



Reference: ICP Analysis Note
Date of Issue: 17 December 2008

SOT23ep/SOT23-6ep/SOT23F ICP Analysis Note

The appended ICP Analysis reports demonstrate compliance with EC directives 2002/95/EC (Restriction of the use of certain hazardous substances "RoHS") and the 24th amendment to 76/769/EEC (Restrictions on the marketing and use of certain dangerous substances and preparations).

This analysis was performed to independently verify that the content of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PDBE) present is within the permitted levels set.

Note: This report is a composite of the reports for the individual, homogenous parts of the product. The table below is a summary of the data in the following pages.

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K.Clithero
Group Quality Manager

RoHS Substance	Result (ppm)
Lead	15
Mercury	Not detected
Cadmium	Not detected
Hexavalent Chromium	Not detected
Polybrominated Biphenyls (PBB)	Not detected
Polybrominated Diphenyl Ethers (PDBE)	Not detected

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Test Report

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ZETEX SEMICONDUCTORS PLC
ZETEX TECHNOLOGY PARK, CHADDERTON, OLDHAM. OL9 9LL. UNITED
KINGDOM



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

Sample Description : WAFER
Buyer/Order No. : 65637
Sample Receiving Date : 2008/04/30
Testing Period : 2008/04/30 TO 2008/05/08

=====
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

Test Report

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ZETEX SEMICONDUCTORS PLC
 ZETEX TECHNOLOGY PARK, CHADDERTON, OLDHAM. OL9 9LL. UNITED
 KINGDOM



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 62321/2nd CDV (111/95/CDV). Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Lead by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Antimony (Sb)	mg/kg	With reference to US EPA Method 3050B for Antimony Content. Analysis was performed by ICP-AES.	2	n.d.
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Chlorine content.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 007726-95-6)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Bromine content.	50	n.d.

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ZETEX SEMICONDUCTORS PLC
 ZETEX TECHNOLOGY PARK, CHADDERTON, OLDHAM. OL9 9LL. UNITED
 KINGDOM



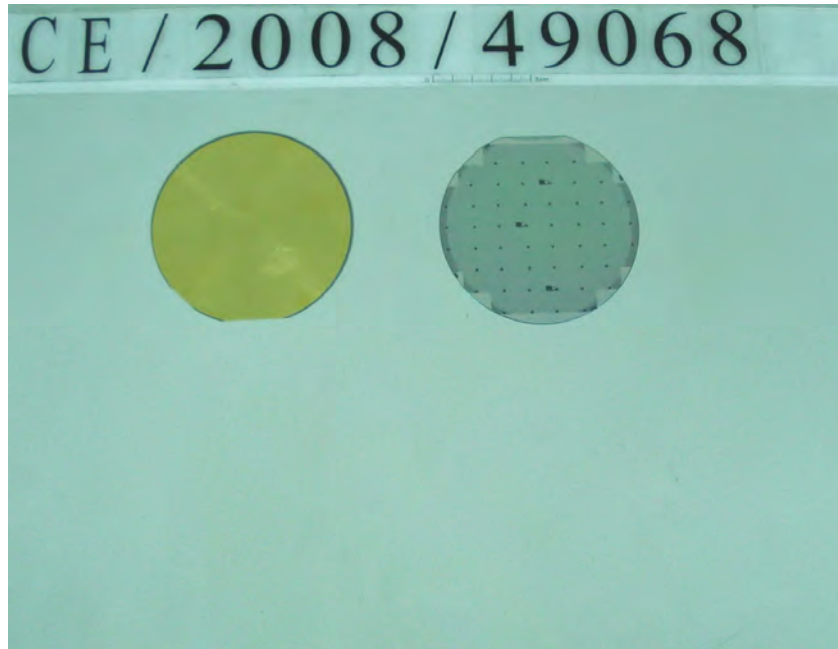
Test Item (s):	Unit	Method	MDL	Result
				No.1
Sum of PBBs	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
Sum of PBDEs (Mono to Nona) (Note 4)			-	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.
Sum of PBDEs (Mono to Deca)			-	n.d.

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. According to 2005/717/EC DecaBDE is exempt.
 5. " - " = Not Regulated

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ZETEX SEMICONDUCTORS PLC
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KINGDOM



** End of Report **

Test Report

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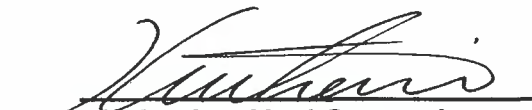


ASM HK
4F, WATSON CENTRE, 16 KUNG YIP ST., KWAI CHUNG, HONG KONG

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

Sample Description : A194 ALLOY
Lot No. : 080002
Style/Item No. : BROWN FOR Cu ALLOY
Color : COPPER
Sample Receiving Date : 2008/01/15
Testing Period : 2008/01/15 TO 2008/1/25

=====
Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
Test Method : With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products
: (1) Determination of Cadmium by ICP-AES.
: (2) Determination of Mercury by ICP-AES.
: (3) Determination of Lead by ICP-AES.
: (4) Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.
: (5) Determination of PBB and PBDE by GC/MS.
Test Result(s) : Please refer to next page(s).
Conclusion : Based on the performed tests on submitted samples, the result **comply with** the RoHS Directive 2002/95/EC and its subsequent amendments.


Katherine Ho / Supervisor
Signed for and on behalf of
SGS Taiwan Limited

Test Report

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ASM HK
4F, WATSON CENTRE, 16 KUNG YIP ST., KWAI CHUNG, HONG KONG

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL	RoHS Limit
		No.1		
Cadmium (Cd)	(1)	n.d.	2	100
Mercury (Hg)	(2)	n.d.	2	1000
Lead (Pb)	(3)	14.5	2	1000
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 5	#
Sum of PBBs	(5)	n.d.	-	1000
Monobromobiphenyl		n.d.	5	-
Dibromobiphenyl		n.d.	5	-
Tribromobiphenyl		n.d.	5	-
Tetrabromobiphenyl		n.d.	5	-
Pentabromobiphenyl		n.d.	5	-
Hexabromobiphenyl		n.d.	5	-
Heptabromobiphenyl		n.d.	5	-
Octabromobiphenyl		n.d.	5	-
Nonabromobiphenyl		n.d.	5	-
Decabromobiphenyl		n.d.	5	-
Sum of PBDEs (Mono to Nona)(Note 4)		n.d.	-	1000
Monobromobiphenyl ether		n.d.	5	-
Dibromobiphenyl ether		n.d.	5	-
Tribromobiphenyl ether		n.d.	5	-
Tetrabromobiphenyl ether		n.d.	5	-
Pentabromobiphenyl ether		n.d.	5	-
Hexabromobiphenyl ether		n.d.	5	-
Heptabromobiphenyl ether		n.d.	5	-
Octabromobiphenyl ether		n.d.	5	-
Nonabromobiphenyl ether		n.d.	5	-
Decabromobiphenyl ether	n.d.	5	-	
Sum of PBDEs (Mono to Deca)	n.d.	-	-	

TEST PART DESCRIPTION:

NO.1 : A194 ALLOY

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TW 6167176

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ASM HK
4F, WATSON CENTRE, 16 KUNG YIP ST., KWAI CHUNG, HONG KONG

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. According to 2005/717/EC DecaBDE is exempt.
 5. Spot-test:
Negative = Absence of Cr(VI) coating / surface layer, Positive = Presence of Cr(VI) coating / surface
(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.
 6. # : Positive indicates the presence of Hexavalent Chromium on the tested areas and result be regarded as not comply with RoHS requirement.
Negative indicates the absence of Hexavalent Chromium on the tested areas and result be regarded as comply with RoHS requirement.
 7. " - " = Not Regulated

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Test Report

No. :KA/2008/10990A-01

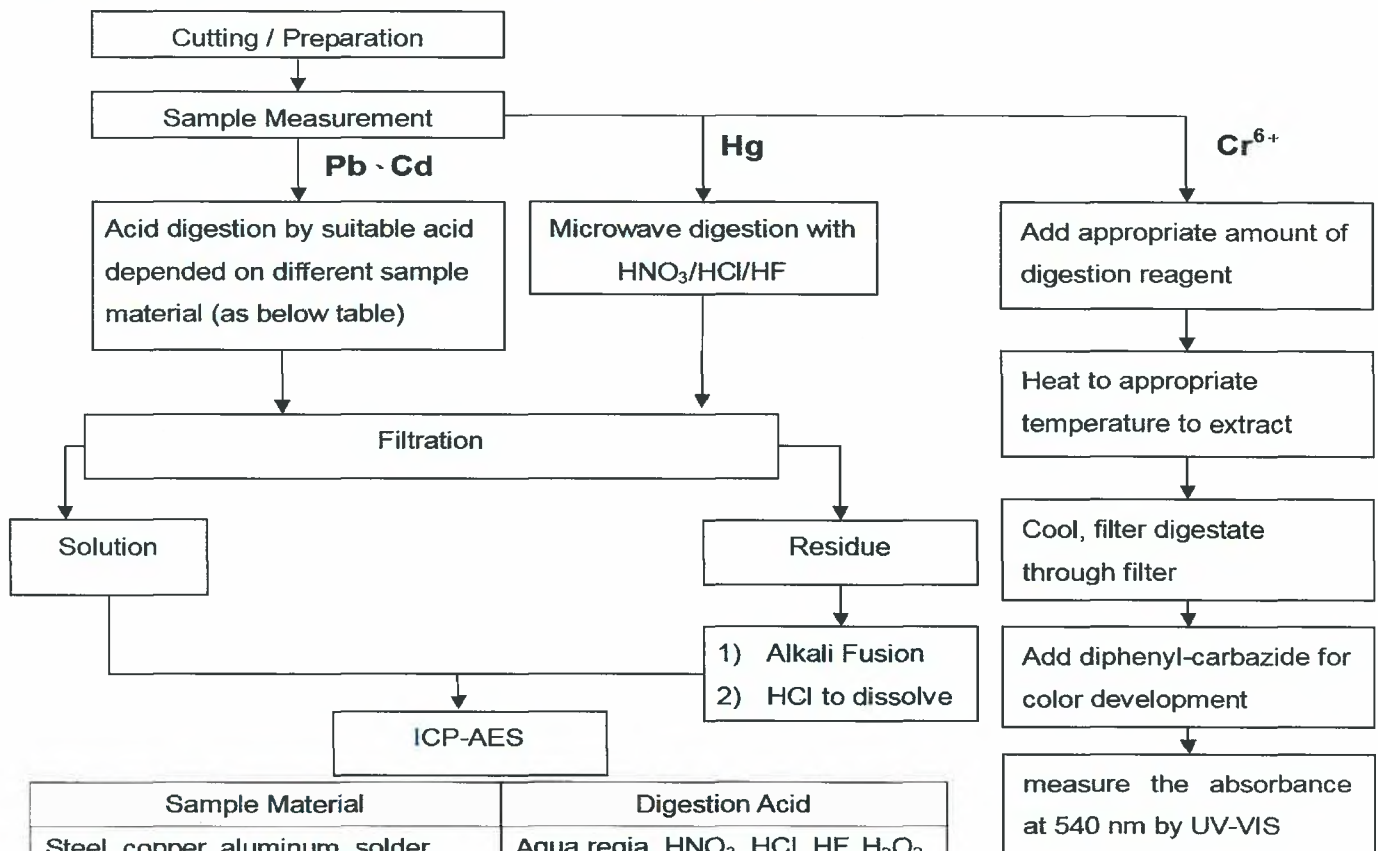
Date: 2008/01/25 Page: 4 of 6



ASM HK

4F, WATSON CENTRE, 16 KUNG YIP ST., KWAI CHUNG, HONG KONG

- 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: Hungming Li
- 3) Name of the person in charge of measurement: George Huang



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

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TW 6167214

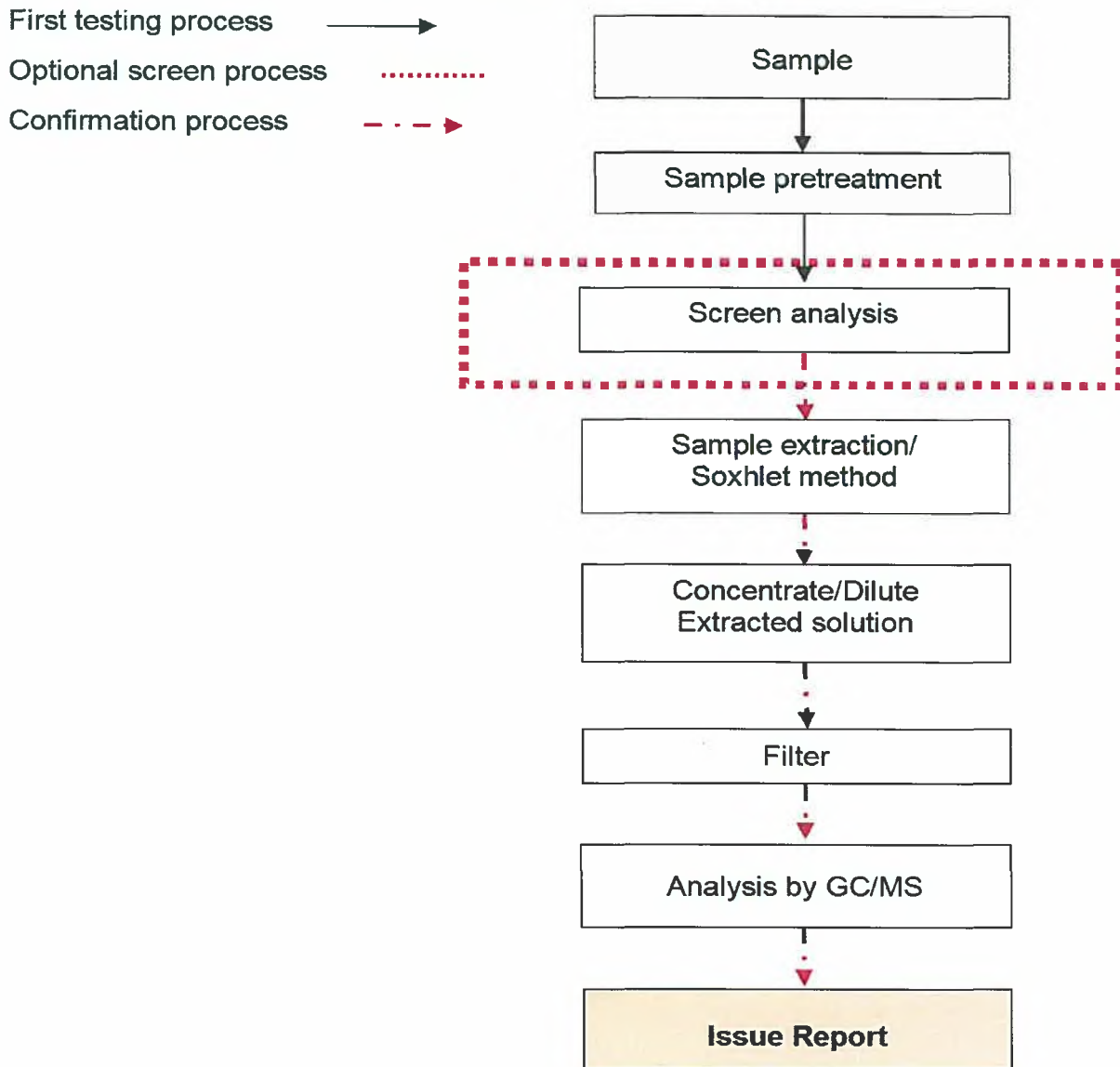
Test Report

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ASM HK
4F, WATSON CENTRE, 16 KUNG YIP ST., KWAI CHUNG, HONG KONG

PBB/PBDE analytical FLOW CHART



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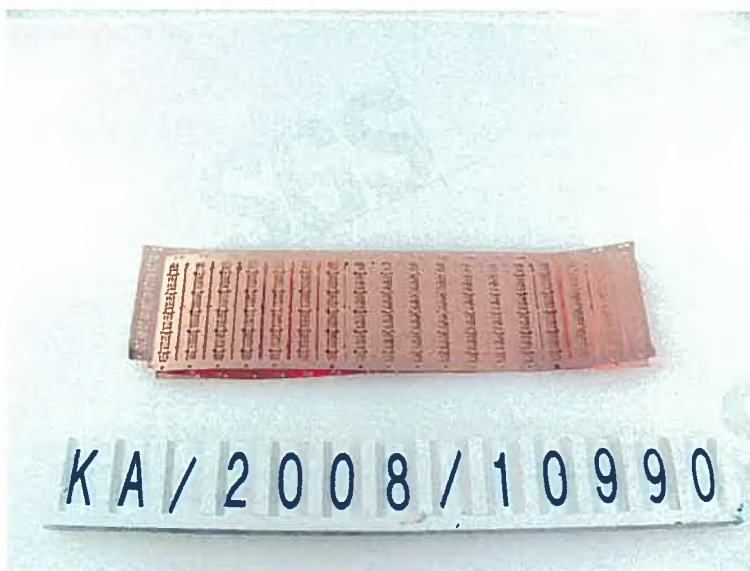
Test Report

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ASM HK

4F, WATSON CENTRE, 16 KUNG YIP ST., KWAI CHUNG, HONG KONG



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TW 6167212

Test Report

No. SH8050865/CHEM

Date: Apr. 16, 2008

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HERAEUS ZHAOYUAN PRECIOUS METAL MATERIALS CO., LTD/ HERAEUS ZHAOYUAN (CHANGSHU) ELECTRONIC MATERIAL CO., LTD
NO.238 LINGLONG ROAD, ZHAOYUAN SHANGDONG/ NO.248 HUANGHE ROAD CHANGSHU, JIANGSU

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

Sample Name : GOLD BONDING WIRE HD
SGS Ref No. : 10960194
Main Substance : GOLD

Sample Receiving Date : Apr.15, 2008
Testing Period : Apr.15 – 16, 2008

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

Test Method : With reference to IEC 62321/2nd CDV (111/95/CDV)
Procedures for the Determination of Levels of Regulated Substances in
Electrotechnical Products
(1) Determination of Cadmium by ICP.
(2) Determination of Lead by ICP
(3) Determination of Mercury by ICP.
(4) Determination of Hexavalent Chromium by Spot test / Colorimetric Method.
(5) Determination of PBBs and PBDEs by GC/MS.

Test Results : Please refer to next pages

Conclusion : Based on the performed tests on submitted samples, the results comply with the
RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Ella Zhang
Section Manager

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Sandy Hao
Lab Manager

Test Report

No. SH8050865/CHEM

Date: Apr. 16, 2008

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Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	1	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	2	100
Lead (Pb)	(2)	ND	2	1000
Mercury (Hg)	(3)	ND	2	1000
Hexavalent Chromium (CrVI) by spot test / boiling-water extraction	(4)	Negative	See Note (5)	#
Sum of PBBs	(5)	ND	-	1000
Monobromobiphenyl		ND	5	-
Dibromobiphenyl		ND	5	-
Tribromobiphenyl		ND	5	-
Tetrabromobiphenyl		ND	5	-
Pentabromobiphenyl		ND	5	-
Hexabromobiphenyl		ND	5	-
Heptabromobiphenyl		ND	5	-
Octabromobiphenyl		ND	5	-
Nonabromobiphenyl		ND	5	-
Decabromobiphenyl		ND	5	-
Sum of PBDEs (Note 4)		ND	-	1000
Monobromodiphenyl ether		ND	5	-
Dibromodiphenyl ether		ND	5	-
Tribromodiphenyl ether		ND	5	-
Tetrabromodiphenyl ether		ND	5	-
Pentabromodiphenyl ether		ND	5	-
Hexabromodiphenyl ether		ND	5	-
Heptabromodiphenyl ether		ND	5	-
Octabromodiphenyl ether		ND	5	-
Nonabromodiphenyl ether		ND	5	-
Decabromodiphenyl ether	ND	5	-	
Sum of PBDEs (Mono to Deca)	ND	-	-	

Test Part Description:

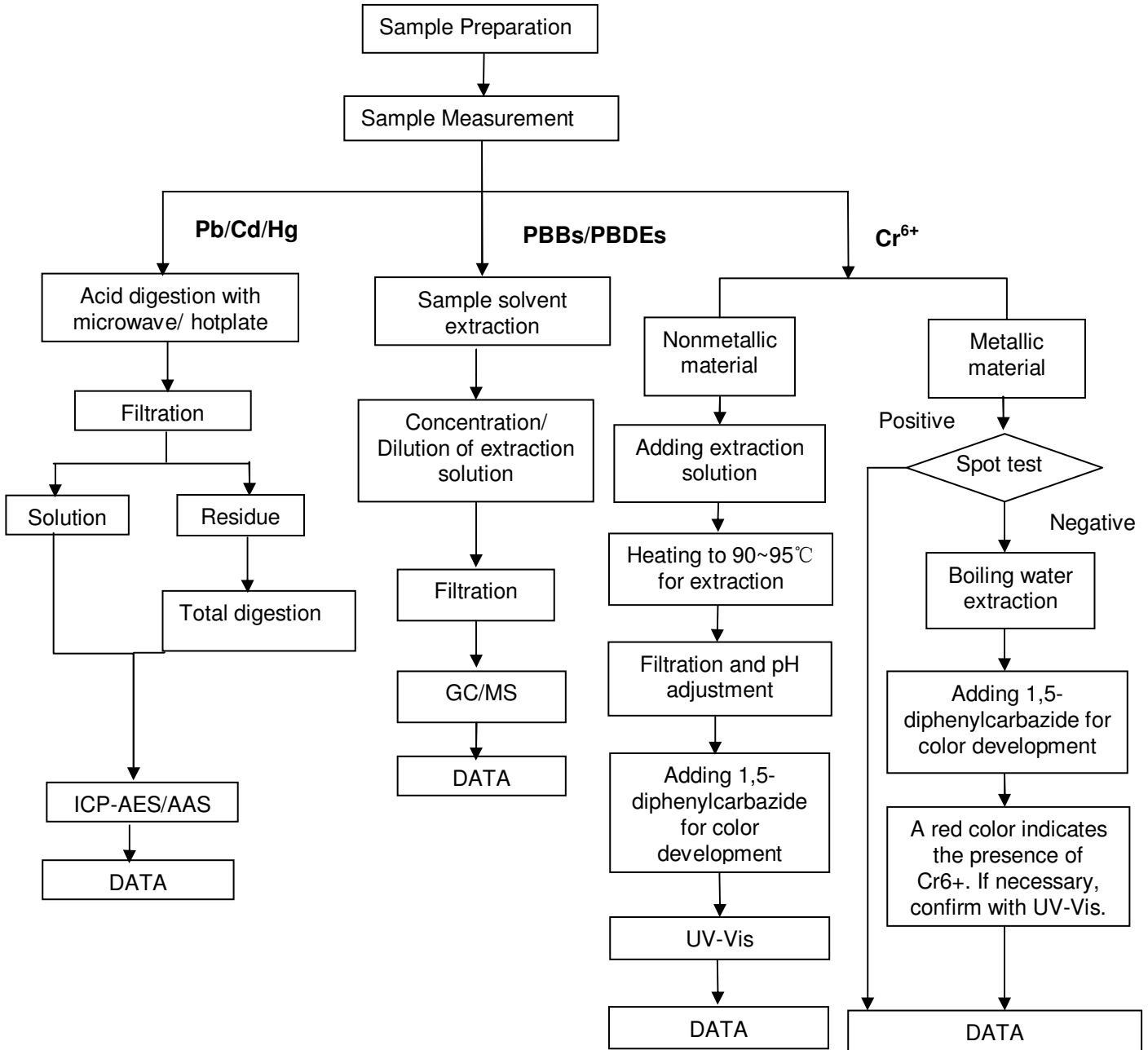
1. Golden metal thread

Note:

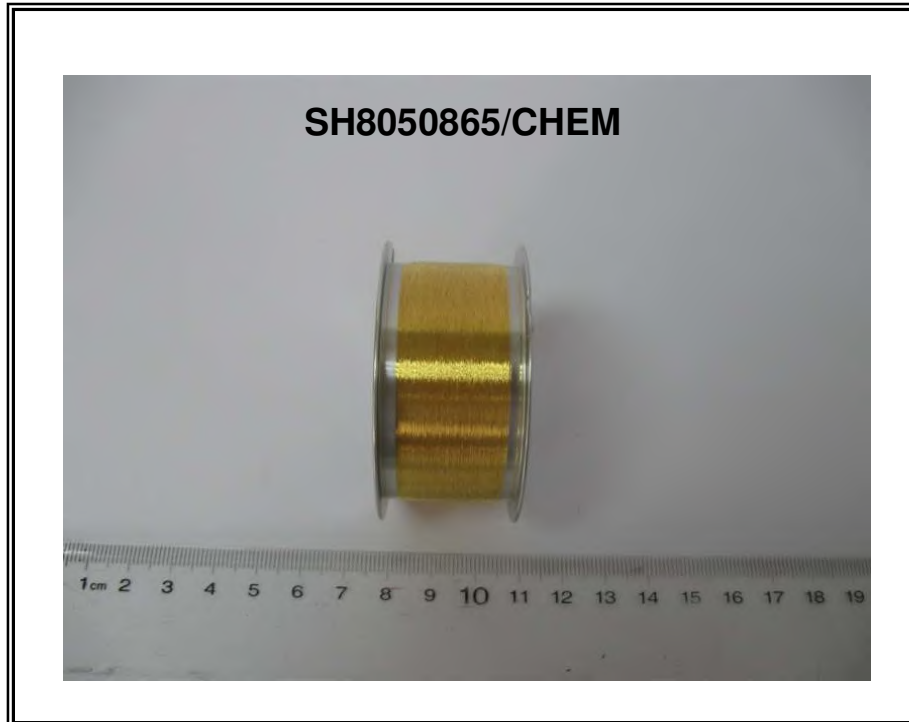
- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.
- (5) Spot-test:
 - Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
 - (The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)
 - Boiling-water-extraction:
 - Negative = Absence of CrVI coating
 - Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
- (6) # = Positive indicates the presence of Hexavalent Chromium on the tested areas.
Negative indicates the absence of CrVI on the tested areas.
- (7) "-" = Not Regulated
- (8) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

ATTACHMENTS

- 1) Name of the person who made measurement: Cathy Cai/George Xu/Diane Wang
- 2) Name of the person in charge of measurement: Terry Wang/Tracy Yue
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



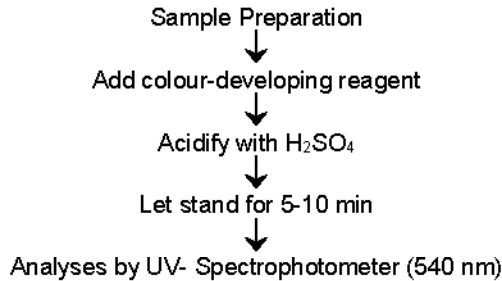
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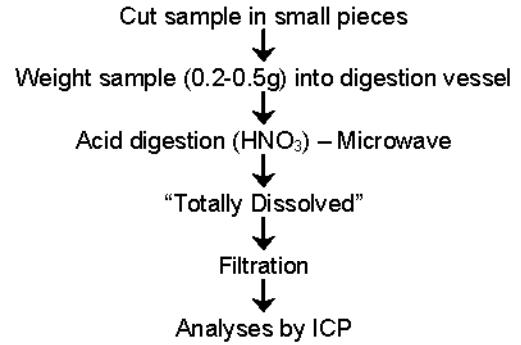
SGS authenticate the photo on original report only

*** End of Report ***

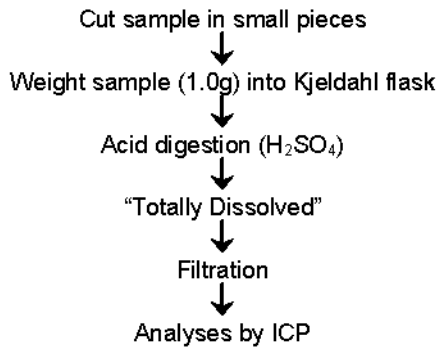
1. DETERMINATION OF HEXAVALENT CHROMIUM BY METHOD US EPA 3060A/7196A



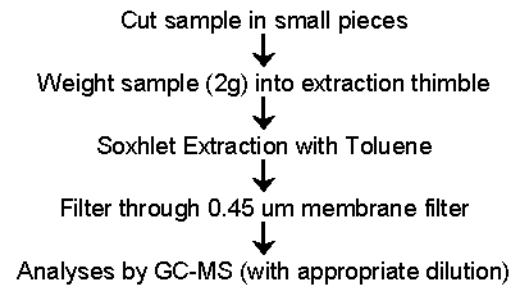
2. MICROWAVE ASSISTED ACID DIGESTION OF ORGANICALLY BASED METRICES (US EPA 3051A)



3. PLASTIC – DETERMINATION OF CADMIUM – WET DECOMPOSITION METHOD (EN 1122) – METHOD B




4. DETERMINATION OF PBB/PBDE WITH GC-MS



**** End of Report ****

SGS LABORATORY SERVICES (M) SDN. BHD.



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

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Test Report

No. SH8071893/CHEM

Date: May. 26, 2008

Page 1 of 4

SHANGHAI KAIHONG ELECTRONIC CO., LTD
NO.999 CHENCHUN ROAD, SONGJIANG DISTRICT, SHANGHAI, CHINA

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

Sample Name : DIE ATTACHED ADHESIVE
SGS Ref No. : 11036937-4
Part No. : 84-1 LIMSR4
Material : SILVER, RESIN
Supplier : ABLESTIK

Sample Receiving Date : May.22, 2008
Testing Period : May.22 – 26, 2008

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

Test Method : (1) With reference to IEC 62321/2nd CDV (111/95/CDV) for Cadmium content.
Analysis was performed by ICP.
(2) With reference to IEC 62321/2nd CDV (111/95/CDV) for Lead content.
Analysis was performed by ICP and AAS.
(3) With reference to IEC 62321/2nd CDV (111/95/CDV) for Mercury content.
Analysis was performed by ICP.
(4) With reference to IEC 62321/2nd CDV (111/95/CDV) for Hexavalent Chromium by Colorimetric Method.
(5) With reference to IEC 62321/2nd CDV (111/95/CDV) for PBBs / PBDEs content.
Analysis was performed by GC/MS.

Test Results : Please refer to next pages

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Ella Zhang
Section Manager

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Sandy Hao
Lab Manager

Test Report

No. SH8071893/CHEM

Date: May. 26, 2008

Page 2 of 4

Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	1	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	2	100
Lead (Pb)	(2)	ND	2	1000
Mercury (Hg)	(3)	ND	2	1000
Hexavalent Chromium (CrVI)	(4)	ND	2	1000
Sum of PBBs	(5)	ND	-	1000
Monobromobiphenyl		ND	5	-
Dibromobiphenyl		ND	5	-
Tribromobiphenyl		ND	5	-
Tetrabromobiphenyl		ND	5	-
Pentabromobiphenyl		ND	5	-
Hexabromobiphenyl		ND	5	-
Heptabromobiphenyl		ND	5	-
Octabromobiphenyl		ND	5	-
Nonabromobiphenyl		ND	5	-
Decabromobiphenyl		ND	5	-
Sum of PBDEs (Note 4)		ND	-	1000
Monobromodiphenyl ether		ND	5	-
Dibromodiphenyl ether		ND	5	-
Tribromodiphenyl ether		ND	5	-
Tetrabromodiphenyl ether		ND	5	-
Pentabromodiphenyl ether		ND	5	-
Hexabromodiphenyl ether		ND	5	-
Heptabromodiphenyl ether		ND	5	-
Octabromodiphenyl ether		ND	5	-
Nonabromodiphenyl ether	ND	5	-	
Decabromodiphenyl ether	ND	5	-	
Sum of PBDEs (Mono to Deca)	ND	-	-	

(Result shown is of the total weight of dried sample)

Test Part Description:

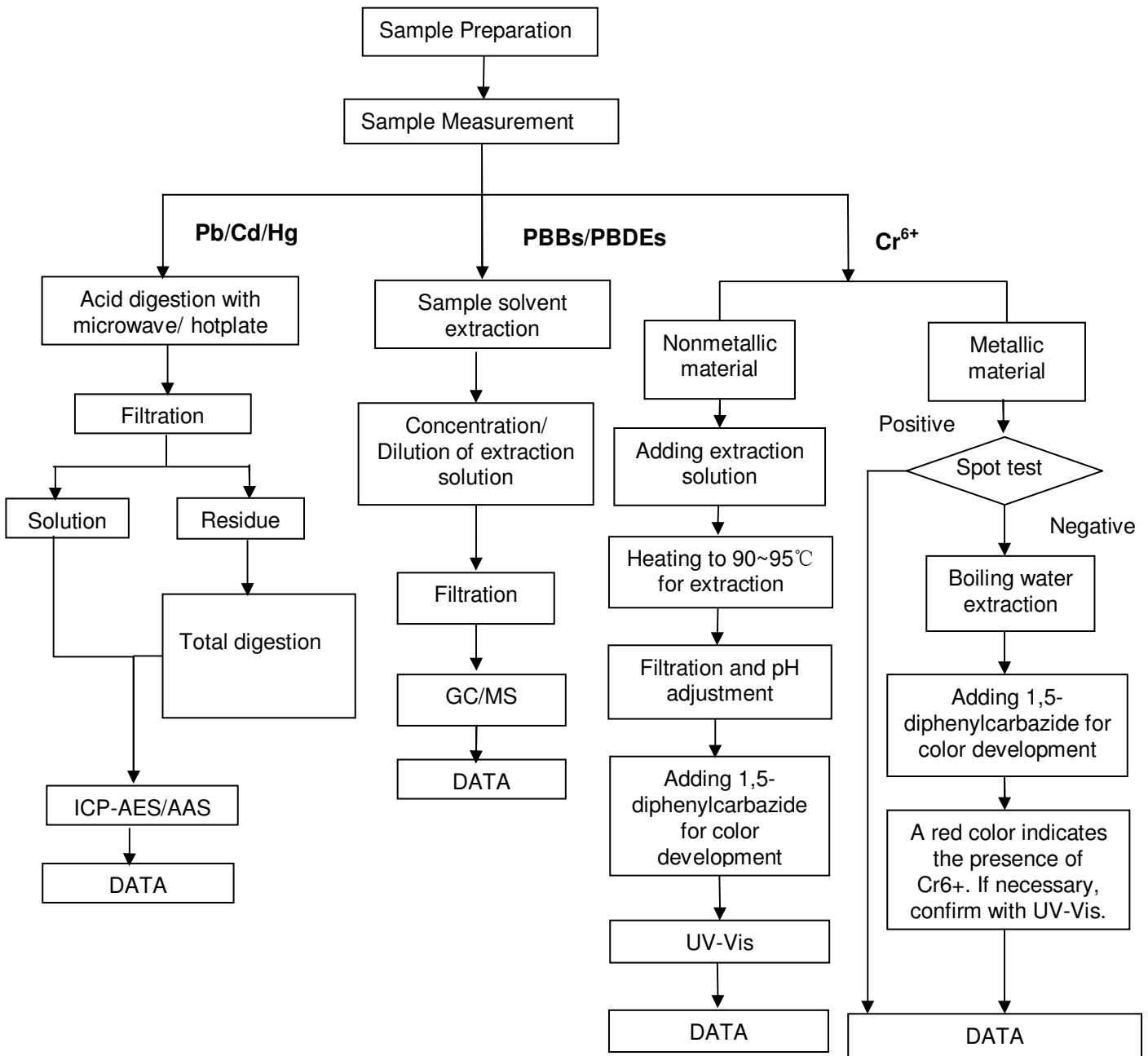
1. Grey mud

Note:

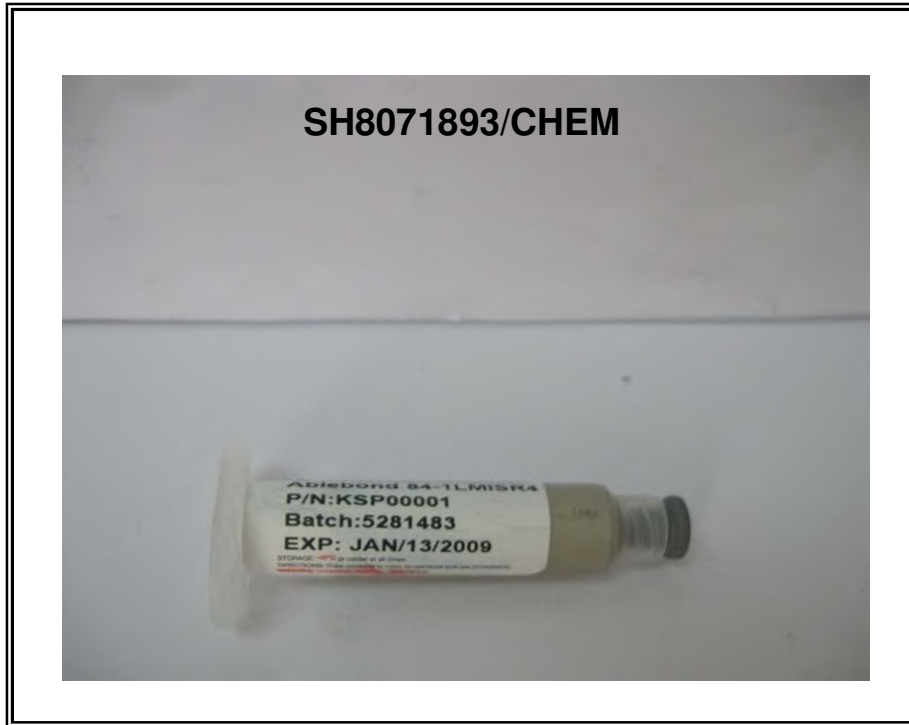
- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.
- (5) "-" = Not Regulated
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

ATTACHMENTS

- 1) Name of the person who made measurement: Cathy Cai/George Xu/Diane Wang
- 2) Name of the person in charge of measurement: Terry Wang/Tracy Yue
- 3) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded)



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

Test Report

REPORT NO. : LPCI/14746/08
CTS REF. : CTS/08/3537/Nitto Denko
DATE REPORTED : JULY 28, 2008
PAGE : 1 of 5

Nitto Denko Electronics (Malaysia) Sdn. Bhd.
No. 2, Persiaran Budiman, Seksyen 23, 40300 Shah Alam,
Selangor Darul Ehsan.

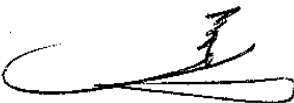
The following merchandise was (were) submitted and identified by the client as:

Sample Description : MP-8000C Series
Sample Received : 2008/07/22
Testing Date : 2008/07/22 to 2008/07/28

Test Result : Please see the next page

Analysts : Lim Meng Hoe, Jocelyn Christmas

SGS LABORATORY SERVICES (M) SDN. BHD.



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Test Report

REPORT NO. : LPCI/14746/08
CTS REF. : CTS/08/3537/Nitto Denko
DATE REPORTED : JULY 28, 2008
PAGE : 2 of 5

Company : **Nitto Denko Electronics (Malaysia) Sdn. Bhd.**
No. 2, Persiaran Budiman, Seksyen 23, 40300 Shah Alam,
Selangor Darul Ehsan.

Test Result

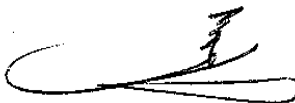
Sample Description : MP-8000C Series

Test Item (s) :	Unit	Method	Instrument	MDL	Results
Chromium VI (Cr6+)	ppm	IEC 62321, Ed1 (111 54 CDV) Annex C	UV Vis - Spectrophotometer	1	N.D.
Cadmium (Cd)	ppm	IEC 62321	ICP OES	1	N.D.
Mercury (Hg)	ppm	IEC 62321	ICP OES	1	N.D.
Lead (Pb)	ppm	IEC 62321	ICP OES	1	N.D.

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

Analyst: Lim Meng Hoe

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Test Report

REPORT NO. : LPCI/14746/08
CTS REF. : CTS/08/3537/Nitto Denko
DATE REPORTED : JULY 28, 2008
PAGE : 3 of 5

Company : **Nitto Denko Electronics (Malaysia) Sdn. Bhd.**
No. 2, Persiaran Budiman, Seksyen 23, 40300 Shah Alam,
Selangor Darul Ehsan.

Test Result

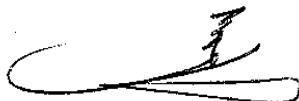
Sample Description : MP-8000C Series

Test Item (s) :	Unit	Method	Instrument	MDL	Result
PBBs (Polybrominated Biphenyls)					
Monobromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Dibromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Tribromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Tetrabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Pentabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Hexabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Heptabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Octabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Nonabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Decabromo Biphenyl	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
PBDEs (Polybrominated Diphenyl ethers)					
Monobromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Dibromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Tribromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Tetrabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Pentabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Hexabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Heptabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Octabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Nonabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.
Decabromo Diphenyl Ether	%	GCMS as per IEC 62321, Ed1 (111 54 CDV)	GCMS	0.0005	N.D.

NOTE: (a) N.D. = Not detected (<MDL)
 (b) MDL = Method Detection Limit

Analyst: Jocelyn Christmas

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LAB MANAGER

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Test Report

REPORT NO. : LPCI/14746/08
CTS REF. : CTS/08/3537/Nitto Denko
DATE REPORTED : JULY 28, 2008
PAGE : 4 of 5

Company : Nitto Denko Electronics (Malaysia) Sdn. Bhd.
No. 2, Persiaran Budiman, Seksyen 23, 40300 Shah Alam,
Selangor Darul Ehsan.

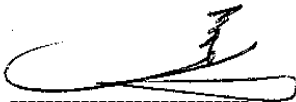
Test Result

Sample Description : MP-8000C Series

NITTO DENKO ELECTRONICS (MALAYSIA) SDN. BHD.
LPCI/14746/08



SGS LABORATORY SERVICES (M) SDN. BHD.



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Test Report

REPORT NO. : LPCI/14746/08
CTS REF. : CTS/08/3537/Nitto Denko
DATE REPORTED : JULY 28, 2008
PAGE : 5 of 5

1. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321/2nd (111/95/CDV)

Sample Preparation
 ↓
 Add colour-developing reagent
 ↓
 Acidify with H₂SO₄
 ↓
 Let stand for 5-10 min
 ↓
 Analyses by UV- Spectrophotometer (540 nm)

2. DETERMINATION OF LEAD CONTENT BY IEC 62321/2nd (111/95/CDV)

Sample Receiving and Registration
 ↓
 Cut sample in small pieces
 ↓
 Weight sample (1.0g) into digestion vessel
 ↓
 Wet digestion / Microwave digestion
 ↓
 "Totally Dissolved"
 ↓
 Filtration
 ↓
 Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321/2nd (111/95/CDV)

Sample Receiving and Registration
 ↓
 Cut sample in small pieces
 ↓
 Weight sample (0.5 - 1.0g) into digestion vessel
 ↓
 Acid digestion (Microwave)
 ↓
 "Totally Dissolved"
 ↓
 Filtration
 ↓
 Analyses by ICP

4. DETERMINATION OF CADMIUM CONTENT BY IEC 62321/2nd (111/95/CDV)

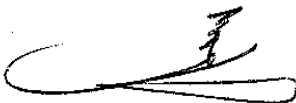
Sample Receiving and Registration
 ↓
 Cut sample in small pieces
 ↓
 Weight sample (1.0g)
 ↓
 Acid digestion
 ↓
 "Totally Dissolved"
 ↓
 Filtration
 ↓
 Analyses by ICP

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321/2nd (111/95/CDV)

Cut sample in small pieces
 ↓
 Weight sample (2g) into extraction thimble
 ↓
 Soxhlet Extraction with Toluene
 ↓
 Filter through 0.45 um membrane filter
 ↓
 Analyses by GC-MS (with appropriate dilution)

**** End of Report ****

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Test Report

No. SH8075804/CHEM

Date: May. 31, 2008

Page 1 of 4

SHANGHAI YUANHAO SURFACE FINISHING CO., LTD.
NO.8, LANE18, SANZHUANG ROAD, SONGJIANG EXPORT PROCESSING ZONE, SHANGHAI

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

Sample Name : MATTE TIN
SGS Ref No. : 11051414
Main Substance : PURE TIN

Sample Receiving Date : May.28, 2008
Testing Period : May.28 – 31, 2008

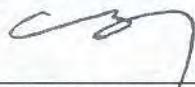
Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321/2nd CDV (111/95/CDV)
Procedures for the Determination of Levels of Regulated Substances in
Electrotechnical Products
(1) Determination of Cadmium by ICP.
(2) Determination of Lead by ICP and AAS.
(3) Determination of Mercury by ICP.
(4) Determination of Hexavalent Chromium by Spot test / Colorimetric Method.

Test Results : Please refer to next pages

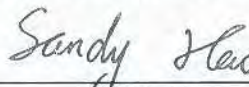
Conclusion : Based on the performed tests on submitted samples, the results comply with the
RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Ella Zhang
Section Manager

Signed for and on behalf of
SGS-CSTC Chemical Laboratory



Sandy Hao
Lab Manager

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Test Report

No. SH8075804/CHEM

Date: May. 31, 2008

Page 2 of 4

Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	1	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	2	100
Lead (Pb)	(2)	ND	2	1000
Mercury (Hg)	(3)	ND	2	1000
Hexavalent Chromium (CrVI) by spot test / boiling-water extraction	(4)	Negative	See Note (4)	#

Test Part Description:

1. Silvery-white metal part

Note:

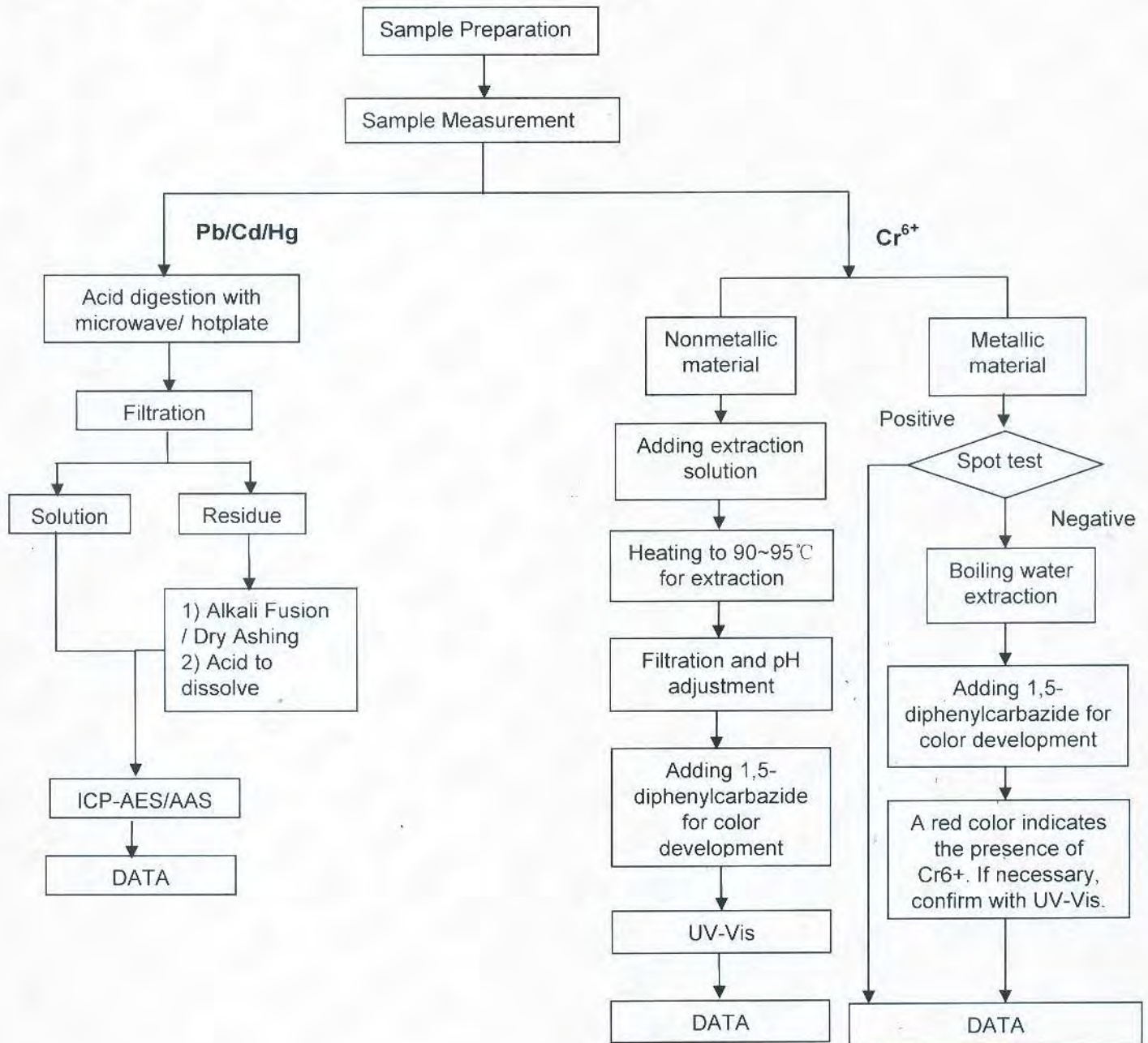
- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) Spot-test:
Negative = Absence of CrVI coating, Positive = Presence of CrVI coating;
(The tested sample should be further verified by boiling-water-extraction method if the spot test result is Negative or cannot be confirmed.)
Boiling-water-extraction:
Negative = Absence of CrVI coating
Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
- (5) # = Positive indicates the presence of Hexavalent Chromium on the tested areas.
Negative indicates the absence of CrVI on the tested areas.
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

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ATTACHMENTS

- 1) Name of the person who made measurement: Cathy Cai/George Xu
- 2) Name of the person in charge of measurement: Terry Wang



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