

Test Report

No. : CE/2008/21496

Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : TANTALUM POWDER
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/2/13
Testing Period : 2008/2/13 TO 2008/2/20

=====
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-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : BLACK POWDER

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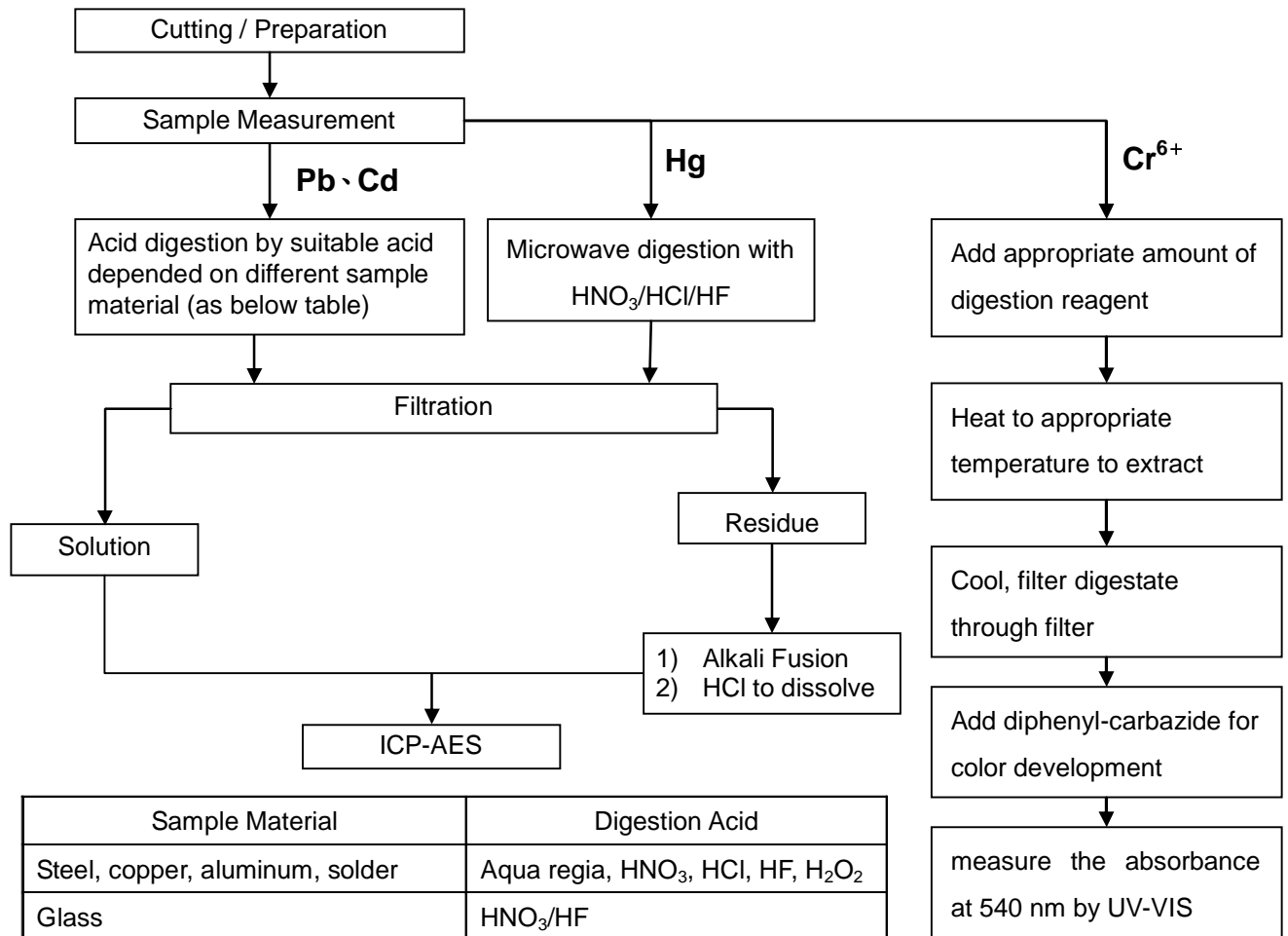
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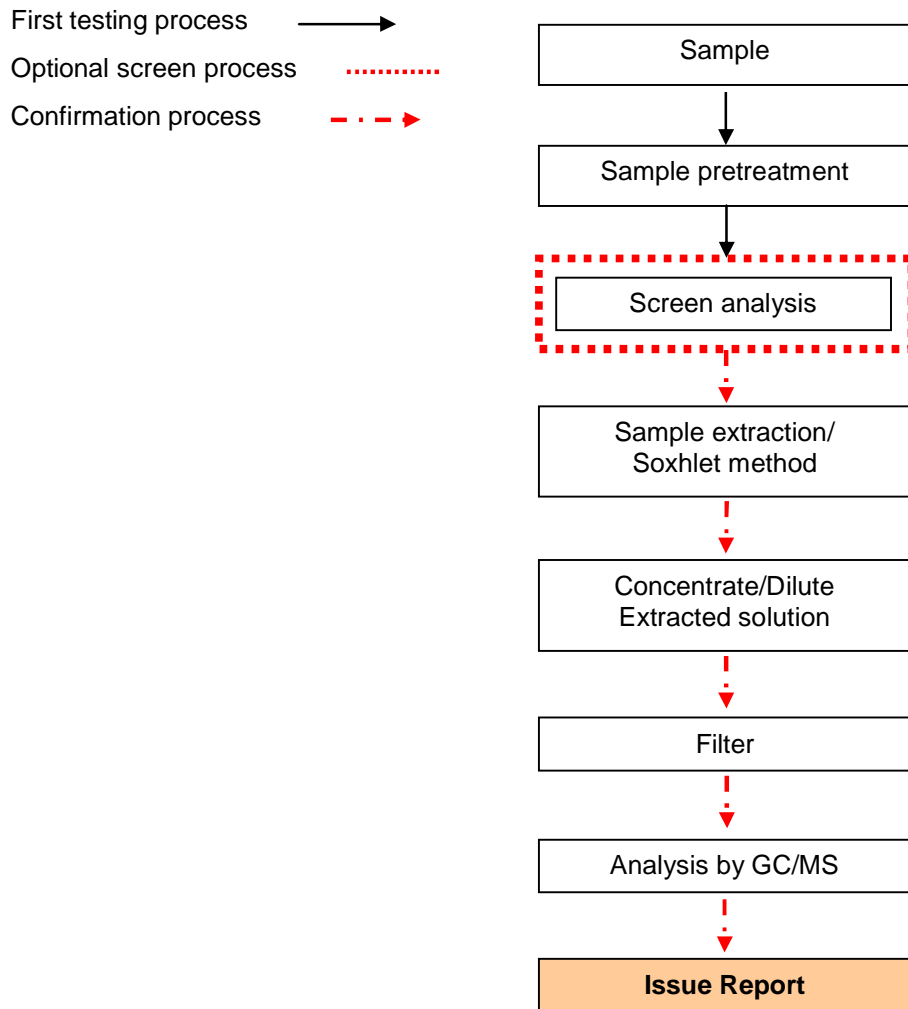
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



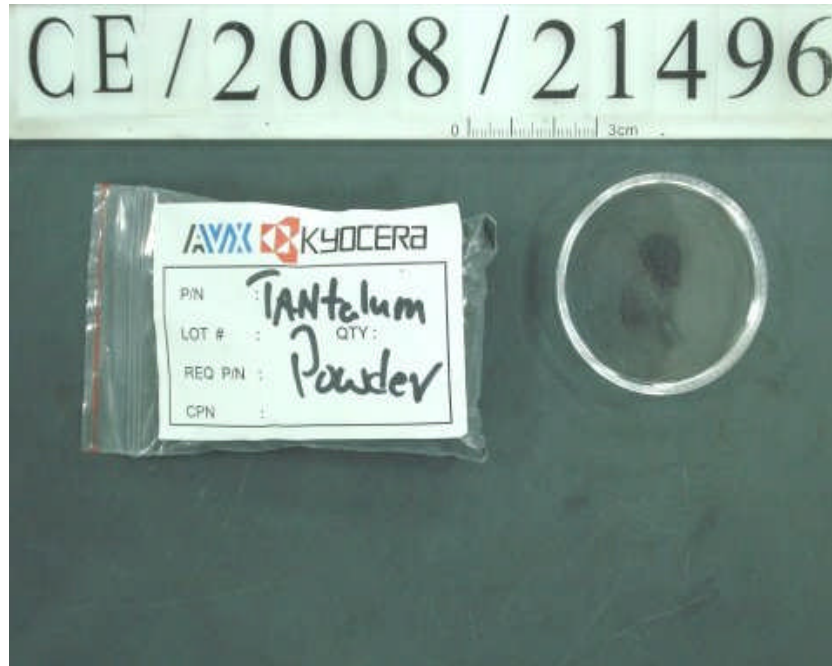
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18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : TANTALUM WIRE
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/2/13
Testing Period : 2008/2/13 TO 2008/2/20

=====
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-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury 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).



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

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18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 5
Sum of PBBs	(5)	n.d.	-
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.	-
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 : SILVER COLORED METAL WIRE

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- 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 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.
 6. "-" = Not Regulated

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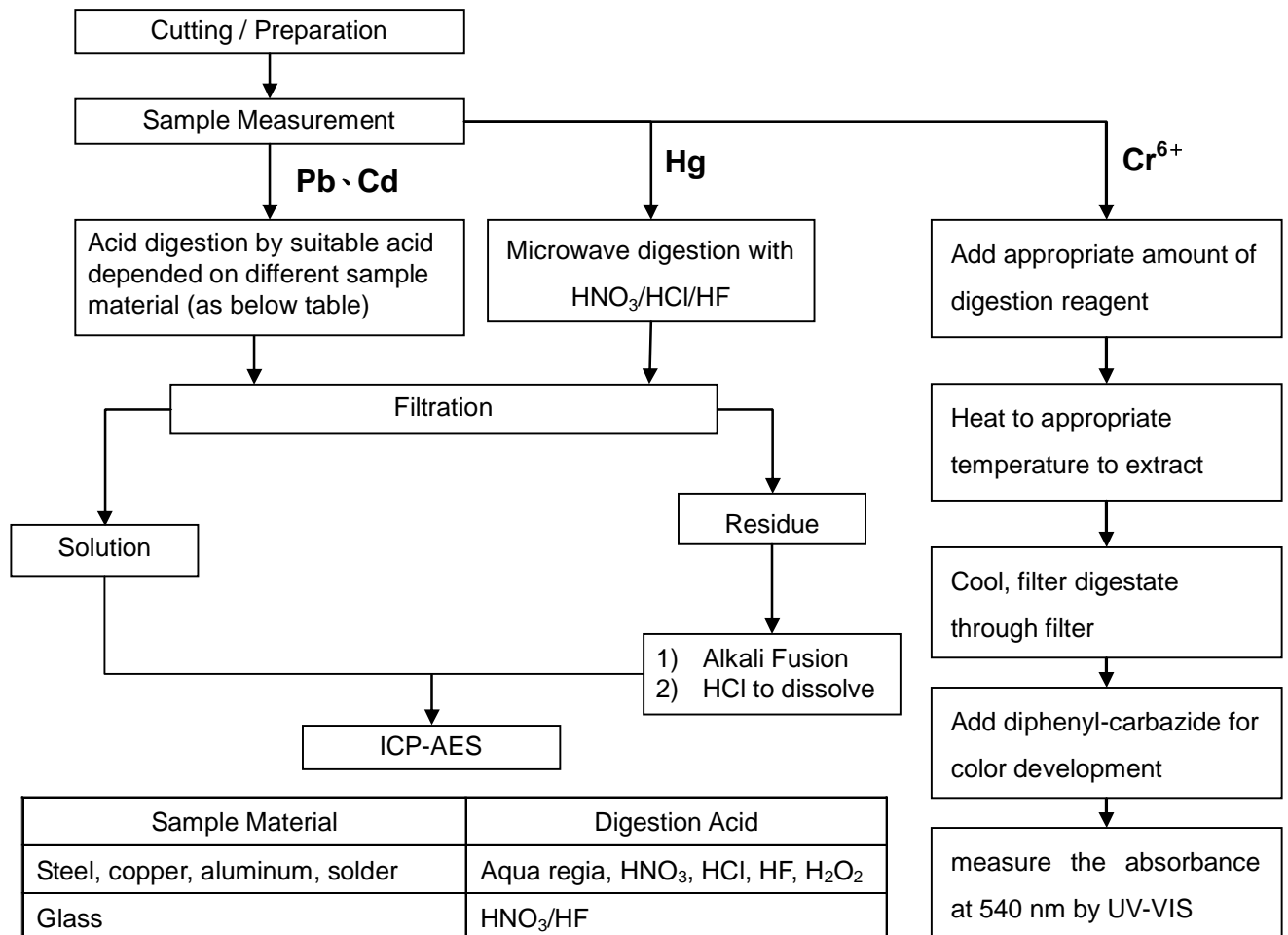
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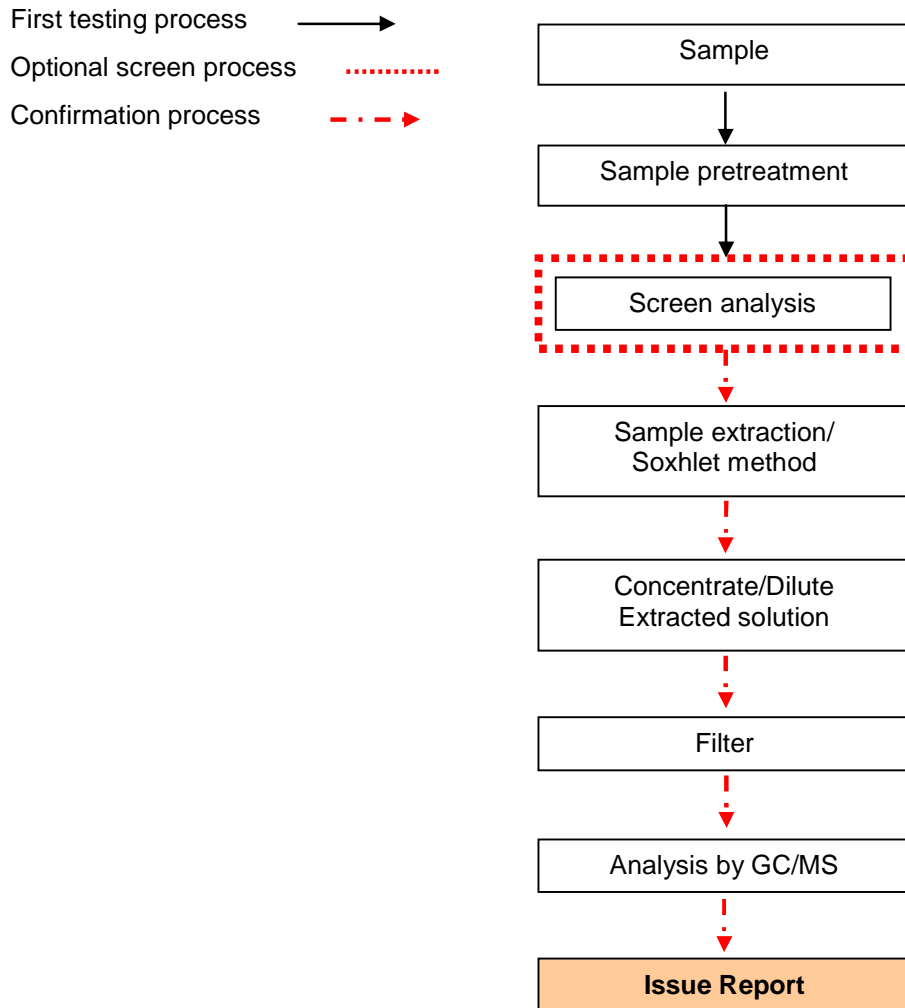
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



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18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : GREEN TEFLON II
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/2/13
Testing Period : 2008/2/13 TO 2008/2/20

=====
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-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : GREEN LIQUID

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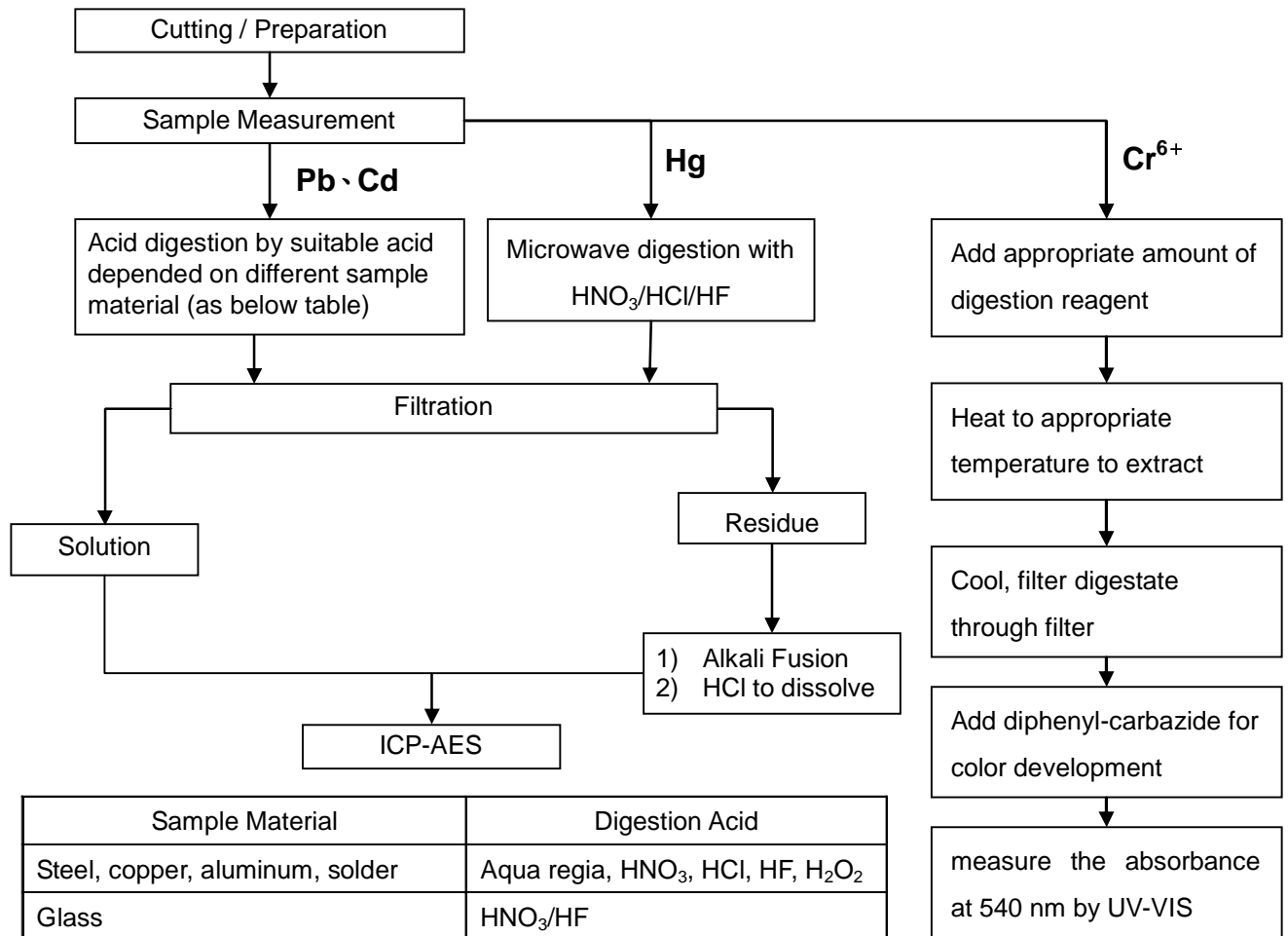
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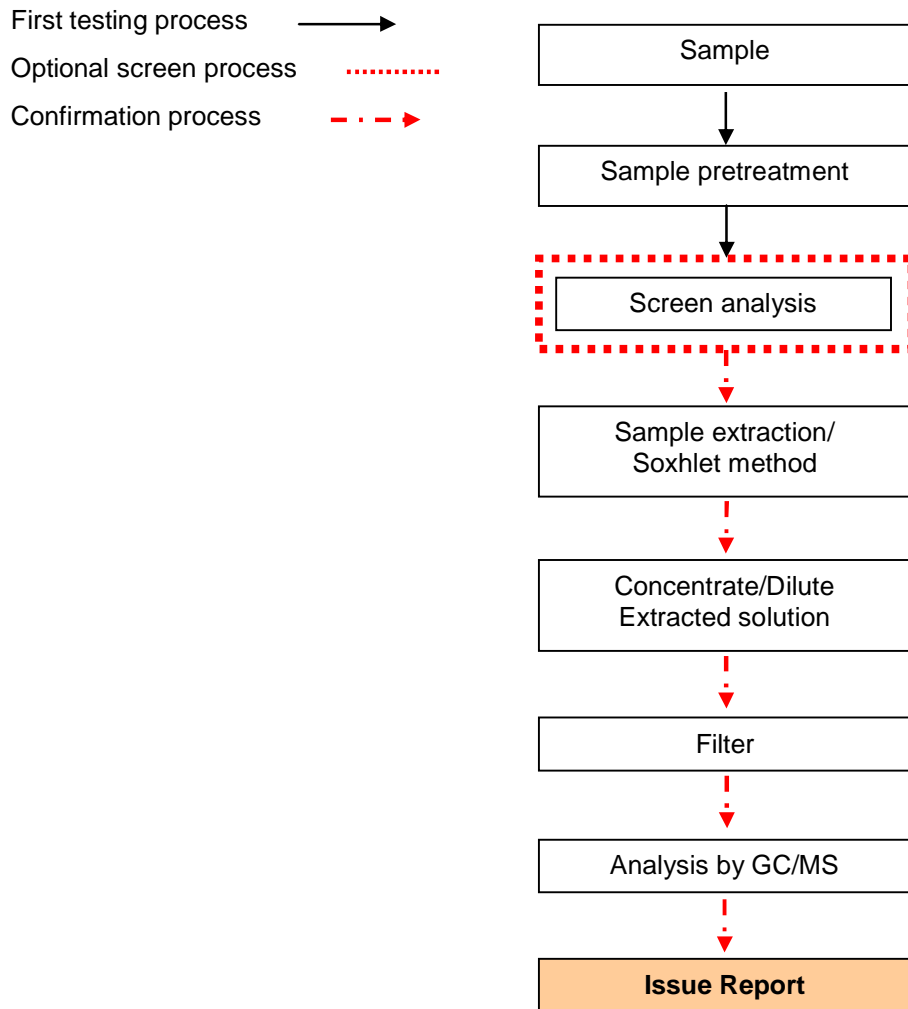
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



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** End of Report **

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18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : MANGANESE NITRATE
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/2/13
Testing Period : 2008/2/13 TO 2008/2/20

=====
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-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : PINK PASTE

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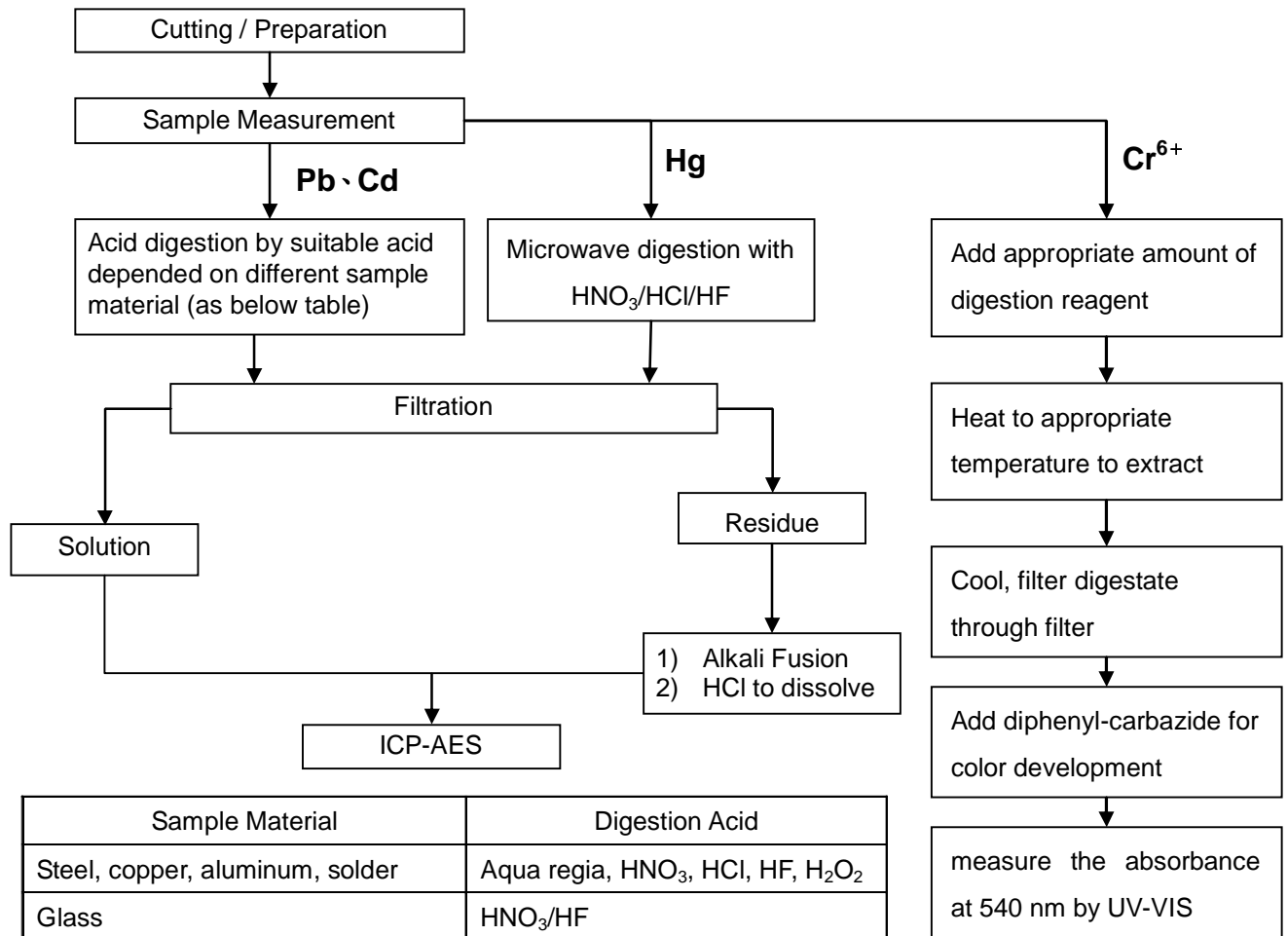
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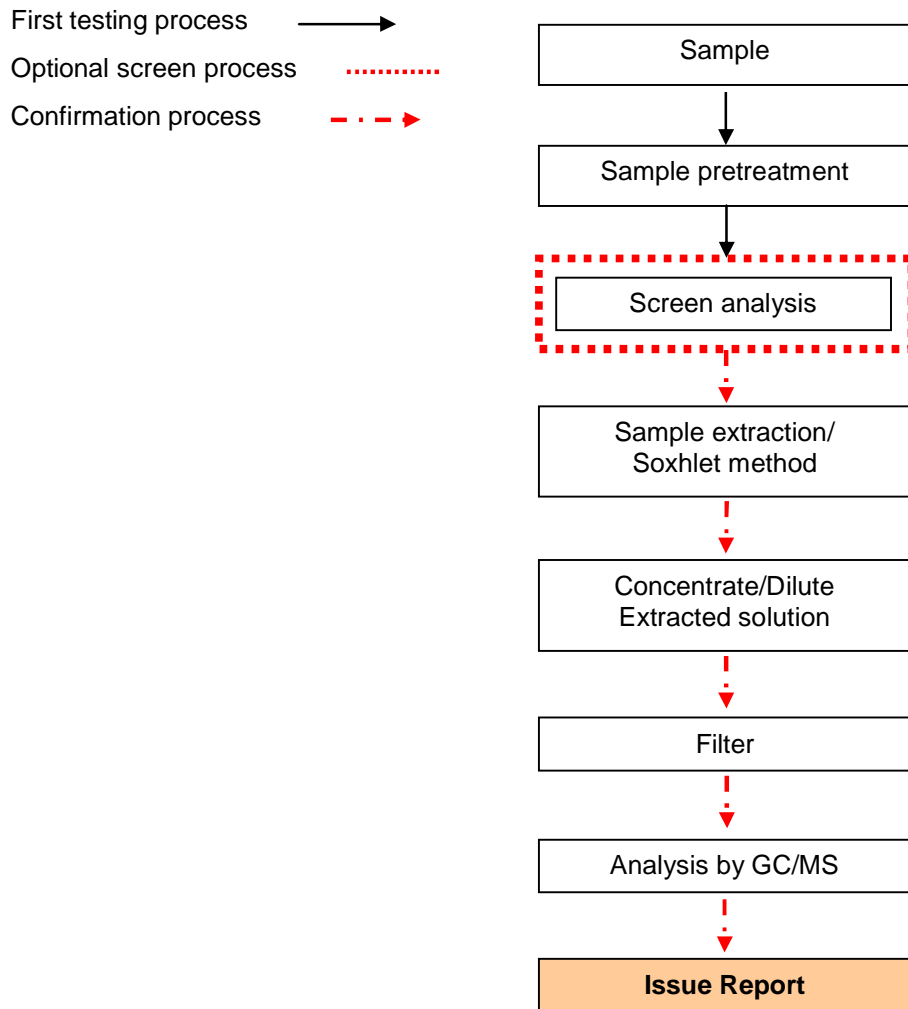
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



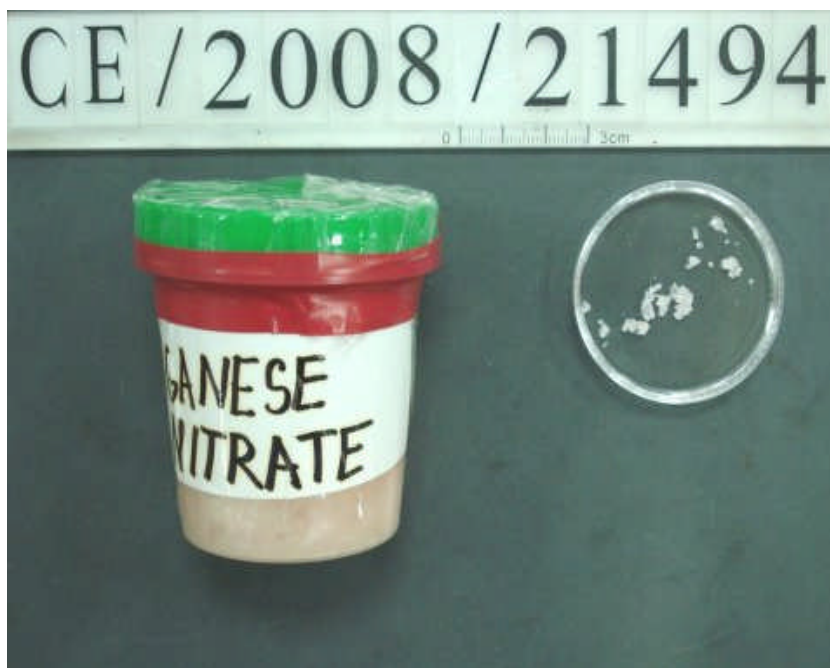
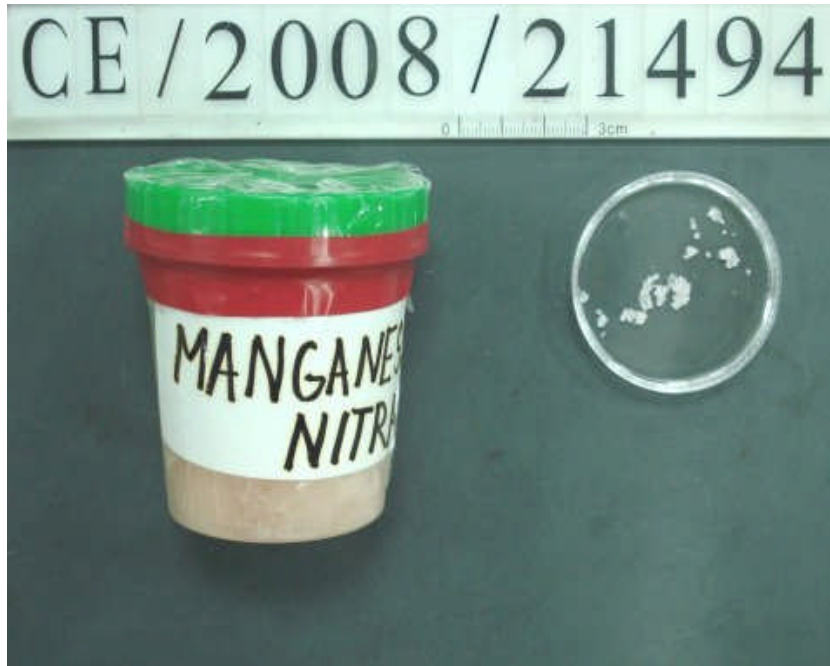
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18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : GRAPHITE STD
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/1/31
Testing Period : 2008/1/31 TO 2008/2/13

=====
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 Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

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18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : BLACK PASTE

- 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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No. : CE/2008/19551

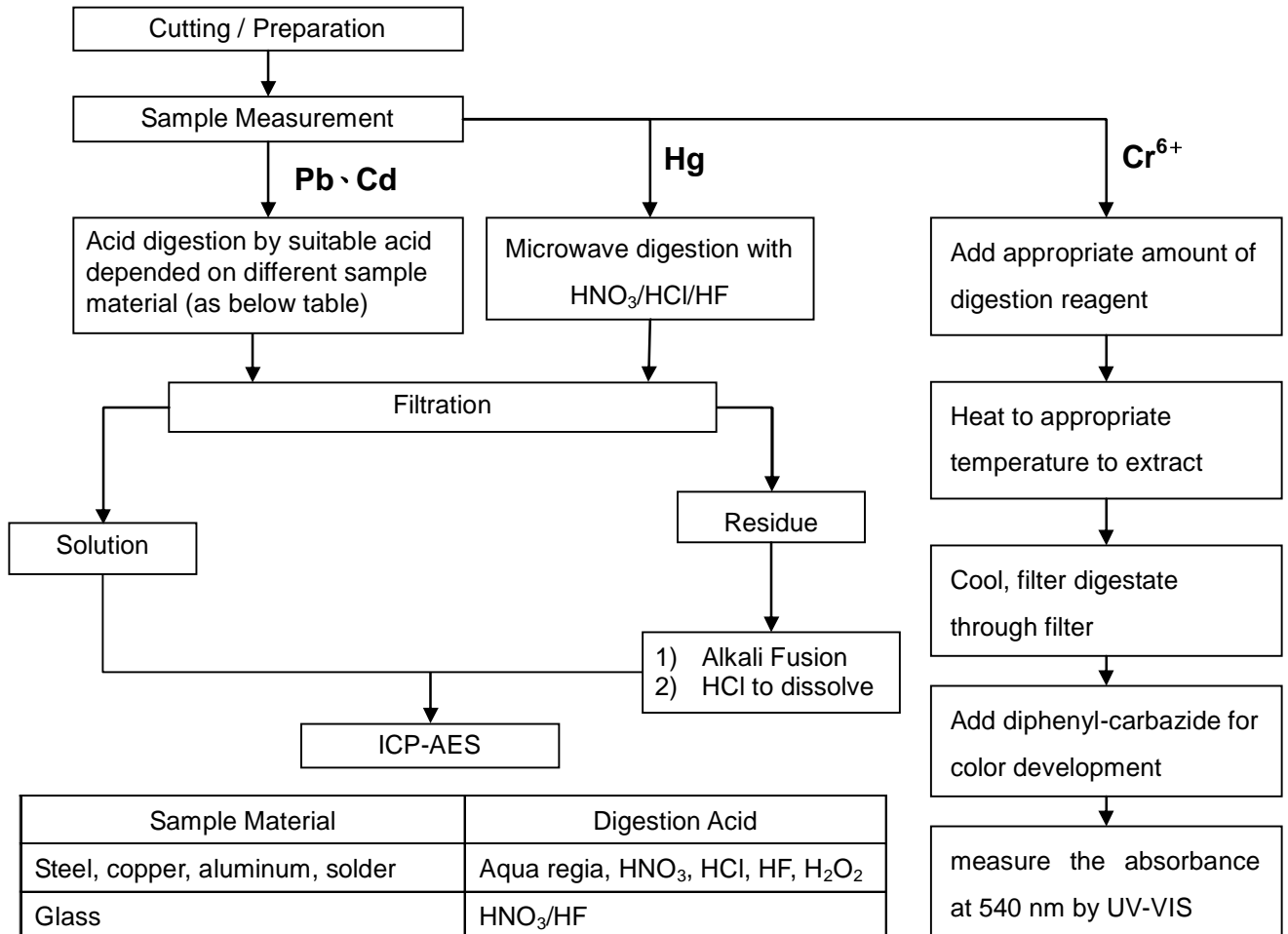
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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
 18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



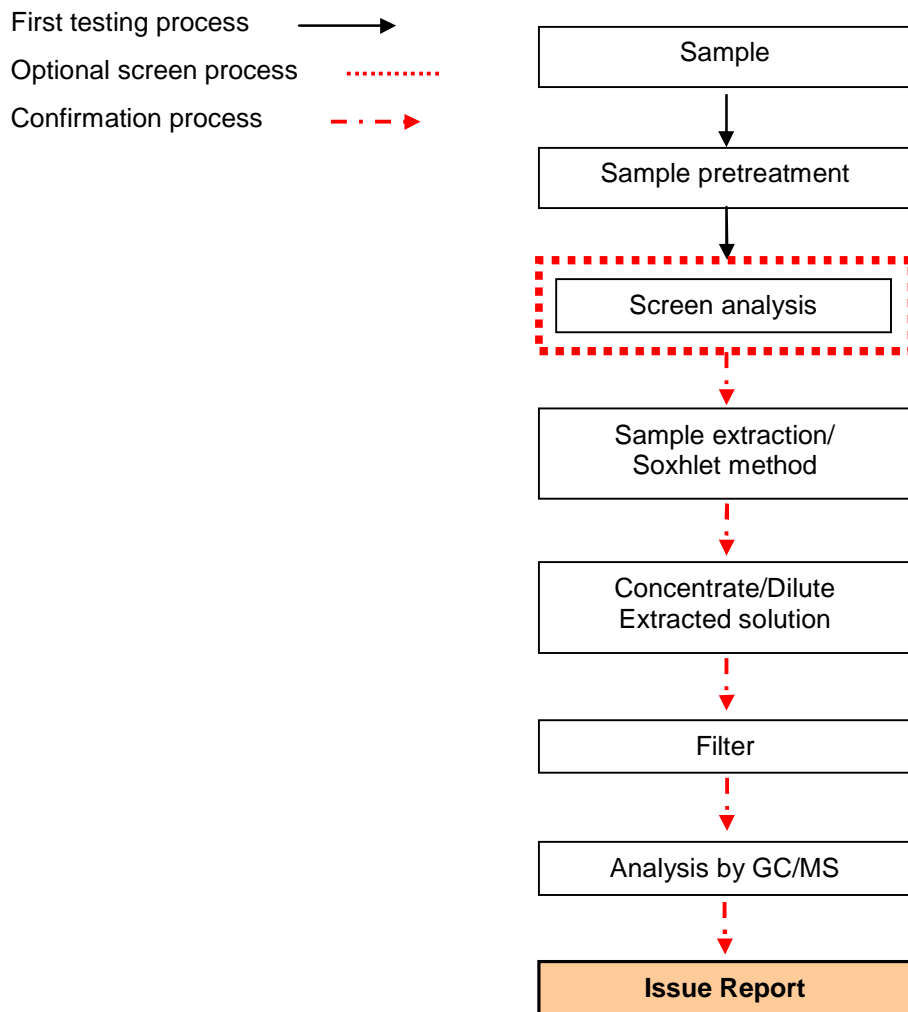
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



Test Report

No. : CE/2008/19551 Date : 2008/02/13

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



** End of Report **

Test Report

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : SILVER I
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/2/13
Testing Period : 2008/2/13 TO 2008/2/20

=====
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-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

No. : CE/2008/21499 Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : SILVER-GRAY COLORED LIQUID

- 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

Test Report

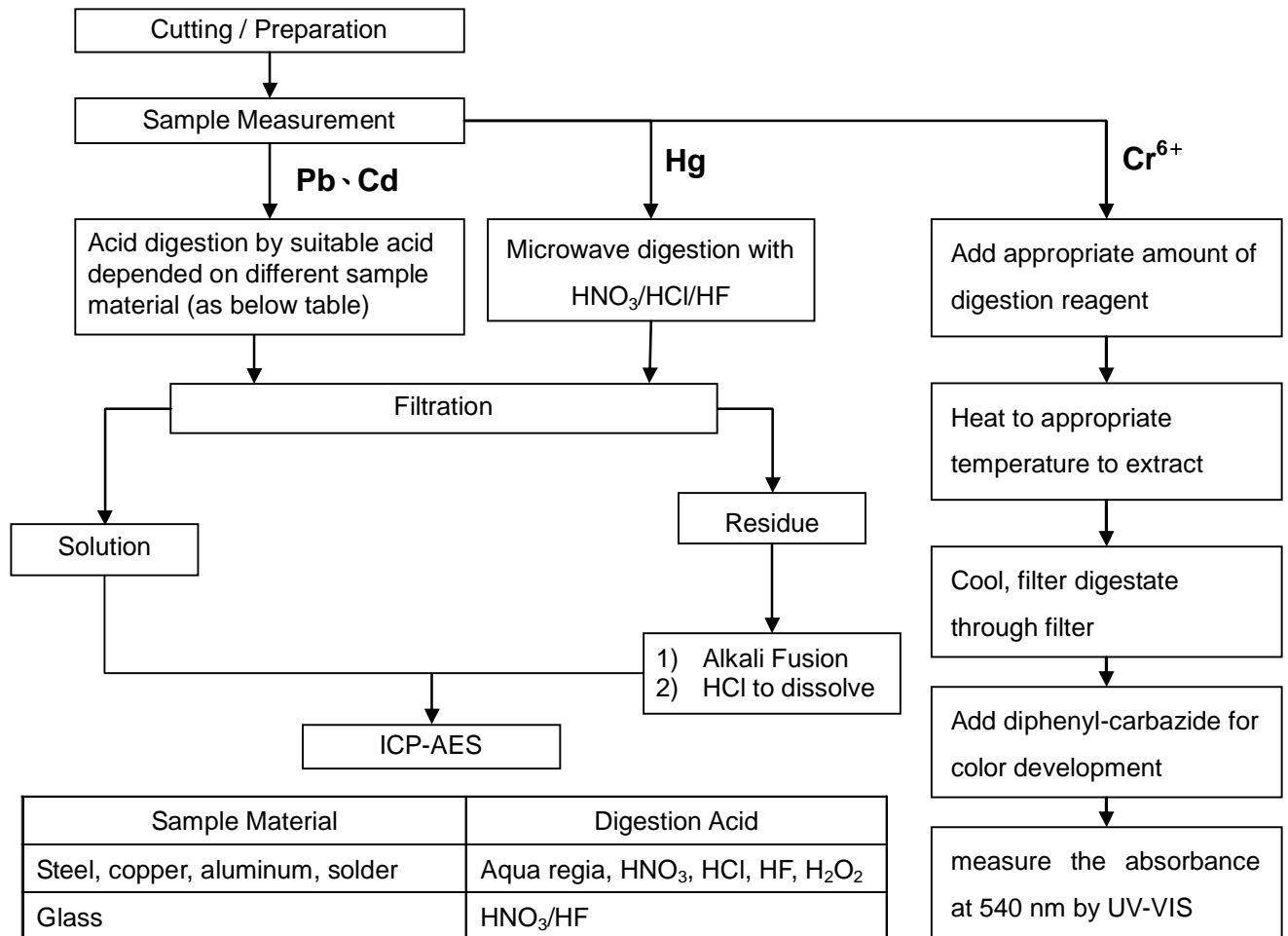
No. : CE/2008/21499 Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
 18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



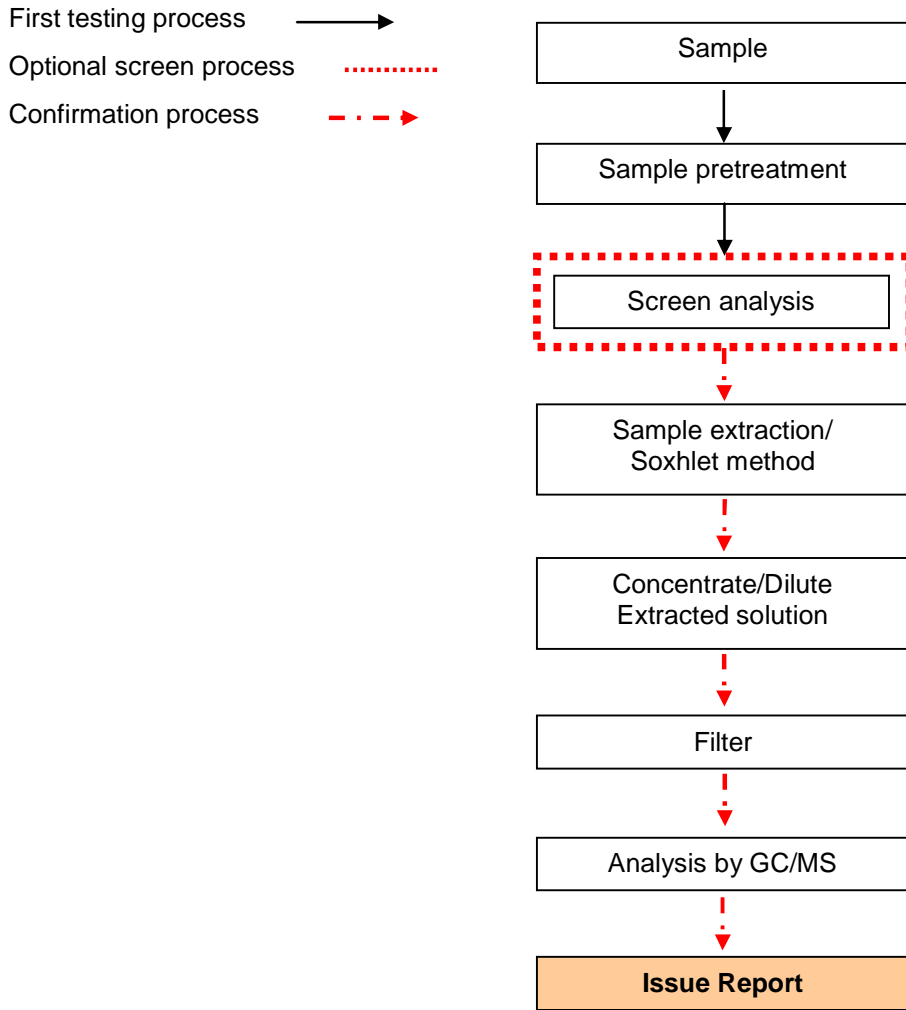
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



Test Report

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



** End of Report **

Test Report

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : SILICONE
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/1/31
Testing Period : 2008/1/31 TO 2008/2/13

=====
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 Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : TRANSPARENT LIQUID

- 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

Test Report

No. : CE/2008/19550

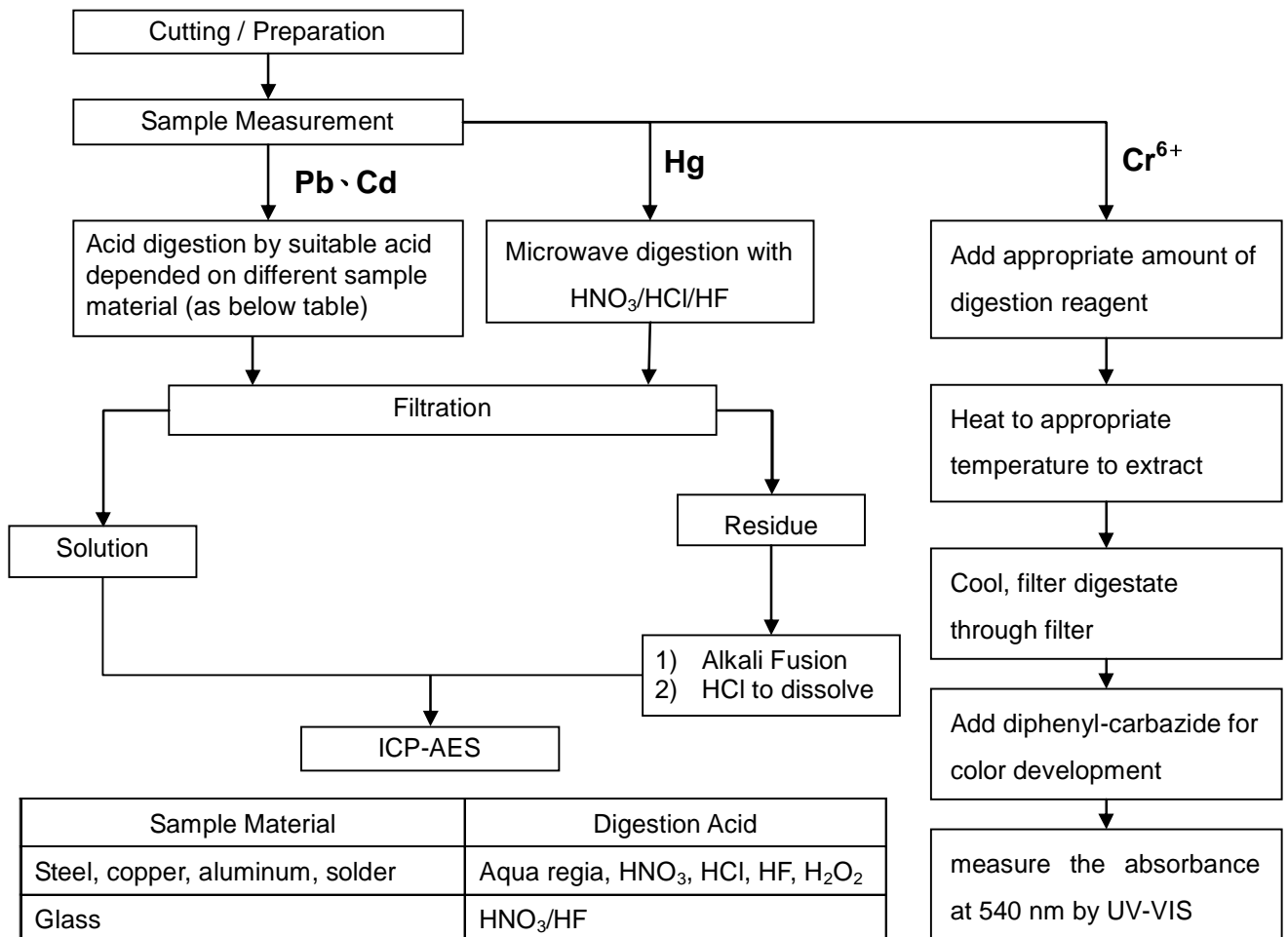
Date : 2008/02/13

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
 18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



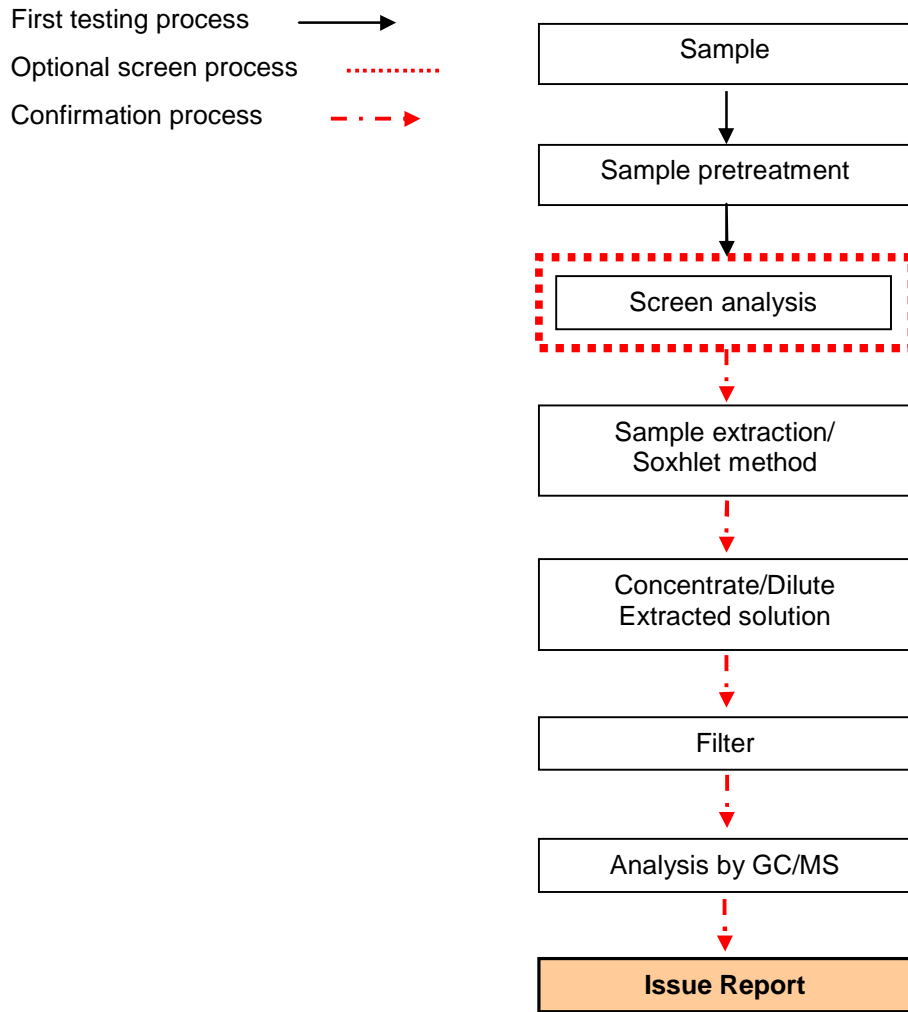
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



Test Report

No. : CE/2008/19550 Date : 2008/02/13

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



** End of Report **

Test Report

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Sample Description : PASTE II
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/2/13
Testing Period : 2008/2/13 TO 2008/2/20

=====
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-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

No. : CE/2008/21498

Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : GRAY PASTE

- 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

Test Report

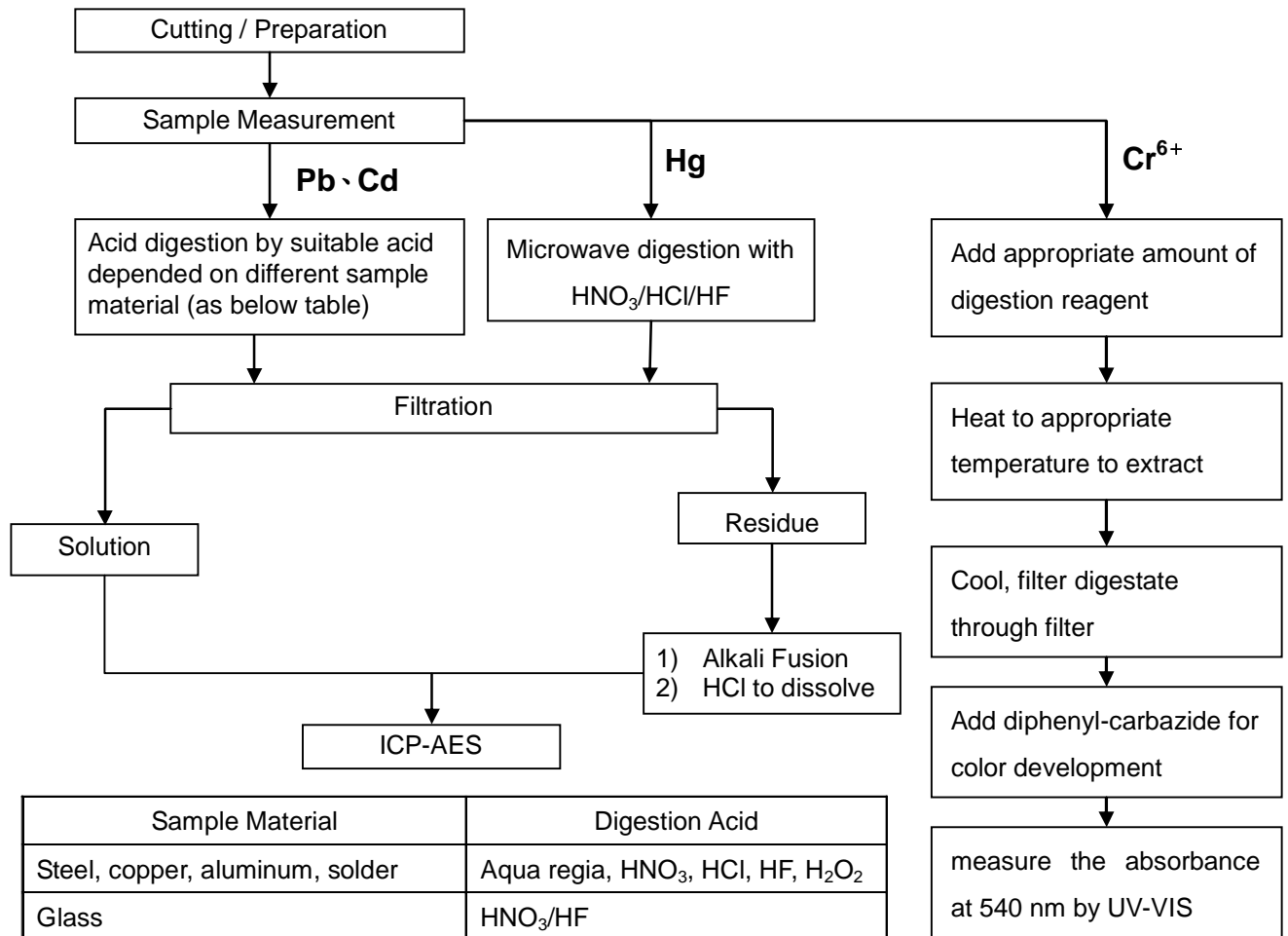
No. : CE/2008/21498 Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
 18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



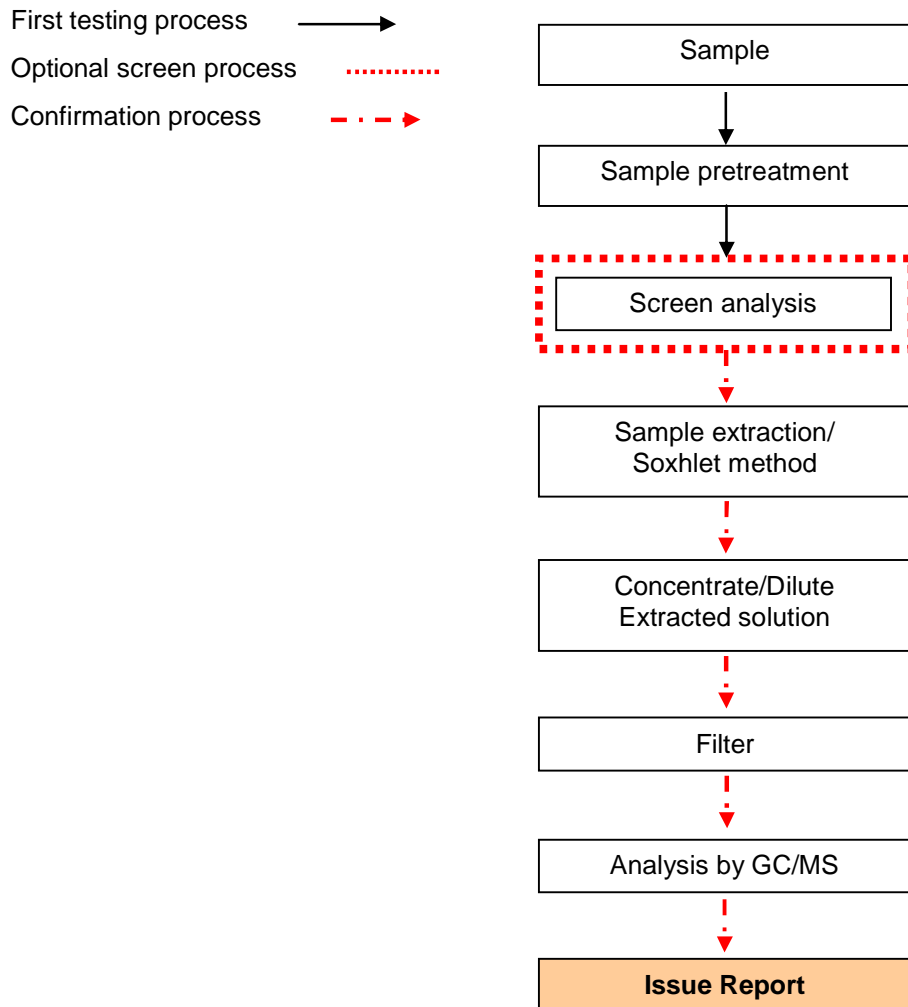
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



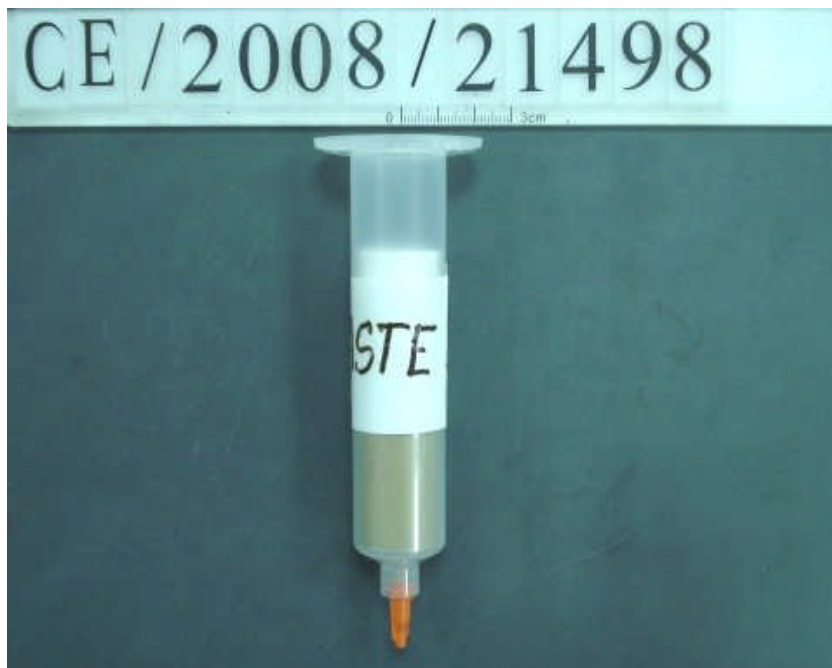
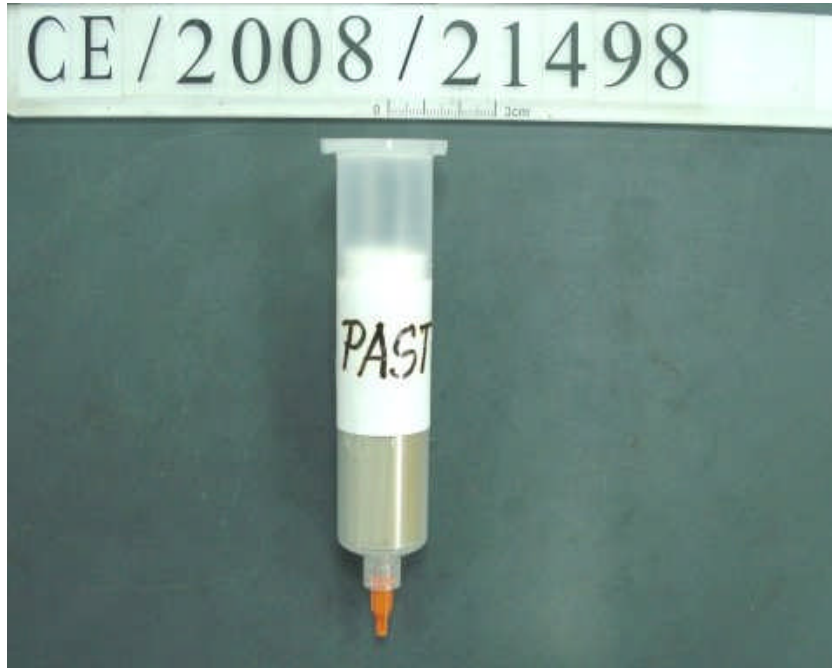
Test Report

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



** End of Report **

Test Report

No. : CE/2008/19553

Date : 2008/02/13

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN




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

Sample Description : SOLDER PASTE
Style/Item No. : SAC4-325-GM5
Sample Receiving Date : 2008/1/31
Testing Period : 2008/1/31 TO 2008/2/13

=====
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 Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.

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

No. : CE/2008/19553

Date : 2008/02/13

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	6	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : GRAY PASTE

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

Test Report

No. : CE/2008/19553

Date : 2008/02/13

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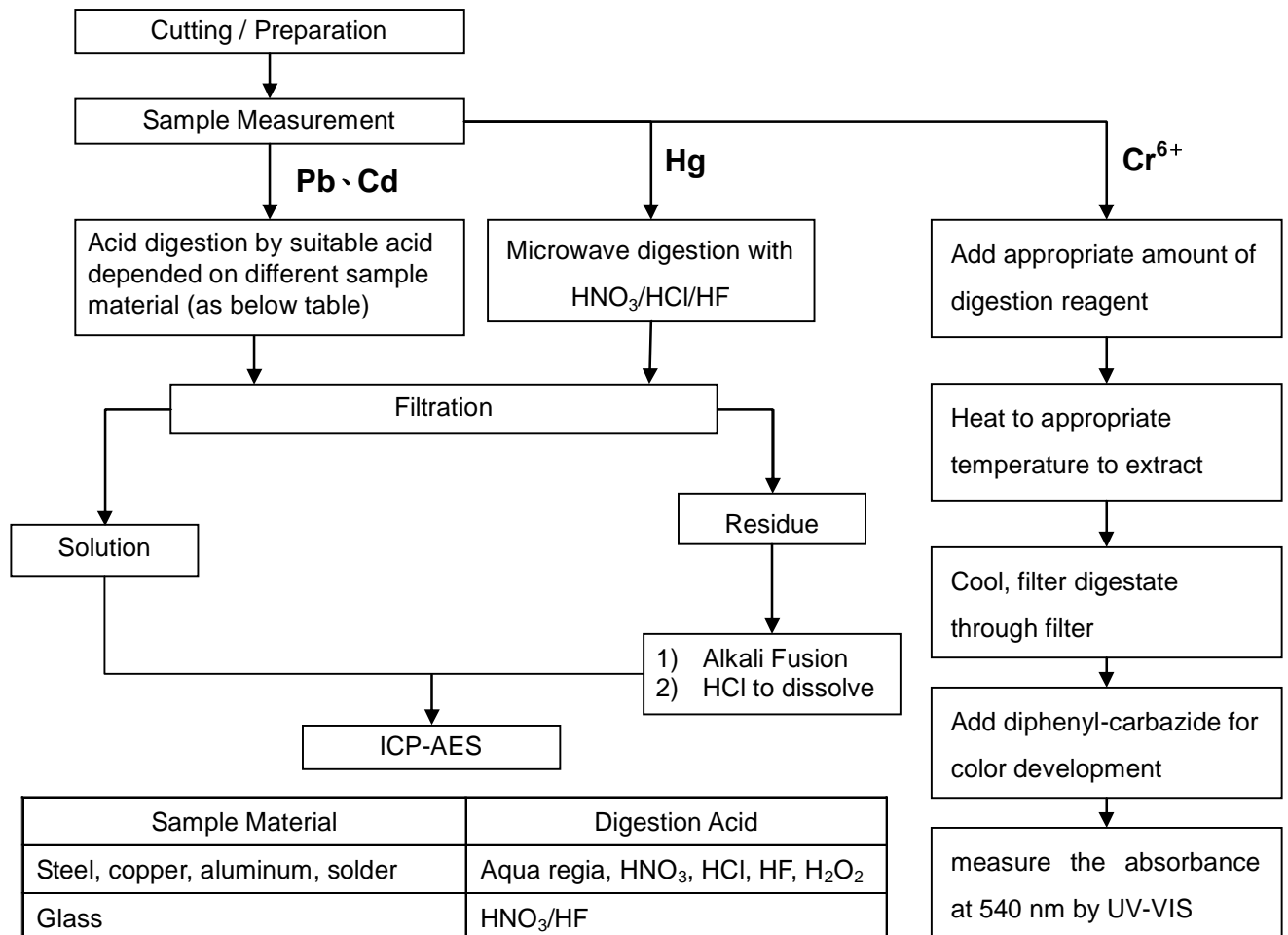
AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
 18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



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: Troy Chang

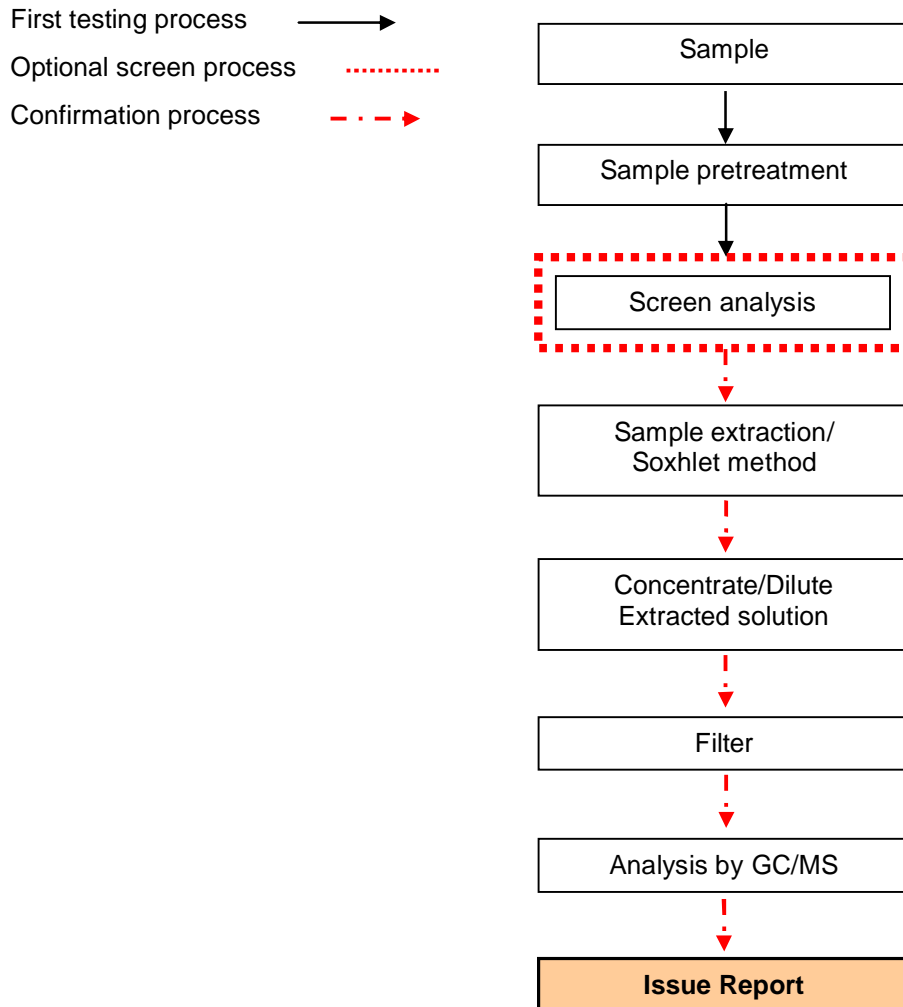
3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



Test Report

No. : CE/2008/19553

Date : 2008/02/13

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN, TAIWAN



** End of Report **

Test Report

No. : CE/2008/19544A Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN,
TAIWAN



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

Sample Description : LEADFRAME NILO-Sn I
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/01/31
Testing Period : 2008/01/31 TO 2008/02/13 AND 2008/02/13 TO 2008/02/20

=====
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-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury 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).

* This reports is added testing and combined with CE/2008/19544 *



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

Test Report

No. : CE/2008/19544A Date : 2008/02/20

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AVX / KYOCERA HONG KONG LTD. TAIWAN BRANCH
18F-6, 77 HSIN TAI WU RD., SEC. 1, HSICHIH, 221, TAIPEI HSIEN,
TAIWAN



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

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

TEST PART DESCRIPTION:

NO.1 : PLATING LAYER OF SILVER COLORED METAL (CE/2008/19544)
NO.2 : BASE MATERIAL OF SILVER COLORED METAL (CE/2008/19544)

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TAIWAN



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 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.

6. "-" = Not Regulated

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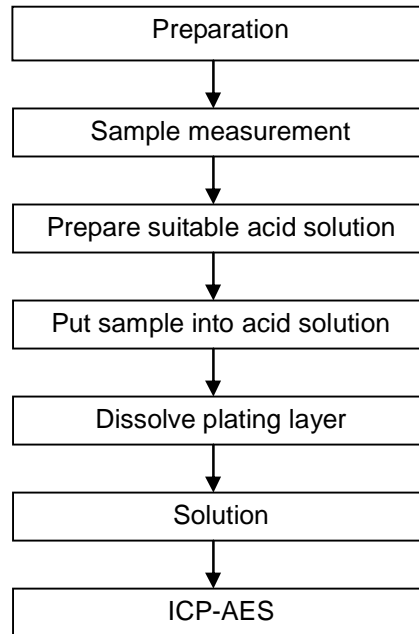
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 TAIWAN



NO.1

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

Flow Chart of Stripping method for metal analysis



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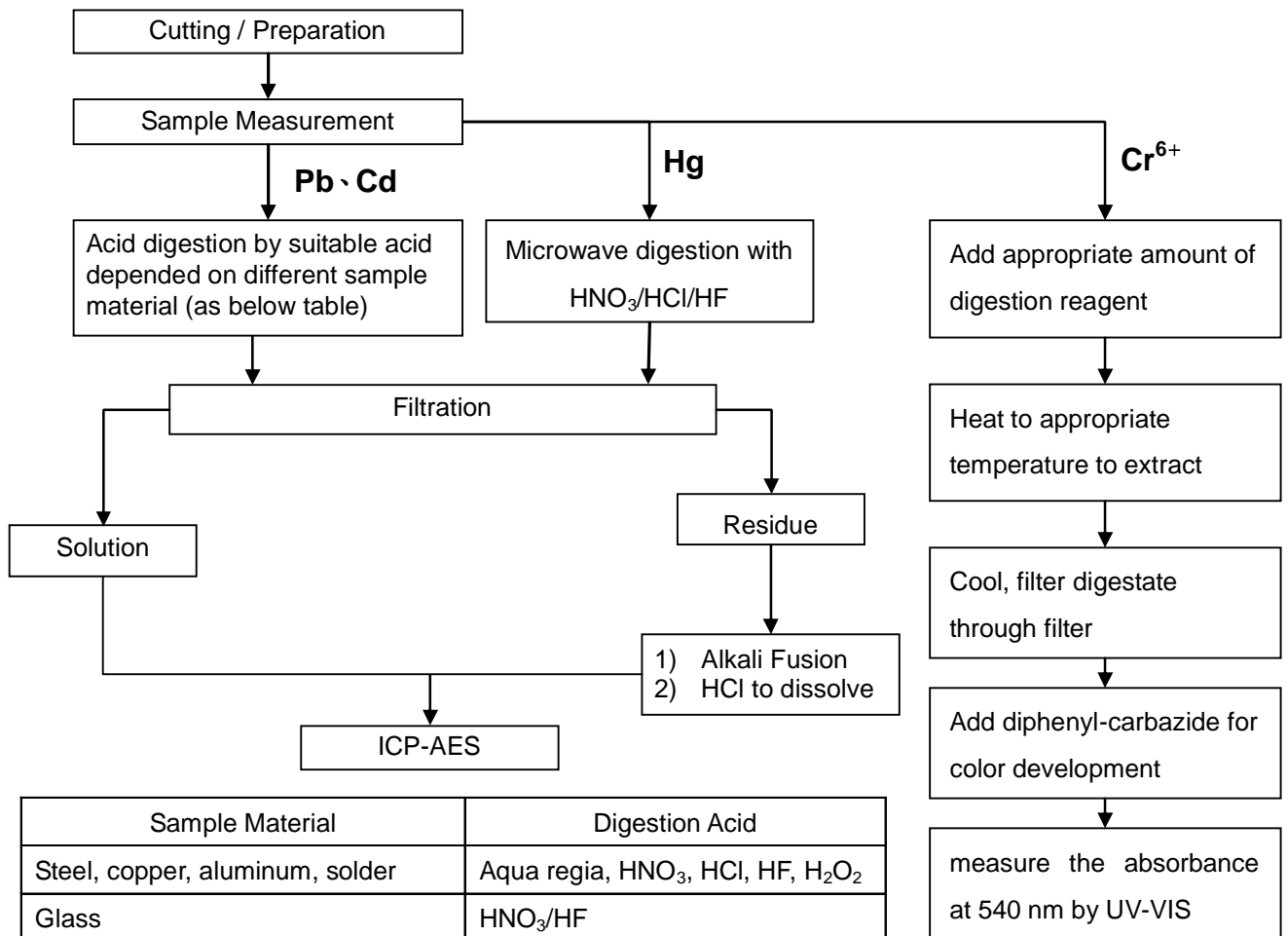
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NO.2

- 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: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung

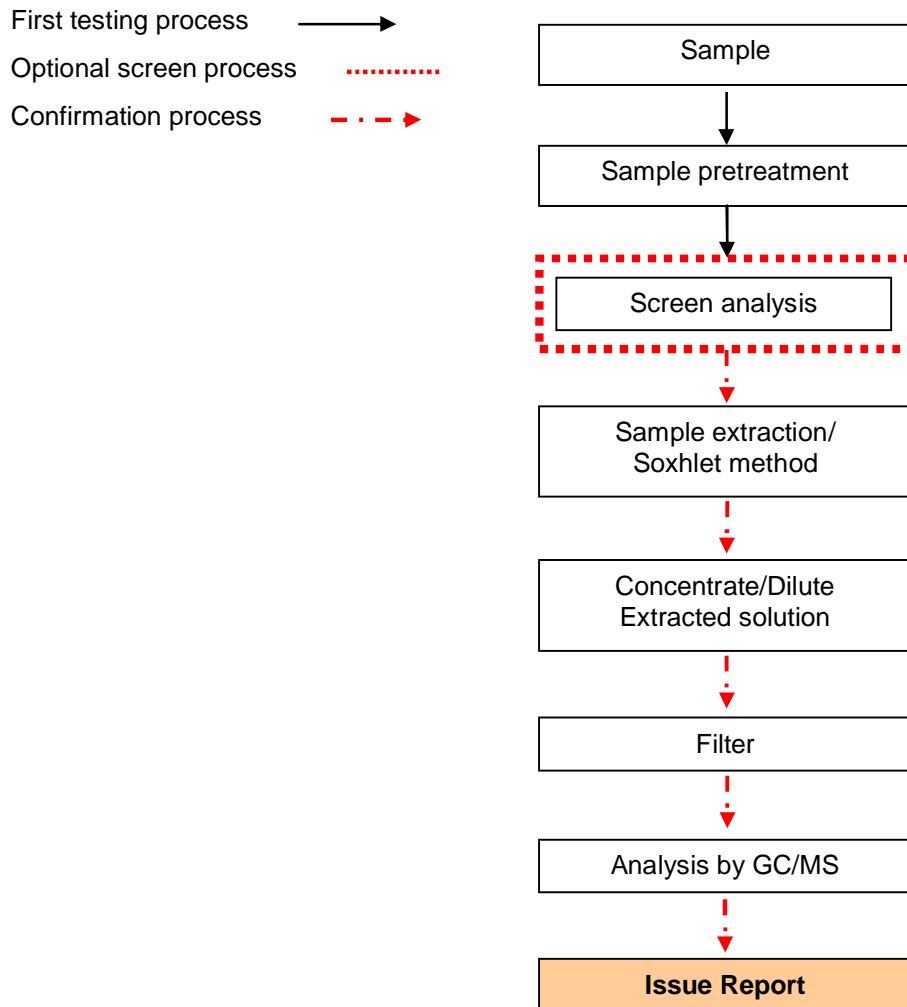


Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Any acid to total digestion

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 TAIWAN



PBB/PBDE analytical FLOW CHART



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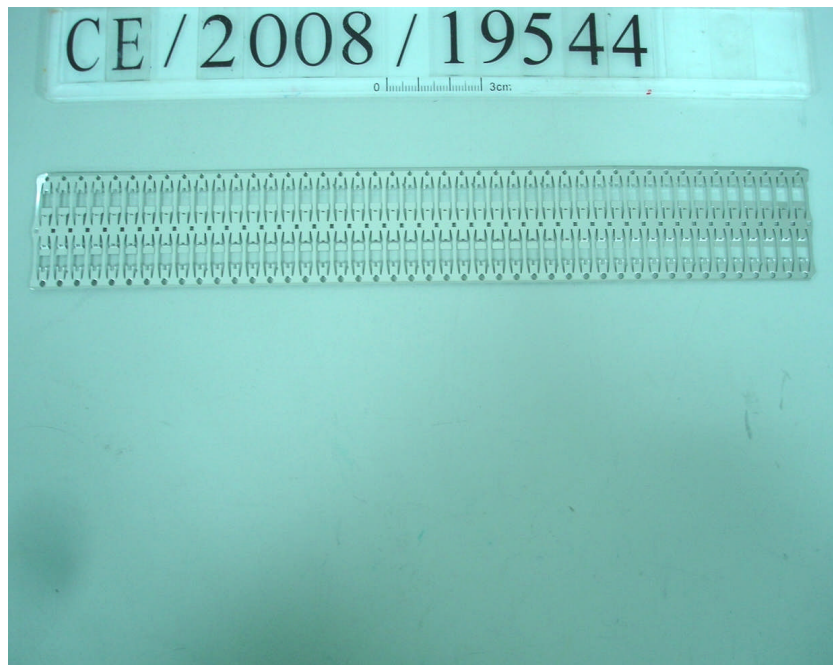
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NO.1



NO.2



** End of Report **

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

Sample Description : MOULDING GOLD GREEN
Style/Item No. : TANTALUM DIVISION
Sample Receiving Date : 2008/1/31
Testing Period : 2008/1/31 TO 2008/2/13

=====
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 Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
(5) Determination of PBB and PBDE by GC/MS.
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

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

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
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.	-
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 : YELLOWISH BROWN LUMP

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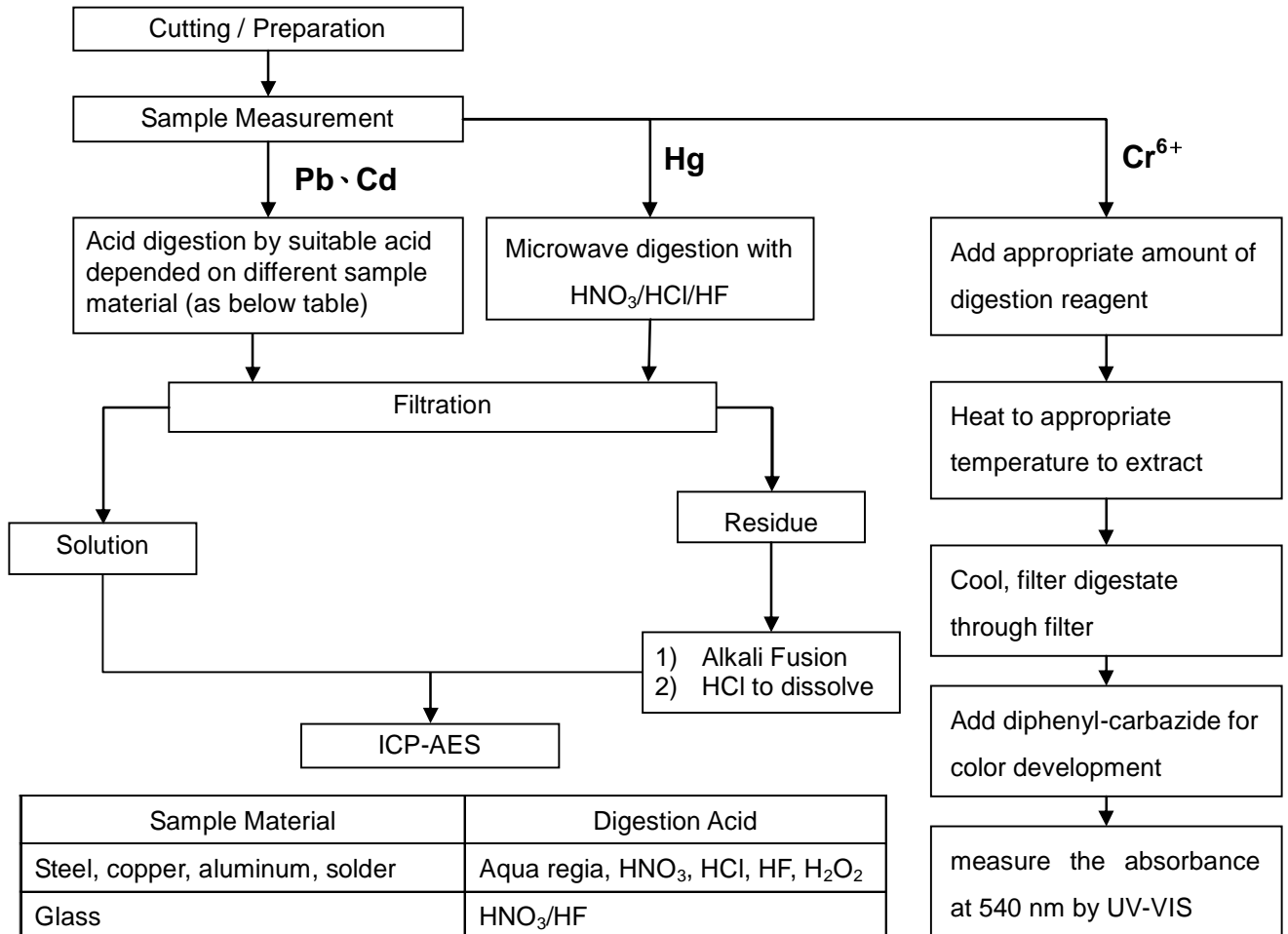
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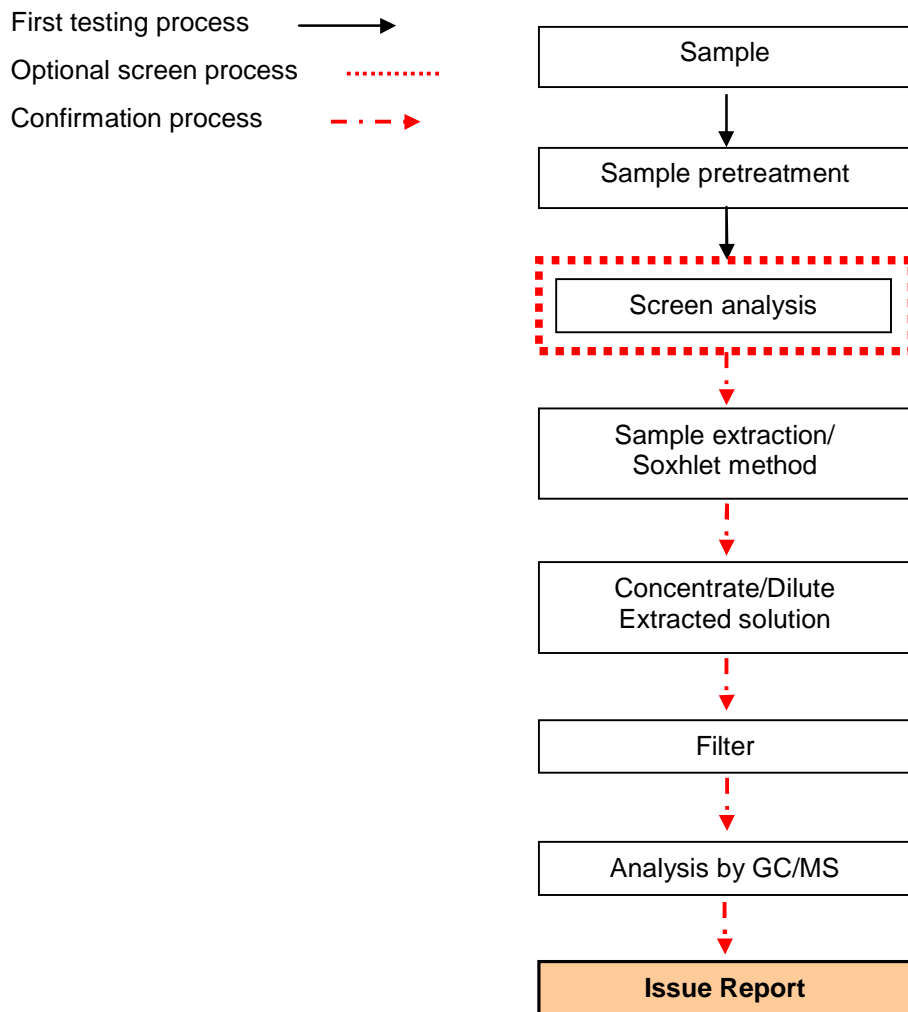
- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
 (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



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



PBB/PBDE analytical FLOW CHART



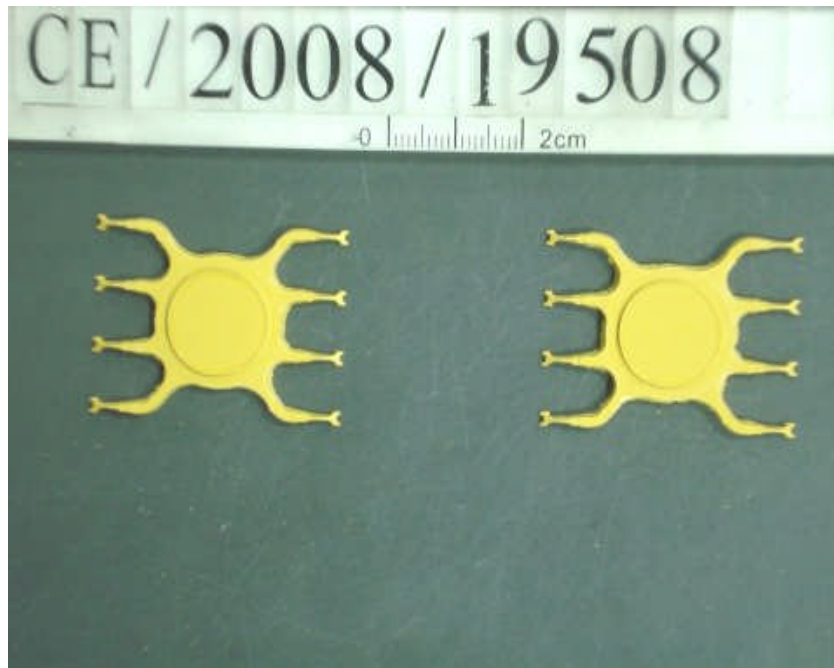
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** End of Report **