TEST REPORT

Applicant : SAM WOO NON-FERROUSMETAL CO., LTD.
Address : 427-2, Nonhyeon-dong, Namdong-gu,
Incheon, Korea

Report No. RT15R-S1179-002-E Date: Mar. 12, 2015

Sample Description	: The following submitted sample(s) said to be:-
Name/Type of Product	: SOLDER BAR
Name of Material	: Sn99.5/Cu0.5
Sample ID No.	: RT15R-S1179-002
Item No.	: PF994
Manufacturer/Vendor	: SAM WOO NON-FERROUSMETAL CO., LTD.
Sample received	: Mar. 09, 2015
Testing Date	: Mar. 09, 2015 ~ Mar. 12, 2015
Test Type	: RoHS wet chemical analysis
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.
* Note 3 : The item no. is assigned by client and indicated according to their requirement and guarantee letter.

Approved by,

Jade Jang / Lab. Technical Manager

Authorized by,

Bo Park / Lab. General Manager

Authenticity check

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0026 Daegu Office : Tel : 053-600-8647 Fax : 053-600-8645 Web Site : www.Intertek.co.kr
Seoul Lab. Address : 1/F, A-ju 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 689-865 Korea

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Sample ID No. : RT15R-S1179-002
Sample Description : SOLDER BAR

Test Item	Unit	Test Method	MDL	Result
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES	0.5	N.D.
Lead (Pb)	mg/kg		5	293
Mercury (Hg)	mg/kg	With reference to IEC 62321-4 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES	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 50 cm^2)	Negative

Tested by : Jean Kim, Jooyeon Lee

Notes : mg/kg = ppm = parts per million
mg/kg with 50 cm^2 = 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 50 cm^2 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.

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Sample ID No. : RT15R-S1179-002
Sample Description : SOLDER BAR

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 : Hyoji Lee

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

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Sample ID No. : RT15R-S1179-002
Sample Description : SOLDER BAR

* View of sample as received;-

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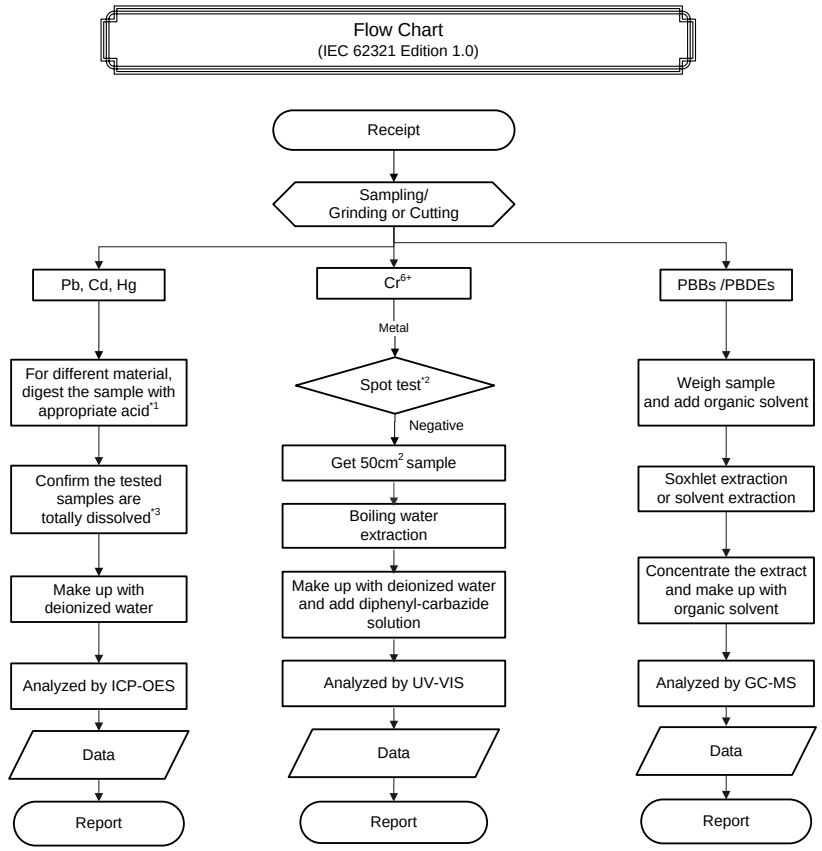
Sample Description : SOLDER BAR



Remarks :

*1 : List of appropriate acid :

Material	Acid added for digestion
Polymers	HNO_3, HCl, HF, H_2O_2, H_3BO_3
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

*2 : If the result of spot test is positive, Chromium (VI) would be determined as detected. No further analysis is required.

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

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

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