



**Test Report No.** F690501/LF-CTSGPJ05-0105

Date: November 02, 2005

Page 1 of 2

To: **AUK CORP**  
802-12  
Shinheung-dong  
Iksan-city  
JEONBUK  
Korea

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

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**Commodity** : Silicon Chip  
**SGS File No.** : GPJ05-0105  
**Received Date** : October 26, 2005  
**Test Performing Date** : October 27, 2005  
**Test Performed** : SGS Testing Korea tested the sample(s) selected by applicant with following results  
**Test Results** : For further details, please refer to following page(s)  
**Comments** : Buyer is SONY

SGS Testing Korea Co. Ltd.

Jason Han / Lab Director

Jeff Jang / Technical Mgr

**Test Report No. F690501/LF-CTSGPJ05-0105**

Date: November 02, 2005

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**Sample No.** : GPJ05-0105.001  
**Sample Description** : Silicon Chip  
**Style/Item No.** : N/A  
**Comments** : Material is Silicon

**Heavy Metals**

Test Items	Unit	Test Method	MDL	Results
Cadmium(Cd)	mg/kg	USEPA 3050B, ICP-AES	0.5	N.D.
Lead (Pb)	mg/kg	USEPA 3050B, ICP-AES	5	N.D.
Mercury (Hg)	mg/kg	USEPA 3052, ICP-AES	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	USEPA 3060A, UV-vis	1	N.D.

**Flame Retardants-PBBs/PBDEs**

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Monobromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.

\*\*\* End \*\*\*

NOTE: N.D. = Not detected.(<MDL)  
ppm = mg/kg  
MDL = Method Detection Limit  
"- " = No Regulation  
\*\* = Qualitative analysis (No Unit)  
Negative = Undetectable / Positive = Detectable

**Test Report No. Draft : GP05-0095**

Date: September 28, 2005

Page 1 of 2

To: **PROTAVIC KOREA**  
1675-1  
Shinil-dong  
Daeduk-gu  
DAEJEON  
Korea

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

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**Commodity** : HI-BOND 668-3S  
**SGS File No.** : GP05-0095  
**Received Date** : September 21, 2005  
**Test Performing Date** : September 22, 2005  
**Test Performed** : SGS Testing Korea tested the sample(s) selected by applicant with following results  
**Test Results** : For further details, please refer to following page(s)  
**Comments** : Buyer: HYNIX, SEMITEC

**SGS Testing Korea Co. Ltd.**



Jason Han / Lab Director

Jeff Jang / Technical Mgr

**Test Report No. Draft : GP05-0095**

Date: September 28, 2005

Page 2 of 2

Sample No. : GP05-0095.001  
Sample Description : HI-BOND 668-3S  
Style/Item No. : HI-BOND 668-3S (m-5)  
Comments : Materials: Ag-Epoxy

**Heavy Metals**

Test Items	Unit	Test Method	MDL	Results
Cadmium(Cd)	mg/kg	USEPA 3050B, ICP-AES	0.5	N.D.
Lead (Pb)	mg/kg	USEPA 3050B, ICP-AES	5	N.D.
Mercury (Hg)	mg/kg	USEPA 3502, ICP-AES	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	USEPA 3060 , UV-vis	1	N.D.

**Flame Retardants-PBBs/PBDEs**

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Monobromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl ether	mg/kg	USEPA 3540C, GC/MS	5	N.D.

\*\*\* End \*\*\*

NOTE: N.D. = Not detected.(<MDL)  
ppm = mg/kg  
MDL = Method Detection Limit  
"- " = No Regulation  
\*\* = Qualitative analysis (No Unit)  
Negativie = Undetectable / Positive = Detectable



Korea Testing and Research Institute for Chemical Industry  
 88-2, Youngdeungpo-dong 8-ga, Youngdeungpo-gu, Seoul, Korea  
 TEL : +82-2-2164-0011 FAX : +82-2-2634-1008

# TEST REPORT

539-8, Gajwa 3-Dong, Seo\_Gu, Incheon, KOREA

TEL 82-32-577-6801 FAX 82-32-575-5613

Report No : TAS-031577

Name of President : Kim Kwan Yong

Name of Company : SHINWON TECH CO.,LTD.

Client's Address : #12L 36B, Namdong Industry Area Namchon-dong, Nandong-gu, Incheon, Korea.

Receipt Date : Oct.20.2005

Test Date : Oct.27.2005

Sample Name : L/F Material(PMC90 BARE)

## TEST RESULTS

TEST ITEM	UNIT	SAMPLE	RESULT	TEST METHOD
Pb	mg/kg		Not Detected	ISO 4749 : 1984 (AAS)
Cd	mg/kg		Not Detected	ISO 4749 : 1984(Apply, AAS)
(Leaching Test) Cr <sup>6+</sup>	μg/cm <sup>2</sup>		Not Detected	ISO 3613 : 2000(E) (Distilled Water*Boiling*1h)
Hg	mg/kg		Not Detected	JIS H 1066 : 1993(Apply, AAS)

USAGE : QUALITY CONTROL

- NOTE :
1. The test result of this test report only limited in the sample and sample name presented by the client and do not guarantee the all products of the client.
  2. This test report shall be used only within the purpose of its defined usage and also shall not be used for public relation, advertisement and suit without the KOTRIC's written approval.

Testing Personnel : Jae-Hyung Lee (82-31-999-3122)

Oct.27.2005

DIRECTOR GENERAL, KOREA TESTING & RESEARCH INSTITUTE FOR CHEMICAL INDUSTRY

1 of Total 1 Page(s)

*Be Won . Lee*



**Test Report No.** F690501/LF-CTSGP06-00592

Date: January 16, 2006

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**To: MK ELECTRONICS**  
316-2,Kumeri  
Pogpk-myun  
Yongin-city  
KYUNGGI-DO  
Korea

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

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**Commodity** : GOLD WIRE (4N)  
**SGS File No.** : GP06-00592  
**Received Date** : January 09, 2006  
**Test Performing Date** : January 10, 2006  
**Test Performed** : SGS Testing Korea tested the sample(s) selected by applicant with following results  
**Test Results** : For further details, please refer to following page(s)

Brendan Lee  
Monet Jeong  
Jully Oh  
Jerry Jung  
/Testing Person

Jeff Jang / Technical Mgr

SGS Testing Korea Co. Ltd.

Jason Han / Lab Director

**Test Report No. F690501/LF-CTSGP06-00592**

Date: January 16, 2006

Page 2 of 3

Sample No. : GP06-00592.001  
Sample Description : GOLD WIRE (4N)  
Style/Item No. : N/A

**Heavy Metals**

Test Items	Unit	Test Method	MDL	Results
Cadmium(Cd)	mg/kg	US EPA 3050B(1996), US EPA 6010B(1996)	0.5	N.D.
Lead (Pb)	mg/kg	US EPA 3050B(1996), US EPA 6010B(1996)	5	N.D.
Mercury (Hg)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996)	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	US EPA 3060A(1996), US EPA 7196A(1992)	1	N.D.

**Flame Retardants-PBBs/PBDEs**

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Monobromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.

NOTE: N.D. = Not detected.(<MDL)  
ppm = mg/kg  
MDL = Method Detection Limit  
"- " = No Regulation  
\*\* = Qualitative analysis (No Unit)  
Negative = Undetectable / Positive = Detectable

**Picture of Sample as Received:**

\*\*\* End \*\*\*

NOTE: N.D. = Not detected.(<MDL)  
ppm = mg/kg  
MDL = Method Detection Limit  
"-." = No Regulation  
\*\* = Qualitative analysis (No Unit)  
Negative = Undetectable / Positive = Detectable



**Test Report No. F690501/LF-CTSGPJ06-0189**

Date: January 31, 2006

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To: **KCC CO., LTD**  
846, Yongam-ri  
Bongdong-eub  
Wanju-gun  
Jeonbuk  
Korea

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

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**Commodity** : KTMC-3040+  
**SGS File No.** : GPJ06-0189  
**Received Date** : January 23, 2006  
**Test Performing Date** : January 24, 2006  
**Test Performed** : SGS Testing Korea tested the sample(s) selected by applicant with following results  
**Test Results** : For further details, please refer to following page(s)

SGS Testing Korea Co. Ltd.

Jason Han / Lab Director

Jeff Jang / Technical Mgr

**Test Report No. F690501/LF-CTSGPJ06-0189**

Date: January 31, 2006

Page 2 of 4

Sample No. : GPJ06-0189.001

Sample Description : KTMC-3040+

Style/Item No. : N/A

**Heavy Metals**

Test Items	Unit	Test Method	MDL	Results
Cadmium(Cd)	mg/kg	US EPA 3050B(1996), US EPA 6010B(1996)	0.5	N.D.
Lead (Pb)	mg/kg	US EPA 3050B(1996), US EPA 6010B(1996)	5	N.D.
Mercury (Hg)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996)	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	US EPA 3060A(1996), US EPA 7196A(1992)	1	N.D.

**Flame Retardants-PBBs/PBDEs**

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Monobromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.

- NOTE: (1) N.D. = Not detected.(<MDL)  
(2) ppm = mg/kg  
(3) MDL = Method Detection Limit  
(4) - = No regulation  
(5) \*\* = Qualitative analysis (No Unit)  
(6) Negative = Undetectable / Positive = Detectable

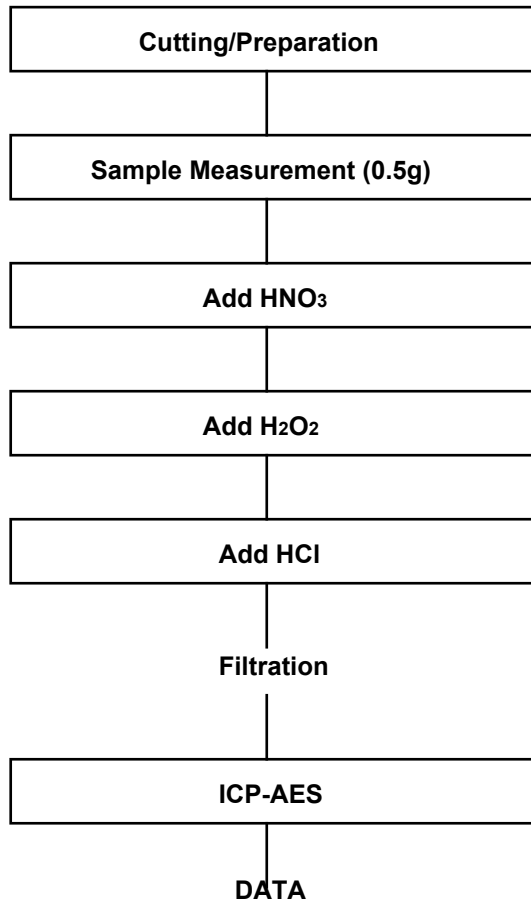
**Picture of Sample as Received:**

- NOTE:
- (1) N.D. = Not detected.(<MDL)
  - (2) ppm = mg/kg
  - (3) MDL = Method Detection Limit
  - (4) - = No regulation
  - (5) \*\* = Qualitative analysis (No Unit)
  - (6) Negative = Undetectable / Positive = Detectable



### Flow Chart of Digestion

(EPA 3050B for Cd, Pb)



The samples were dissolved by pre-conditioning method according to above flow chart.

Operator Lauren Kim

Section Chief Jeff Jang

\*\*\* End \*\*\*

- NOTE:
- (1) N.D. = Not detected.(<MDL)
  - (2) ppm = mg/kg
  - (3) MDL = Method Detection Limit
  - (4) - = No regulation
  - (5) \*\* = Qualitative analysis (No Unit)
  - (6) Negative = Undetectable / Positive = Detectable



**Test Report No. F690501/LF-CTSGPJ06-0149**

Date: January 24, 2006

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To: **CALIX ELECTRONIC CHEMICAL CO., LTD.**  
838-2  
Palbong-dong  
Iksan  
JEONBUK  
Korea

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

**Commodity** : CALIX-2000 Make-Up Chemical  
**SGS File No.** : GPJ06-0149  
**Received Date** : January 17, 2006  
**Test Performing Date** : January 18, 2006  
**Test Performed** : SGS Testing Korea tested the sample(s) selected by applicant with following results  
**Test Results** : For further details, please refer to following page(s)  
**Buyer(s)** : SAMSUNG

Brendan Lee  
Patrick An  
Monet Jeong  
Jinee Song  
/Testing Person

Jeff Jang / Technical Mgr

SGS Testing Korea Co. Ltd.

Jason Han / Lab Director

The above certificate is the accredited test items by Korea Laboratory Accreditation Schmee (KOLAS), which signed the ILAC-MRA.

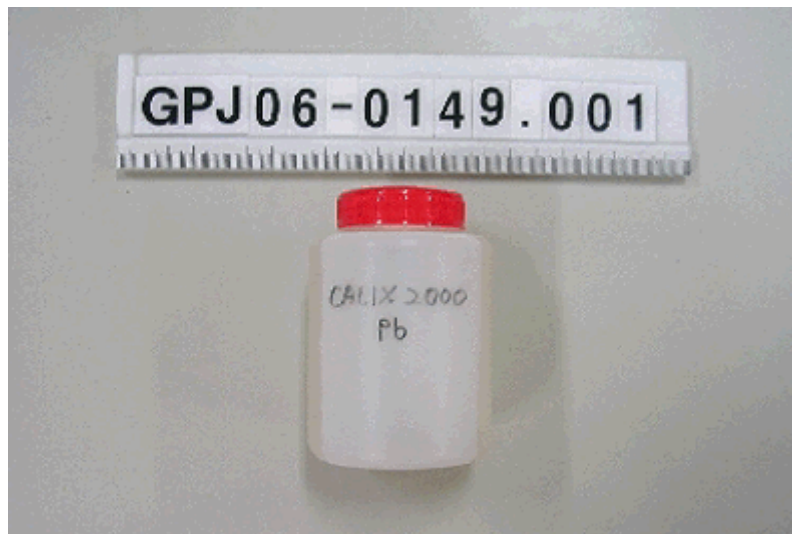
This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full, without prior written permission of the Company.

Sample No. : GPJ06-0149.001  
 Sample Description : CALIX-2000 Make-Up Chemical  
 Style/Item No. : N/A

**Heavy Metals**

Test Items	Unit	Test Method	MDL	Results
Cadmium(Cd)	mg/kg	US EPA 3050B(1996), US EPA 6010B(1996)	0.5	N.D.
Lead (Pb)	mg/kg	US EPA 3050B(1996), US EPA 6010B(1996)	5	N.D.
Mercury (Hg)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996)	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	US EPA 3060A(1996), US EPA 7196A(1992)	1	N.D.

Picture of Sample as Received:



\*\*\* End \*\*\*

- NOTE:
- (1) N.D. = Not detected.(<MDL)
  - (2) ppm = mg/kg
  - (3) MDL = Method Detection Limit
  - (4) Estimated expanded uncertainty U with a coverage factor  $k=2$ , corresponding to a level of confidence of about 95%

The above certificate is the accredited test items by Korea Laboratory Accreditation Schmee (KOLAS), which signed the ILAC-MRA.

This Test Report is issued by the Company subject to its General Conditions of Service printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full, without prior written permission of the Company.