報告僅與測試的樣品負責。本報告未經本公司書面許可，不可部份複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五權區五權路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 | www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 5 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 5 of 26

HENKEL CORPORATION

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



| Test Item (s): | Unit | Method | MDL | Result |
|---|-------|--|-----|--------|
| | | | | No.1 |
| 6): 2-AMINO-4-NITROTOLUENE (CAS No.: 000099-55-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 7): P-CHLOROANILINE (CAS No.: 000106-47-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 8): 2,4-DIAMINOANISOLE (CAS No.: 000615-05-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 9): 4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 000101-77-9) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 10): 3,3'-DICHLOROBENZIDINE (CAS No.: 000091-94-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 11): 3,3'-DIMETHOXYBENZIDINE (CAS No.: 000119-90-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 12): 3,3'-DIMETHYLBENZIDINE (CAS No.: 000119-93-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 13): 3,3'-DIMETHYL-4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 000838-88-0) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 14): P-CRESIDINE (2-METHOXY-5-METHYLANILINE) (CAS No.: 000120-71-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 15): 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) (CAS No.: 000101-14-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 16): 4,4'-OXYDIANILINE (CAS No.: 000101-80-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 17): 4,4'-THIODIANILINE (CAS No.: 000139-65-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 18): O-TOLUIDINE (CAS No.: 000095-53-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 19): 2,4-TOLUYLENEDIAMINE (CAS No.: 000095-80-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 20): 2,4,5-TRIMETHYLANILINE (CAS No.: 000137-17-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 21): O-ANISIDINE (CAS No.: 000090-04-0) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | 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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 6 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 6 of 26

HENKEL CORPORATION

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



| Test Item (s): | Unit | Method | MDL | Result |
|---|-------|--|-----|--------|
| | | | | No.1 |
| 22): P-AMINOAZOBENZENE (CAS No.: 000060-09-3) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 23): 2,4-XYLIDINE (CAS No.: 000095-68-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| 24): 2,6-XYLIDINE (CAS No.: 000087-62-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. |
| CFC's (Chlorofluorocarbons) | | | | |
| Group I | | | | |
| Chlorofluorocarbon-11 (CAS No.: 000075-69-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-12 (CAS No.: 000075-71-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-113 (CAS No.: 000076-13-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-114 (CAS No.: 000076-14-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-115 (CAS No.: 000076-15-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Group III | | | | |
| Chlorofluorocarbon-13 (CAS No.: 000075-72-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-111 (CAS No.: 000354-56-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-112 (CAS No.: 000076-12-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-211 (CAS No.: 000422-78-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-212 (CAS No.: 003182-26-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-213 (CAS No.: 002354-06-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-214 (CAS No.: 029255-31-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-215 (CAS No.: 004259-43-2) | mg/kg | 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. 除非另有說明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 7 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 7 of 26

HENKEL CORPORATION

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



| Test Item (s): | Unit | Method | MDL | Result |
|---|-------|--|-----|--------|
| | | | | No.1 |
| Chlorofluorocarbon-216 (CAS No.: 000661-97-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chlorofluorocarbon-217 (CAS No.: 000422-86-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFCs (Hydrochlorofluorocarbons) | | | | |
| HCFC-21 (CAS No.: 000075-43-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-22 (CAS No.: 000075-45-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-31 (CAS No.: 000593-70-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-121 (CAS No.: 000354-14-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-122 (CAS No.: 000354-21-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-123 (CAS No.: 000306-83-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-124 (CAS No.: 002837-89-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-131 (CAS No.: 000359-28-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-132b (CAS No.: 001649-08-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-133a (CAS No.: 000075-88-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-141b (CAS No.: 001717-00-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-142b (CAS No.: 000075-68-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-221 (CAS No.: 000422-26-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-222 (CAS No.: 000422-49-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-223 (CAS No.: 000422-52-6) | mg/kg | 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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 8 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 8 of 26

HENKEL CORPORATION

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



| Test Item (s): | Unit | Method | MDL | Result |
|-----------------------------------|-------|--|-----|--------|
| | | | | No.1 |
| HCFC-224 (CAS No.: 000422-54-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-225ca (CAS No.: 000422-56-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-225cb (CAS No.: 000507-55-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-226 (CAS No.: 000431-87-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-231 (CAS No.: 000421-94-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-232 (CAS No.: 000460-89-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-233 (CAS No.: 007125-84-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-234 (CAS No.: 000425-94-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-235 (CAS No.: 000460-92-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-241 (CAS No.: 000666-27-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-242 (CAS No.: 000460-63-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-243 (CAS No.: 000460-69-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-244 | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-251 (CAS No.: 000421-41-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-252 (CAS No.: 000819-00-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-253 (CAS No.: 000460-35-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-261 (CAS No.: 000420-97-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HCFC-262 (CAS No.: 000421-02-03) | mg/kg | 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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 9 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 9 of 26

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



| Test Item (s): | Unit | Method | MDL | Result |
|--|-------|---|-----|--------|
| | | | | No.1 |
| HCFC-271 (CAS No.: 000430-55-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Halons | | | | |
| Halon-1211 (CAS No.: 000353-59-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Halon-1301 (CAS No.: 000075-63-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Halon-2402 (CAS No.: 000124-73-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFCs (Hydrobromofluorocarbons) | | | | |
| HBFC-21B2 (CHFBr2) (CAS No.: 001868-53-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-22B1 (CHF2Br) (CAS No.: 001511-62-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-31B1 (CH2FBr) (CAS No.: 000373-52-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-121B4 (C2HFBr4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-122B3 (C2HF2Br3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-123B2 (C2HF3Br2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-124B1 (C2HF4Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-131B3 (C2H2FBr3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-132B2 (C2H2F2Br2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-133B1 (C2H2F3Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-141B2 (C2H3FBr2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-142B1 (C2H3F2Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-151B1 (C2H4FBr) | mg/kg | 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. 除非另有說明，此報告結果僅針對該樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 | www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 10 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 10 of 26

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



| Test Item (s): | Unit | Method | MDL | Result |
|------------------------|-------|--|-----|--------|
| | | | | No.1 |
| HBFC-221B6 (C3HFBr6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-222B5 (C3HF2Br5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-223B4 (C3HF3Br4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-224B3 (C3HF4Br3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-225B2 (C3HF5Br2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-226B1 (C3HF6Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-231B5 (C3H2FBr5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-232B4 (C3H2F2Br4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-233B3 (C3H2F3Br3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-234B2 (C3H2F4Br2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-235B1 (C3H2F5Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-241B4 (C3H3FBr4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-242B3 (C3H3F2Br3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-243B2 (C3H3F3Br2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-244B1 (C3H3F4Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-251B3 (C3H4FBr3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-252B2 (C3H4F2Br2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-253B1 (C3H4F3Br) | mg/kg | 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. 除非另有說明，此報告結果僅針對該樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 11 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 11 of 26

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



| Test Item (s): | Unit | Method | MDL | Result |
|--|-------|--|-----|--------|
| | | | | No.1 |
| HBFC-261B2 (C3H5FBr2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-262B1 (C3H5F2Br) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HBFC-271B1 (C3H6FBr) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFCs (Hydrofluorocarbon) | | | | |
| HFC-23 (CHF3)(CAS No.: 000075-46-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-32 (CH2F2)(CAS No.: 000075-10-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-41 (CH3F)(CAS No.: 000593-53-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-43-10mee (C5H2F10) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-125 (C2HF5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-134 (C2H2F4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-134a (CH2FCF3)(CAS No.: 000811-97-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-143 (CH3F3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-143a (CH3F3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-152a (C2H4F2)(CAS No.: 000075-37-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-227ea (C3HF7)(CAS No.: 000431-89-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-236fa (C3H2F6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-236ea (C3H2F6)(CAS No.: 000431-63-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-245ca (C3H3F5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| HFC-245fa (C3H3F5) | mg/kg | 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. 除非另有說明，此報告結果僅針對該樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 12 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 12 of 26

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



| Test Item (s): | Unit | Method | MDL | Result |
|--|-------|--|-----|--------|
| | | | | No.1 |
| HFC-365mfc (C4H5F5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| PFCs (Perfluorocarbon) | | | | |
| F14 (CAS No.: 000075-73-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Fluorocarbon 116 (CAS No.: 000076-16-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Freon 218 (CAS No.: 000076-19-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Decafluorobutane (CAS No.: 000355-25-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Freon C318 (CAS No.: 000115-25-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Perfluor-1-butene (CAS No.: 000357-26-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| perfluorisobutene (CAS No.: 000382-21-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,4-dihydrooctafluorobutane (CAS No.: 000377-36-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Nonafluor-2- (trifluoromethyl) butane (CAS No.: 000594-91-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Perfluoro-n-pentane (CAS No.: 000678-26-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 2-perfluoromethylpentane (CAS No.: 000355-04-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Perfluorohexane (CAS No.: 000355-42-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| CHCs (Chlorinate hydrocarbon) | | | | |
| 1,1,1,2-Tetrachloroethane (CAS No.: 000630-20-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,1,1-Trichloroethane (CAS No.: 000071-55-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,1,2,2-Tetrachloroethane (CAS No.: 000079-34-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,1,2-Trichloroethane (CAS No.: 000079-00-5) | mg/kg | 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. 除非另有說明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司
 Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 13 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 13 of 26

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



| Test Item (s): | Unit | Method | MDL | Result |
|---|-------|--|-----|--------|
| | | | | No.1 |
| 1,1-Dichloroethane (CAS No.: 000075-34-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,1-Dichloroethene (CAS No.: 000075-35-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,1-Dichloropropene (CAS No.: 000563-58-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,2,3-Trichloropropane (CAS No.: 000096-18-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,2-Dichloroethane (CAS No.: 000107-06-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,2-Dichloropropane (CAS No.: 000078-87-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 1,3-Dichloropropane (CAS No.: 000142-28-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| 2,2-Dichloropropane (CAS No.: 000594-20-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Carbon tetrachloride (CAS No.: 000056-23-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chloroethane (CAS No.: 000075-00-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chloroform (CAS No.: 000067-66-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Chloromethane (CAS No.: 000074-87-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| cis-1,2-Dichloroethene (CAS No.: 000156-59-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| cis-1,3-Dichloropropene (CAS No.: 010061-01-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Hexachlorobutadiene (CAS No.: 000087-68-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Methylene Chloride (CAS No.: 000075-09-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Tetrachloroethene (CAS No.: 000127-18-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| trans-1,2-Dichloroethene (CAS No.: 000156-60-5) | mg/kg | 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. 除非另有說明，此報告僅針對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 | t+ 886 (0)212299 3279 f+ 886 (0)212299 3237 | www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 14 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 14 of 26

HENKEL CORPORATION

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



| Test Item (s): | Unit | Method | MDL | Result |
|--|-------|--|-----|--------|
| | | | | No.1 |
| trans-1,3-Dichloropropene (CAS No.: 010061-02-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |
| Trichloroethylene (CAS No.: 000079-01-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. |

Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated
5. ** = Qualitative analysis (No Unit)
6. Negative = Undetectable / Positive = Detectable
7. Asbestos : Negative = "< 1.0 %", Positive = "> 1.0 %"
8. ***: The substance was calculated by the test results of Tributyl Tin. The MDL was evaluated for Tributyl Tin.

PFOS Reference Information : Directive 2006/122/EC

- (1) 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) 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.

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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 15 of 26)



Test Report

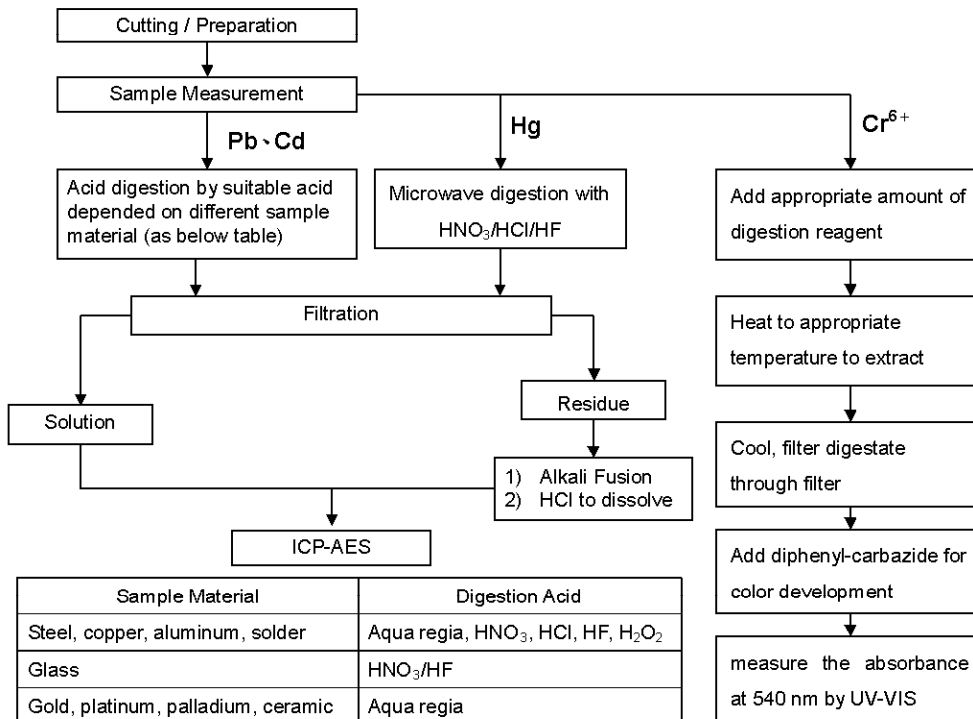
No. : CE/2010/B2266 Date : 2010/11/15 Page : 15 of 26

HENKEL CORPORATION

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



- 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



| Sample Material | Digestion Acid |
|------------------------------------|---|
| Steel, copper, aluminum, solder | Aqua regia, HNO ₃ , HCl, 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 , HCl |
| Others | Any acid to total digestion |

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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 16 of 26)



Test Report

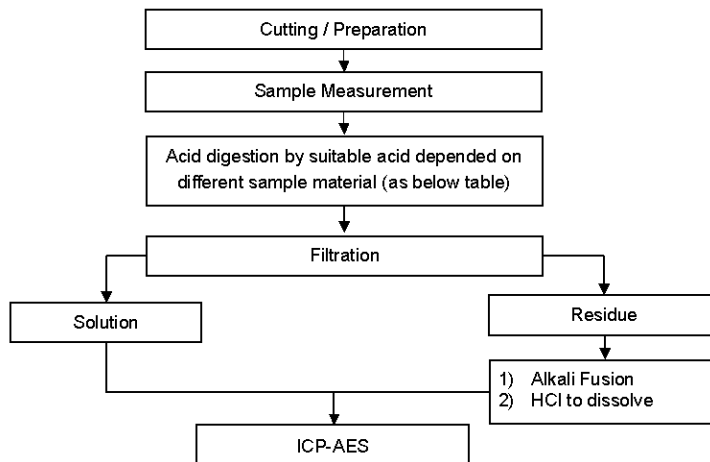
No. : CE/2010/B2266 Date : 2010/11/15 Page : 16 of 26

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



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

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



| | |
|------------------------------------|---|
| Steel, copper, aluminum, solder | Aqua regia, HNO ₃ , HCl, 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 , HCl |
| Others | Any acid to total digestion |

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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 17 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 17 of 26

HENKEL CORPORATION

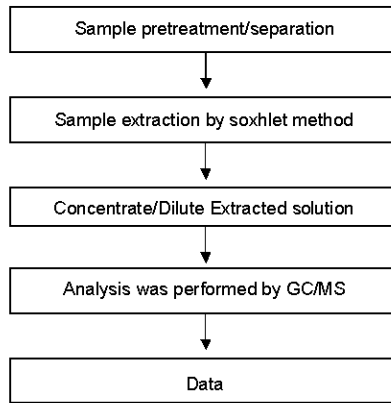
HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA, 92606 U.S.A



Analytical flow chart of Soxhlet extraction (GC/MS) procedure

- 1) Name of the person who made measurement: Lydia Fu
- 2) Name of the person in charge of measurement: Shinjyh Chen

■ Test Items: Phthalate、Benzotriazole、HBCDD、NP、DBBT、
Organic phosphorus compounds



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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 18 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 18 of 26

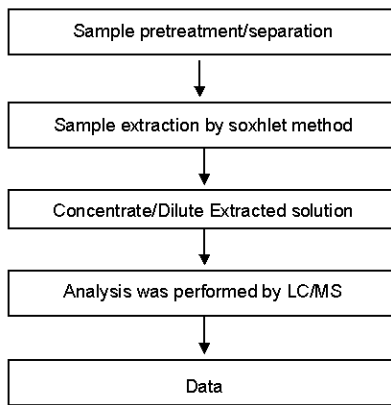
HENKEL CORPORATION
HENKEL ADHESIVES-ELECTRONICS MAIN OFFICE: 14000 JAMBOREE ROAD, IRVINE, CALIFORNIA,
92606 U.S.A



Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 1) Name of the person who made measurement: Lydia Fu
- 2) Name of the person in charge of measurement: Shinjyh Chen

■ Test Items: PFOS/PFOA、Benzotriazole



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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 19 of 26)



Test Report

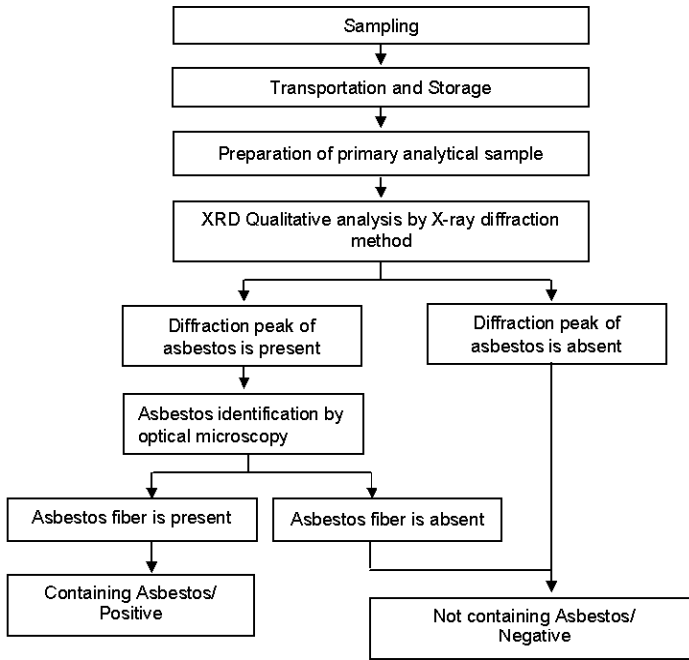
No. : CE/2010/B2266 Date : 2010/11/15 Page : 19 of 26

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



Analysis flow chart for determination of Asbestos

- 1) Name of the person who made measurement: Victor Kao
- 2) Name of the person in charge of measurement: Wendy Wei



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. 除非另有說明，此報告結果僅針對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 | t + 886 (0)212299 3279 f + 886 (0)212299 3237 | www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 20 of 26)



Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 20 of 26

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

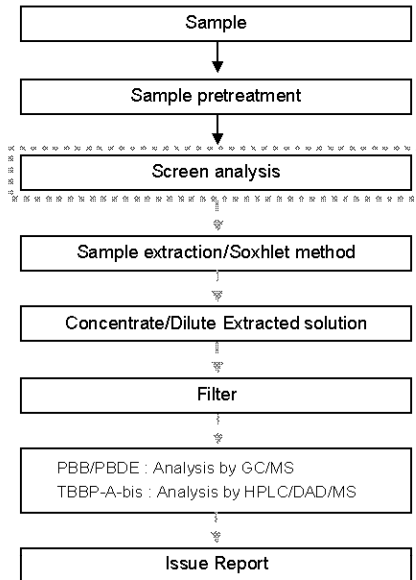


Analytical flow chart

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

■ Test Items: PBB/PBDE, TBBP-A-bis

First testing process → Optional screen process Confirmation process ⇐ ⇐ ⇐



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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
 台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 21 of 26)



Test Report

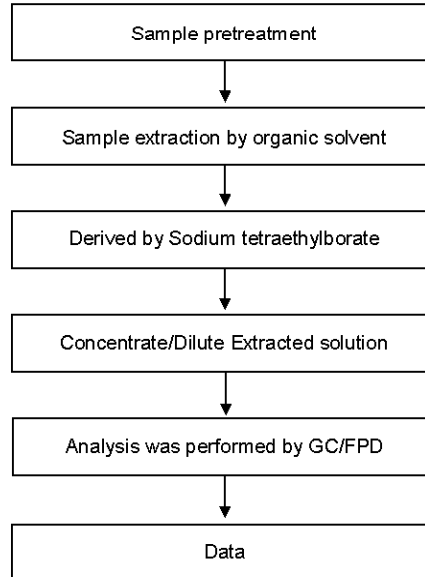
No. : CE/2010/B2266 Date : 2010/11/15 Page : 21 of 26

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



Analytical flow chart of Organic-Tin content

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



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. 除非另有說明，此報告結果僅針對該部樣品負責。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)212299 3279 f + 886 (0)212299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 22 of 26)



Test Report

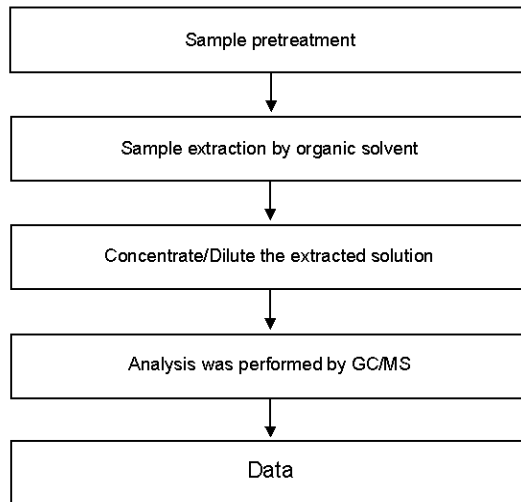
No. : CE/2010/B2266 Date : 2010/11/15 Page : 22 of 26

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



Chlorinated Flame retardant analytical flow chart

- 1) Name of the person who made measurement: Barry Tseng
- 2) Name of the person in charge of measurement: Troy Chang
- Reference method: US EPA 8270D, US EPA 3540
- Test Items: PCBs, PCNs, PCTs, Mirex, CP, MCCC



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. 除非另有說明，此報告結果僅針對該份樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)2)299 3279 f + 886 (0)2)299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 23 of 26)



Test Report

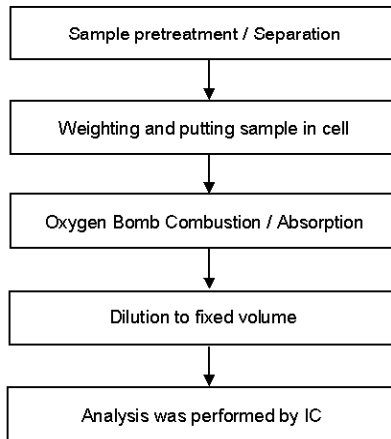
No. : CE/2010/B2266 Date : 2010/11/15 Page : 23 of 26

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



Analytical flow chart of halogen content

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



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. 除非另有說明，此報告結果僅針對該部樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)2)299 3279 f + 886 (0)2)299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 24 of 26)



Test Report

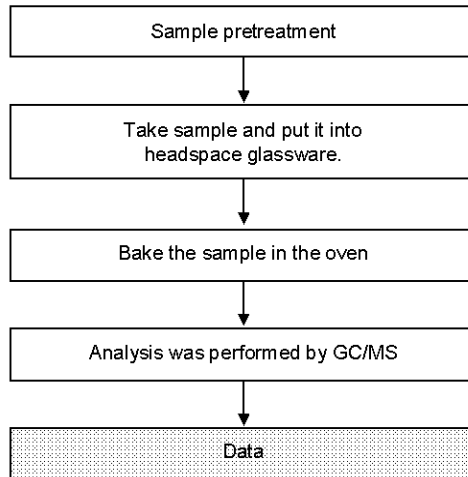
No. : CE/2010/B2266 Date : 2010/11/15 Page : 24 of 26

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



Analytical flow chart of volatile organic compounds (VOCs)

- 1) Reference method : US EPA 5021
- 2) Name of the person who made measurement : Dalki Yen
- 3) Name of the person in charge of measurement : Shinjyh Chen



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. 除非另有說明，此報告結果僅針對該部樣品負責。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipci 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)2)299 3279 f + 886 (0)2)299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 25 of 26)



Test Report

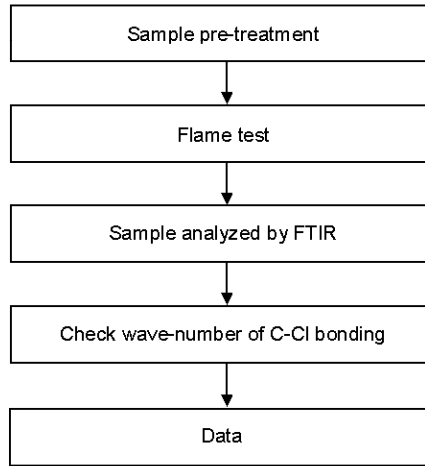
No. : CE/2010/B2266 Date : 2010/11/15 Page : 25 of 26

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



Analysis flow chart for determination of PVC in material

- 1) Name of the person who made measurement: Eva Chao
- 2) Name of the person in charge of measurement: Shinjyh Chen



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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 3: Analysis Result Die-Attach Material (Page 26 of 26)

SGS

Test Report

No. : CE/2010/B2266 Date : 2010/11/15 Page : 26 of 26

HENKEL CORPORATION

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



** End of Report **

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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可隨意複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 4: Analysis Result of Die-bonding Wire (Page 1 of 12)



Validity unknown
For Question
Please Contact With SGS
www.tw.sgs.com

Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 1 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



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

| | | |
|-----------------------|---|---------------------------------|
| Sample Description | : | Cu BONDING WIRE |
| Style/Item No. | : | iCu, DHF, MaxSoft and MaxSoftLD |
| Color | : | COPPER |
| Sample Receiving Date | : | 2010/08/13 |
| Testing Period | : | 2010/08/13 TO 2010/08/31 |

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

Ray Chang

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

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.
 除非另有說明，此報告結果僅針對所測之樣品負責。未經本公司書面許可，不可部分複製。
 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm.
 Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新橋加工出口區碩泰路16號
 台灣檢驗科技股份有限公司 t + 886 (07)301 2121 f + 886 (07)3010867 www.tw.sgs.com
 Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 2 of 12)



Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 2 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



Test Result(s)

PART NAME NO.1 : Cu BONDING WIRE

| 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) by Spot test / boiling water extraction | ** | With reference to IEC 62321: 2008 and performed by Spot test / boiling water extraction Method. (See Note 5) | 0.02mg/kg with 50 cm ² surface area | Negative |
| Hexavalent Chromium Cr(VI) | mg/kg | With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV-Vis Spectrometry. | 2 | n.d. |
| Antimony (Sb) | mg/kg | With reference to US EPA Method 3052 for Antimony Content. Analysis was performed by ICP-AES. | 2 | n.d. |
| Perfluorooctane sulfonates (PFOS) PFOS – Acid PFOS – Metal Salt PFOS – Amide | mg/kg | With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS. | 10 | n.d. |
| PFOA (CAS No.: 000335-67-1) | mg/kg | With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS. | 10 | 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. 除非另有說明，此報告結果僅針對所測之樣品負責。未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠梓加工出口區楠梓路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867 www.taiwan.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 3 of 12)



Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 3 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



| Test Item (s): | Unit | Method | MDL | Result | | |
|--|-------|---|-------|---|----|------|
| | | | | No.1 | | |
| Sum of PBBs | | | - | n.d. | | |
| Monobromobiphenyl | mg/kg | With reference to IEC 62321: 2008 and performed by GC/MS. | 5 | n.d. | | |
| Dibromobiphenyl | | | 5 | n.d. | | |
| Tribromobiphenyl | | | 5 | n.d. | | |
| Tetrabromobiphenyl | | | 5 | n.d. | | |
| Pentabromobiphenyl | | | 5 | n.d. | | |
| Hexabromobiphenyl | | | 5 | n.d. | | |
| Heptabromobiphenyl | | | 5 | n.d. | | |
| Octabromobiphenyl | | | 5 | n.d. | | |
| Nonabromobiphenyl | | | 5 | n.d. | | |
| Decabromobiphenyl | | | 5 | n.d. | | |
| Sum of PBDEs | | | | | - | n.d. |
| Monobromodiphenyl ether | | | mg/kg | With reference to IEC 62321: 2008 and performed by GC/MS. | 5 | n.d. |
| Dibromodiphenyl ether | 5 | n.d. | | | | |
| Tribromodiphenyl ether | 5 | n.d. | | | | |
| Tetrabromodiphenyl ether | 5 | n.d. | | | | |
| Pentabromodiphenyl ether | 5 | n.d. | | | | |
| Hexabromodiphenyl ether | 5 | n.d. | | | | |
| Heptabromodiphenyl ether | 5 | n.d. | | | | |
| Octabromodiphenyl ether | 5 | n.d. | | | | |
| Nonabromodiphenyl ether | 5 | n.d. | | | | |
| Decabromodiphenyl ether | 5 | n.d. | | | | |
| Halogen | | | | | | |
| Halogen-Fluorine (F) (CAS No.: 014762-94-8) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | | | 50 | n.d. |
| Halogen-Chlorine (Cl) (CAS No.: 022537-15-1) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | 50 | n.d. | | |
| Halogen-Bromine (Br) (CAS No.: 010097-32-2) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | 50 | n.d. | | |
| Halogen-Iodine (I) (CAS No.: 014362-44-8) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | 50 | 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. 除非另有說明，此報告結果僅針對所檢之樣品負責。本報告未經本公司審閱許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠廠路16號
t + 886 (07)301 2121 f + 886 (07)3010867

www.tw.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 4 of 12)



Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 4 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



| Test Item (s): | Unit | Method | MDL | Result |
|--|------|--|-------|--------|
| | | | | No.1 |
| Phthalates | | | | |
| BBP (Benzyl butyl phthalate) (CAS No.: 000085-68-7) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. |
| DBP (Dibutyl phthalate) (CAS No.: 000084-74-2) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. |
| DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 000117-81-7) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. |
| DIDP (Di-isodecyl phthalate) (CAS No.: 026761-40-0) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.01 | n.d. |
| DINP (Di-isononyl phthalate) (CAS No.: 028553-12-0) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.01 | n.d. |
| DNOP (Di-n-octyl phthalate) (CAS No.: 000117-84-0) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. |
| DNHP (Di-n-hexyl phthalate) (CAS No.: 000084-75-3) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. |
| DMEP (Bis (2-methoxyethyl) phthalate) (CAS No.: 000117-82-8) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. |

- Note : 1. mg/kg = ppm : 0.1wt% = 1000ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. " - " = Not Regulated
 5. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,
 Positive = Presence of Cr(VI) coating / surface layer;
 (The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.
 Positive = Presence of Cr(VI) coating / surface layer;
 the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

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. 除非另有說明，此報告結果僅針對所檢之樣品負責。未經本公司書面許可，不得部分複製。
 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
 台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄南梓加工出口區南梓路16號
 t+ 886 (07)301 2121 f+ 886 (07)3010867

www.taiwan.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 5 of 12)



Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 5 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



- 6. ** = Qualitative analysis (No Unit)
- 7. This is the additional test report of KA/2010/80970 which was issued on 2010/08/31.
Please refer to KA/2010/80970 for original information.

PFOS Reference Information : Directive 2006/122/EC

- (1) 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) 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 $1\mu\text{g}/\text{m}^2$ of the coated material.

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. 除非另有說明，此報告結果僅針對所檢之樣品負責。本報告未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠梓加工出口區楠梓路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867

www.tw.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 6 of 12)



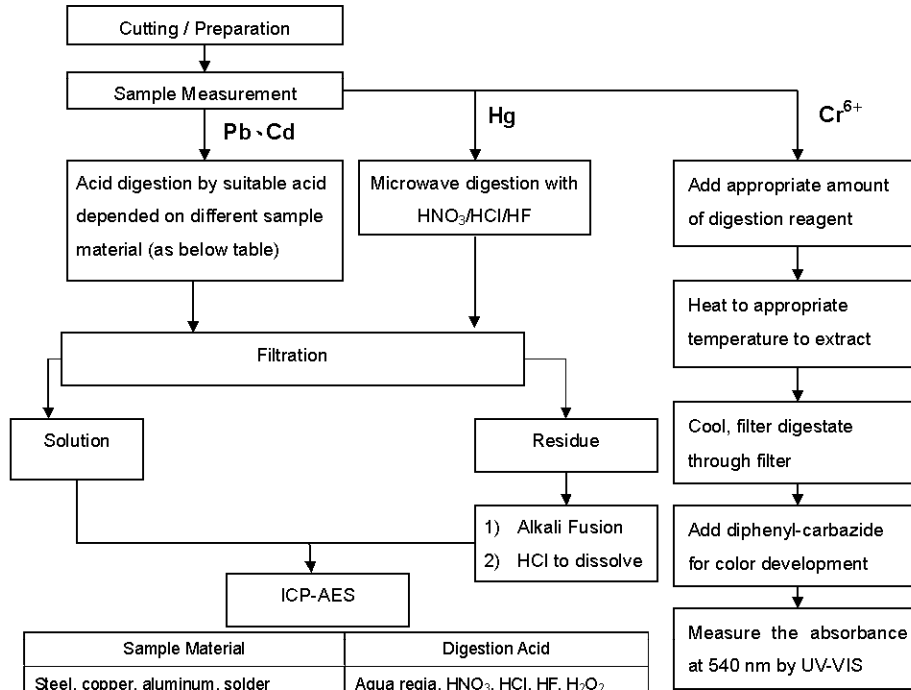
Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 6 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



- 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: Alex Chang
- 3) Name of the person in charge of measurement: Ray Chang



| Sample Material | Digestion Acid |
|------------------------------------|---|
| Steel, copper, aluminum, solder | Aqua regia, HNO ₃ , HCl, 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 , HCl |
| Others | Any acid to total digestion |

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. 除非另有說明，此報告結果僅針對所試之樣品負責。本報告未經本公司書面許可，不可部分複製。 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄南橋加工出口區開泰路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867 www.tw.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 7 of 12)



Test Report

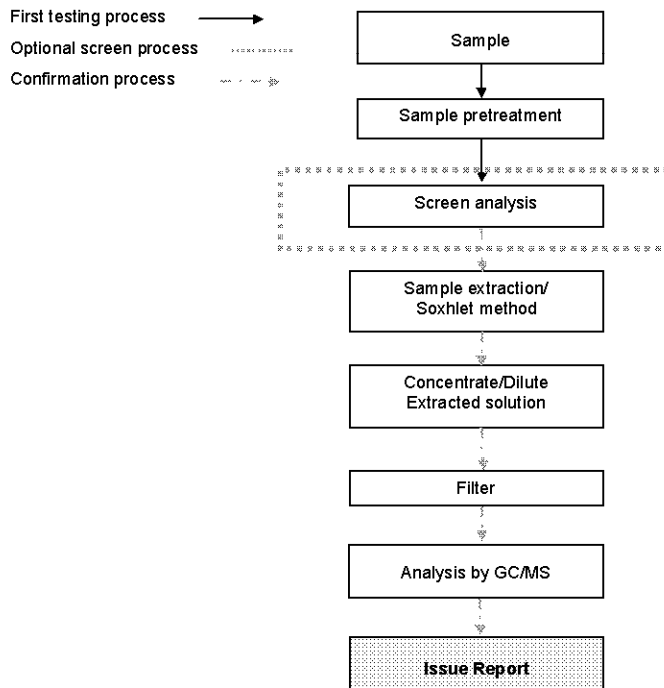
No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 7 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



PBB/PBDE analytical FLOW CHART

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



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. 除非另有說明，此報告結果僅針對所測之樣品負責。本報告未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠寮路16號
台灣檢驗科技股份有限公司 t+ 886 (07)301 2121 f+ 886 (07)3010867 www.tw.sgs.com
Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 8 of 12)



Test Report

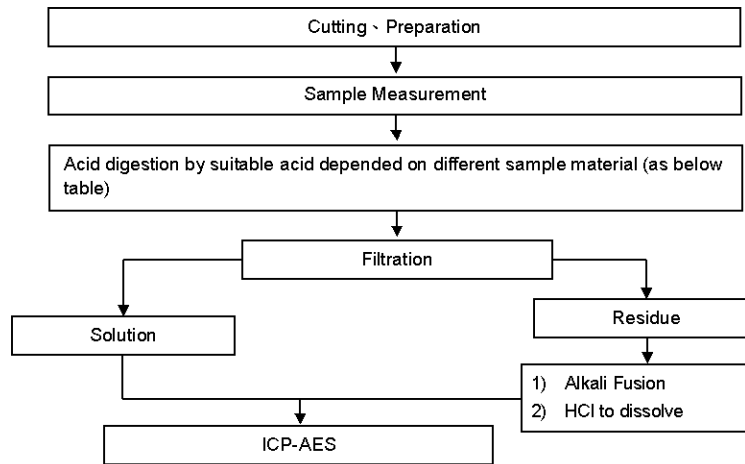
No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 8 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) Name of the person who made measurement: Alex Changi
- 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, aluminum, solder | Aqua regia, HNO ₃ , HCl, 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 , HCl |
| Others | Any acid to total digestion |

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. 除非另有說明，此報告結果僅針對所測之樣品負責。本報告未經本公司書面許可，不可部分複製。 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

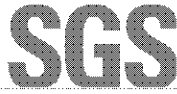
SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠寮路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867

www.tiv.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 9 of 12)



Test Report

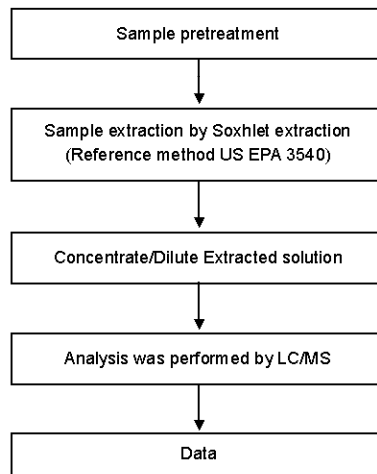
No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 9 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



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



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. 除非另有說明，此報告結果僅針對所測之樣品負責。本報告未經本公司書面許可，不可部分複製。 This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠梓路16號
t + 886 (07)301 2121 f + 886 (07)3010867

www.tw.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 10 of 12)



Test Report

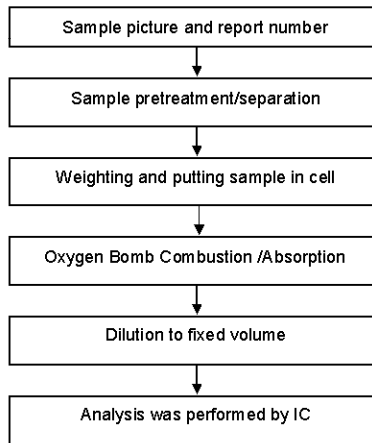
No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 10 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



Analytical flow chart of halogen content

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



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. 除非另有說明，此報告結果僅針對所測之樣品負責。本報告未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

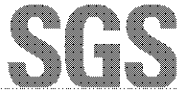
SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠寮路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867

www.tw.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 11 of 12)



Test Report

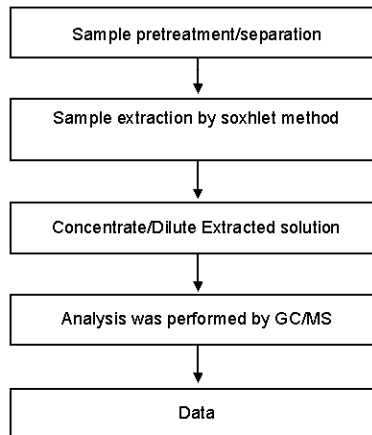
No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 11 of 12

HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



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



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. 除非另有說明，此報告結果僅針對所測之樣品負責。本報告未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠梓路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867

www.tw.sgs.com

Member of the SGS Group

Annex 4: Analysis Result of Die-bonding Wire (Page 12 of 12)



Test Report

No. : KA/2010/80970A-01 Date : 2010/08/31 Page : 12 of 12



HERAEUS MATERIALS SINGAPORE PTE LTD
BLK 5002 ANG MO KIO AVE 5, #04-05 TECHPLACE II, SINGAPORE 569871



** End of Report **

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. 除非另有說明，此報告結果僅針對所試之樣品負責。本報告未經本公司書面許可，不可部分複製。
This Test Report is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this Test Report is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司

No. 16, Kai-Fa Road, Nanzih Export Processing Zone, Kaohsiung, Taiwan / 高雄新楠加工出口區楠梓路16號
t+ 886 (07)301 2121 f+ 886 (07)3010867 www.tw.sgs.com

Member of the SGS Group

Annex 5: Analysis Result of Lead Frame (page 1 of 8)



TEST REPORT

Applicant : POONGSAN MICROTEC CORP.
Address : #52, Banyeo-1 dong, Haeundae-gu,
Busan, Korea

Page: 1 of 8

Report No. RT10R-U2028-003-E

Date: Oct. 26, 2010

Sample Description : The following submitted sample(s) said to be:-

Name/Type of Product : Lead Frame
Name of Material : Cu Alloy-PMC90
Sample ID No. : RT10R-U2028-003
Manufacturer/Vender : POONGSAN MICROTEC CORP.

Sample received : Oct. 19, 2010
Testing Date : Oct. 19, 2010 ~ Oct. 26, 2010
Testing Environment : Temperature : (24 ± 2) °C, Humidity: (60 ± 5) % R.H.

Test Method(s) : Please see the following page(s).

Test Result(s) : Please see the following page(s).

* Note 1 : The test results presented in this report relate only to the object tested.

* Note 2 : This report shall not be reproduced except in full without the written approval of the testing laboratory.

Approved by,



E.Y. Lee / Lab. Technical Manager

Authorized by,



H.W. Yoo / Lab. General Manager

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9590 Fax : 02-3409-0026 Daegu Office : Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr
Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seungdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsan-Gun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 2 of 8)



TEST REPORT

Page: 2 of 8

Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame

| Test Item | Unit | Test Method | MDL | Result |
|--|-------|--|--|----------|
| Cadmium (Cd) | mg/kg | With reference to IEC 62321 Edition 1.0:2008, by add digestion and determined by ICP-OES | 0.5 | N.D. |
| Lead (Pb) | mg/kg | | 5 | 16 |
| Mercury (Hg) | mg/kg | | 2 | N.D. |
| Hexavalent Chromium (Cr ⁶⁺) (For metal) | - | With reference to IEC 62321 Edition 1.0:2008, by Spot test | Threshold of 1 mg/kg | Negative |
| Hexavalent Chromium (Cr ⁶⁺) (For metal) | - | With reference to IEC 62321 Edition 1.0:2008, by boiling water extraction and determined by UV-VIS Spectrophotometer | Threshold of 0.02 mg/kg with 50cm ² | Negative |

Tested by : YK Cho, HS Kim

Notes : mg/kg = ppm = parts per million

mg/kg with 50 cm² = milligram per kilogram with 50 square centimeter

<= Less than

N.D. = Not detected (<MDL)

MDL = Method detection limit

Positive = A positive test result indicated the presence of Cr(VI) at the time of testing, equal to or greater than threshold of 1 mg/kg for spot test procedures or 0.02 mg/kg for boiling water extraction procedures with a sample surface area of 50cm² used. However, it shall not be interpreted as the Cr(VI) concentration in the coating layer of the sample and should not be used as a method detection limit for this qualitative test.

Negative = A negative test result indicates above positive observation was not found at the time of testing. When the spot test showed a negative result, the boiling water extraction procedure shall be used to verify the result.

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0026 Daegu Office : Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr

Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea

Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsan-Gun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 3 of 8)



TEST REPORT

Page: 3 of 8

Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame

| Test Item | Unit | Test Method | MDL | Result |
|--|-------|--|-----|--------|
| Polybrominated Biphenyl (PBBs) | | | | |
| Monobromobiphenyl | mg/kg | With reference to IEC 62321 Edition 1.0:2008, by solvent extraction and determined by GC/MS | 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 | | 5 | N.D. |
| Polybrominated Diphenyl Ether (PBDEs) | | | | |
| Monobromodiphenyl ether | mg/kg | With reference to IEC 62321 Edition 1.0:2008, by solvent extraction and determined by GC/MS | 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 | | 5 | N.D. |
| Nonabromodiphenyl ether | mg/kg | | 5 | N.D. |
| Decabromodiphenyl ether | mg/kg | | 5 | N.D. |

Tested by : WH Park

Notes : mg/kg = ppm = parts per million
 < = Less than
 N.D. = Not detected (<MDL)
 MDL = Method detection limit

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9590 Fax : 02-3409-0026 Daegu Office : Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr
 Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea
 Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsu-Gun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 4 of 8)

Intertek

TEST REPORT

Page: 4 of 8

Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame

| Test Item | Unit | Test Method | MDL | Result |
|----------------------------------|-------|---|-----|--------|
| Antimony (Sb) | mg/kg | With reference to US EPA 3052, by acid digestion and determined by ICP-OES | 2 | N.D. |
| Perfluorooctanoic acid (PFOA) | mg/kg | With reference to US EPA 3550C & 8321B, by ultrasonic extraction and determined by LC/MS/MS | 1 | N.D. |
| Perfluorooctane sulfonate (PFOS) | mg/kg | With reference to US EPA 3550C & 8321B, by ultrasonic extraction and determined by LC/MS/MS | 1 | N.D. |

Tested by : YK Cho, Ellen Jung

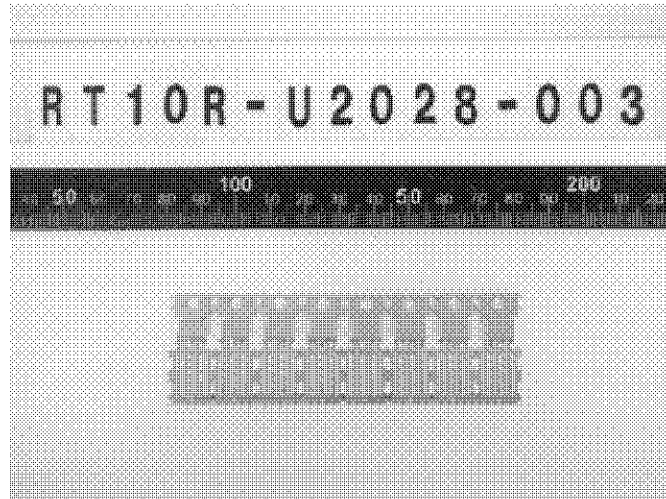
Notes : mg/kg = ppm = parts per million

< = Less than

N.D. = Not detected (< MDL)

MDL = Method detection limit

*View of sample as received:-



This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9590 Fax : 02-3409-0026 Daegu Office : Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr

Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea

Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsu-Gun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 5 of 8)



TEST REPORT

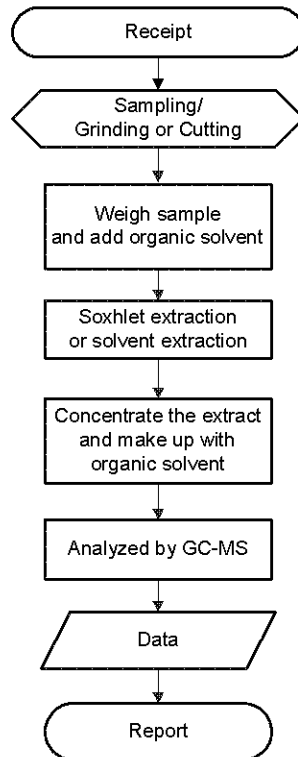
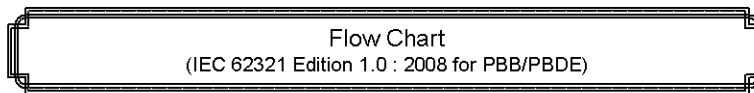
Page: 6 of 8

Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame



This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax: 02-3409-0026 Daegu Office: Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr
Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seungdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsu-Gun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 6 of 8)



TEST REPORT

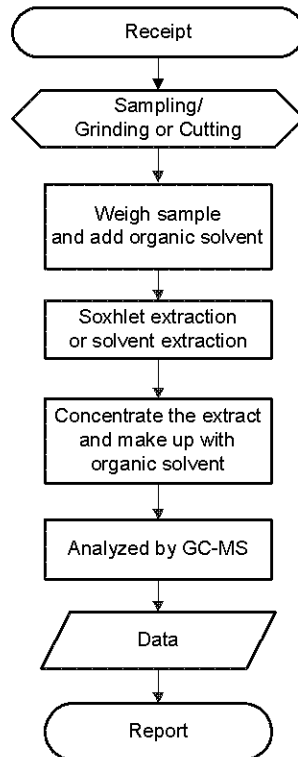
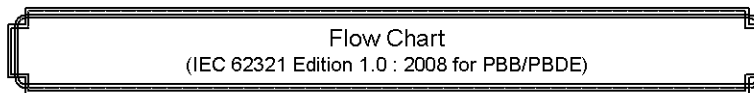
Page: 6 of 8

Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame



This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax: 02-3409-0026 Daegu Office: Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr
Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seungdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 7 of 8)



TEST REPORT

Page: 7 of 8

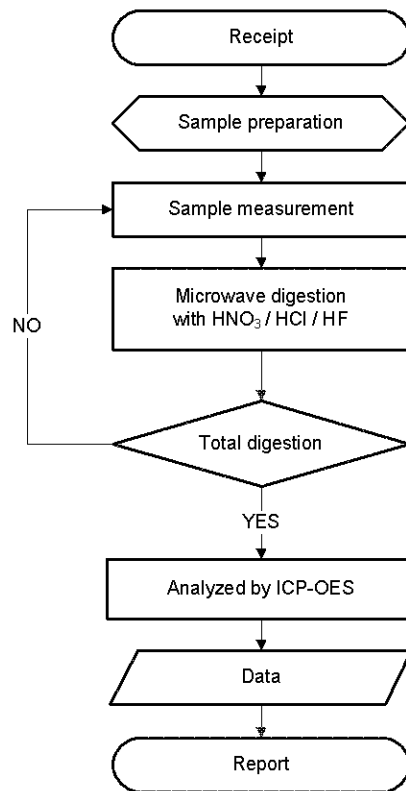
Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame

Flow Chart (Metal Testing)



** Remarks : The samples were dissolved totally by pre-conditioning method according to above flow chart.

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0026 Daegu Office : Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr
Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulju-Gun, Ulsan 689-365 Korea

Annex 5: Analysis Result of Lead Frame (page 8 of 8)



TEST REPORT

Page: 8 of 8

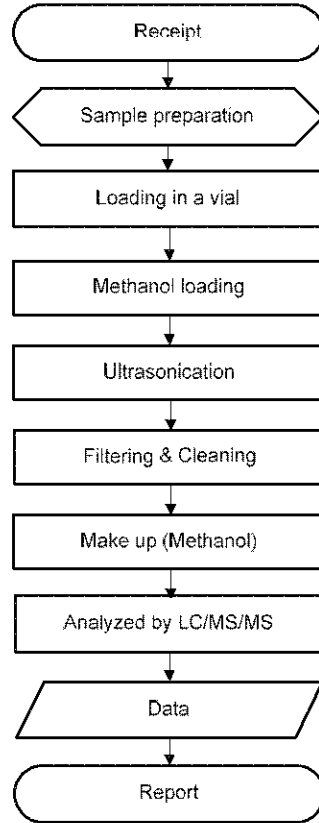
Date: Oct. 26, 2010

Report No. RT10R-U2028-003-E

Sample ID No. : RT10R-U2028-003

Sample Description : Lead Frame

Flow Chart (PFOS, PFOA)



***** End of Report *****

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax: 02-3409-0026 Daegu Office : Tel : 053-609-8647 Fax : 053-600-8645 Web Site : www.intertek.co.kr
Seoul Lab. Address : 1/F, Aju Digital Tower, #284-56, Seongsu 2-ga, Seungdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsan 689-365 Korea

Annex 6: Analysis Result of Silicon Wafer (Page 1 of 7)



Validity unknown
For Question
Please Contact With SGS
www.tw.sgs.com

Test Report

No. : CE/2010/B2372 Date : 2010/11/18 Page : 1 of 7


LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



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

Sample Description : WAFER
Style/Item No. : THYRISTOR
Sample Receiving Date : 2010/11/11
Testing Period : 2010/11/11 TO 2010/11/18

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



Chenyu Kung, Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory -- Taipei

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. 除非另有註明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei | 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五權路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 | www.sgs.com

Member of the SGS Group (SGS SA)

Annex 6: Analysis Result of Silicon Wafer (Page 2 of 7)



Test Report

No. : CE/2010/B2372 Date : 2010/11/18 Page : 2 of 7

LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



Test Result(s)

PART NAME No.1 : 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 | 19200 |
| Mercury (Hg) | mg/kg | With reference to IEC 62321: 2008 and performed by ICP-AES. | 2 | n.d. |
| Hexavalent Chromium Cr(VI) by alkaline extraction | mg/kg | With reference to IEC 62321: 2008 and performed by UV-VIS. | 2 | n.d. |
| Sum of PBBs | | | - | n.d. |
| Monobromobiphenyl | | | 5 | n.d. |
| Dibromobiphenyl | | | 5 | n.d. |
| Tribromobiphenyl | | | 5 | n.d. |
| Tetrabromobiphenyl | | | 5 | n.d. |
| Pentabromobiphenyl | | | 5 | n.d. |
| Hexabromobiphenyl | | | 5 | n.d. |
| Heptabromobiphenyl | | | 5 | n.d. |
| Octabromobiphenyl | | | 5 | n.d. |
| Nonabromobiphenyl | | | 5 | n.d. |
| Decabromobiphenyl | | | 5 | n.d. |
| Sum of PBDEs | | | - | n.d. |
| Monobromodiphenyl ether | | | 5 | n.d. |
| Dibromodiphenyl ether | | | 5 | n.d. |
| Tribromodiphenyl ether | | | 5 | n.d. |
| Tetrabromodiphenyl ether | | | 5 | n.d. |
| Pentabromodiphenyl ether | | | 5 | n.d. |
| Hexabromodiphenyl ether | | | 5 | n.d. |
| Heptabromodiphenyl ether | | | 5 | n.d. |
| Octabromodiphenyl ether | | | 5 | n.d. |
| Nonabromodiphenyl ether | | | 5 | n.d. |
| Decabromodiphenyl ether | | | 5 | 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. 除非另有註明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 | t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 6: Analysis Result of Silicon Wafer (Page 3 of 7)



Test Report

No. : CE/2010/B2372 Date : 2010/11/18 Page : 3 of 7

LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



| Test Item (s): | Unit | Method | MDL | Result |
|---|-------|--|-----|--------|
| | | | | No.1 |
| Halogen | | | | |
| Halogen-Fluorine (F) (CAS No.: 014762-94-8) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | 50 | n.d. |
| Halogen-Chlorine (Cl) (CAS No.: 022537-15-1) | | | 50 | n.d. |
| Halogen-Bromine (Br) (CAS No.: 010097-32-2) | | | 50 | n.d. |
| Halogen-Iodine (I) (CAS No.: 014362-44-8) | | | 50 | n.d. |

Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated

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. 除非另有註明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd.
台灣檢驗科技股份有限公司 | Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com

Member of the SGS Group (SGS SA)

Annex 6: Analysis Result of Silicon Wafer (Page 4 of 7)



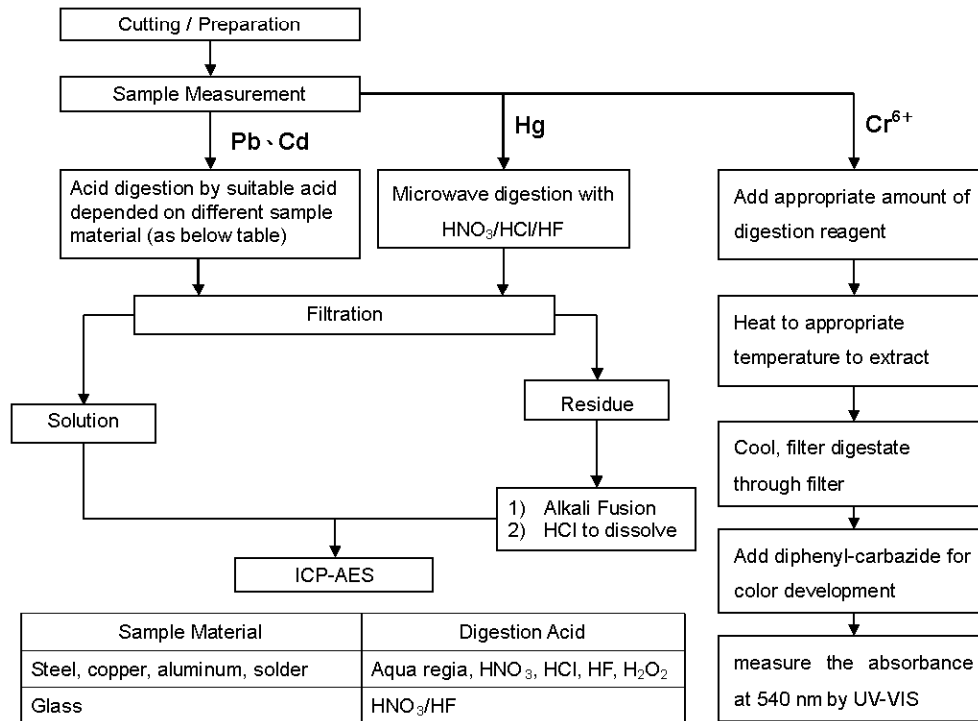
Test Report

No. : CE/2010/B2372 Date : 2010/11/18 Page : 4 of 7

LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



- 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



| Sample Material | Digestion Acid |
|------------------------------------|---|
| Steel, copper, aluminum, solder | Aqua regia, HNO ₃ , HCl, 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 , HCl |
| Others | Any acid to total digestion |

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. 除非另有註明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 6: Analysis Result of Silicon Wafer (Page 5 of 7)



Test Report

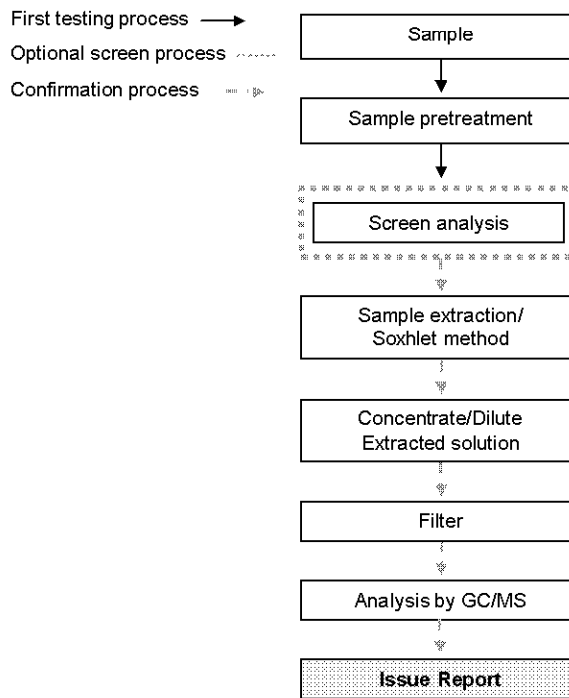
No. : CE/2010/B2372 Date : 2010/11/18 Page : 5 of 7

LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



PBB/PBDE analytical FLOW CHART

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



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. 除非另有註明，此報告結果僅對測試樣品負責，本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t + 886 (02)2299 3279 f + 886 (02)2299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 6: Analysis Result of Silicon Wafer (Page 6 of 7)



Test Report

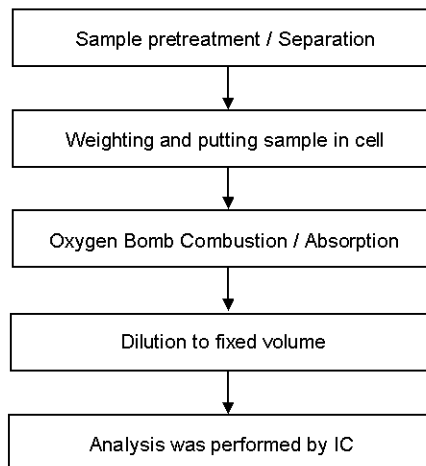
No. : CE/2010/B2372 Date : 2010/11/18 Page : 6 of 7

LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



Analytical flow chart of halogen content

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



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. 除非另有說明，此報告結果僅對測試的樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t + 886 (0)22299 3279 f + 886 (0)22299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

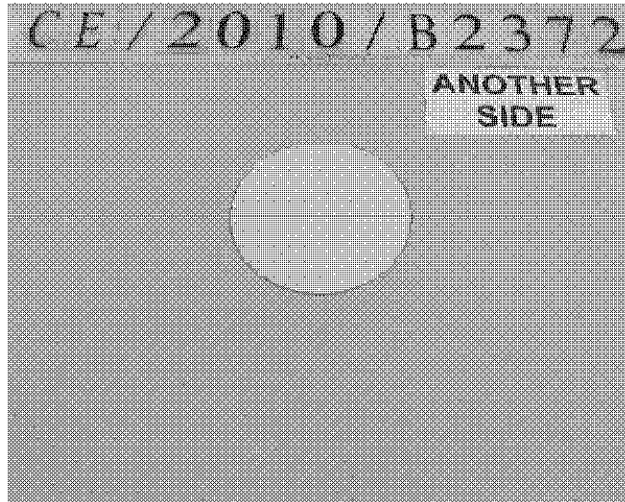
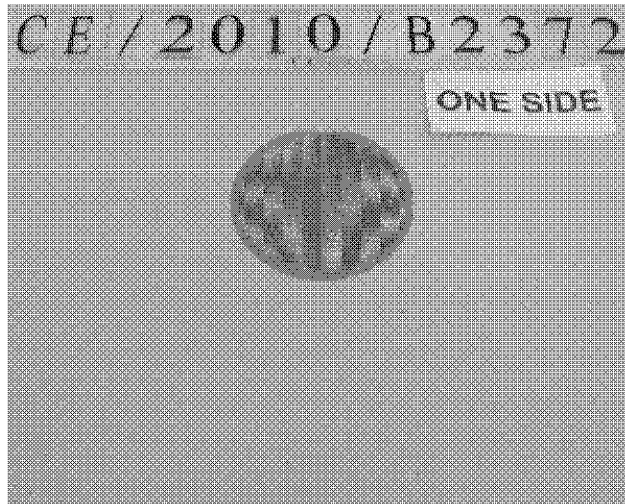
Annex 6: Analysis Result of Silicon Wafer (Page 7 of 7)

SGS

Test Report

No. : CE/2010/B2372 Date : 2010/11/18 Page : 7 of 7

LITE-ON SEMICONDUCTOR CORP.
28-1, WU SHIN STREET, TA WU LUNG, KEELUNG, TAIWAN



**** End of Report ****

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. 除非另有註明，此報告結果僅對測試樣品負責。本報告未經本公司書面許可，不可部份複製。
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS Taiwan Ltd. Chemical-Taipei 33 WuChyuan Road, Wuku Industrial Zone, Taipei County, Taiwan / 台北縣五股工業區五福路33號 t + 886 (0)212299 3279 f + 886 (0)212299 3237 www.sgs.com
台灣檢驗科技股份有限公司

Member of the SGS Group (SGS SA)

Annex 7: Applicable RoHS exemptions

13.2.2003 EN Official Journal of the European Union L 37/19

DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 27 January 2003
on the restriction of the use of certain hazardous substances in electrical and electronic equipment

13.2.2003 EN Official Journal of the European Union

Article 4

Prevention

1. Member States shall ensure that, from 1 July 2006, new electrical and electronic equipment put on the market does not contain lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE). National measures restricting or prohibiting the use of these substances in electrical and electronic equipment which were adopted in line with Community legislation before the adoption of this Directive may be maintained until 1 July 2006.

2. Paragraph 1 shall not apply to the applications listed in the Annex.

to be protected and an overall strategy that in particular restricts the use of cadmium and stimulates research into substitutes should therefore be implemented. The Reso-

13.2.2003 EN Official Journal of the European Union L 37/23

ANNEX

Applications of lead, mercury, cadmium and hexavalent chromium, which are exempted from the requirements of Article 4(1)

1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.
2. Mercury in straight fluorescent lamps for general purposes not exceeding:

| | |
|-------------------------------------|-------|
| — halophosphate | 10 mg |
| — triphosphate with normal lifetime | 5 mg |
| — triphosphate with long lifetime | 8 mg |
3. Mercury in straight fluorescent lamps for special purposes.
4. Mercury in other lamps not specifically mentioned in this Annex.
5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
6. Lead as an alloying element in steel containing up to 0,35 % lead by weight, aluminium containing up to 0,4 % lead by weight and as a copper alloy containing up to 4 % lead by weight.
7. — Lead in high melting temperature type solders (i.e. tin-lead solder alloys containing more than 85 % lead),
 - lead in solders for servers, storage and storage array systems (exemption granted until 2010),
 - lead in solders for network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunication,
 - lead in electronic ceramic parts (e.g. piezoelectronic devices).
8. Cadmium plating except for applications banned under Directive 91/338/EEC (*) amending Directive 76/769/EEC (2) relating to restrictions on the marketing and use of certain dangerous substances and preparations.