LIAN JING METAL MATERIAL (HUI ZHOU) CO., LTD
CHENGHAI AREA, CHENJIANG TOWN, HUIZHOU CITY, GUANGDONG

The following sample(s) was/were submitted and identified on behalf of the applicant as
LEAD-FREE SOLDER BAR

SGS Job No.	: SCATR1007004731
Tested sample information	: LEAD-FREE SOLDER BAR
Client Reference Information	: LJ9550B
Buyer	: FENG HUA
Supplier	: LIAN JING METAL MATERIAL (HUI ZHOU) CO., LTD
Manufacturer	: LIAN JING METAL MATERIAL (HUI ZHOU) CO., LTD
Date of Sample Received	: JUL 28, 2010
Testing Period	: JUL 28, 2010 TO AUG 05, 2010

Test Requested: A: As requested by client, SVHC screening is performed according to:
(i) Thirty (30) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before March 30
(ii) Eight (8) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on June 18
B~C: Selected test (s) as requested by client.

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

Summary:

A: According to the specified scope and analytical techniques, concentrations of SVHC are < 0.1% (w/w) in the submitted sample.	PASS

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

Signed for and on behalf of
SGS-CSTC Ltd.

Manson Yang
Approved Signatory

Test Sample :

Sample Description :

Specimen No.	**Description**
No.1	Silvery metal bar
No.2	Silvery metal bar
No.3	Silvery metal bar

A:

Remark :

(1) The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
(A) http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
(B) http://echa.europa.eu/consultations/authorisation/svhc/svhc_cons_en.asp
(C) http://echa.europa.eu/chem_data/reg_int_tables/reg_int_curr_int_en.asp#current_svhc
These lists are under evaluation by ECHA and may subject to change in the future.

(2) In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).

(3) Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

(4) If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

Test Method :

SGS In-House method-RSTS-EE-SVHC-003, RSTS-EE-SVHC-004, Analyzed by ICP-OES, GC-MS and UV-VIS.

Test Result: (Substances in the Candidate List of SVHC)

Substance Name	CAS No.	EC No.	Concentration(%) No.2	RL(%)
2,4-Dinitrotoluene	121-14-2	204-450-0	ND	0.050
4,4'-Diaminodiphenylmethane(MDA)	101-77-9	202-974-4	ND	0.050
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	ND	0.050
Acrylamide	79-06-01	201-173-7	ND	0.050
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	ND	0.050
Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	-	ND	0.005
Anthracene	120-12-7	204-371-1	ND	0.050
Anthracene oil**	90640-80-5	292-602-7	ND	0.050
Anthracene oil, anthracene paste**	90640-81-6	292-603-2	ND	0.050
Anthracene oil, anthracene paste, anthracene fraction**	91995-15-2	295-275-9	ND	0.050
Anthracene oil, anthracene paste, distn. Lights**	91995-17-4	295-278-5	ND	0.050
Anthracene oil, anthracene-low**	90640-82-7	292-604-8	ND	0.050
Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	ND	0.050
Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0	ND	0.050
Bis(tributyltin)oxide (TBTO)	56-35-9	200-268-0	ND	0.050
Cobalt dichloride*	7646-79-9	231-589-4	ND	0.005
Diarsenic pentaoxide*	1303-28-2	215-116-9	ND	0.005
Diarsenic trioxide*	1327-53-3	215-481-4	ND	0.005
Dibutyl phthalate (DBP)	84-74-2	201-557-4	ND	0.050
Diisobutyl phthalate	84-69-5	201-553-2	ND	0.050
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD) Δ	25637-99-4 and 3194- 55-6	247-148-4 and 221-695-9	ND	0.050
Lead chromate*	7758-97-6	231-846-0	ND	0.005
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	ND	0.005
Lead hydrogen arsenate*	7784-40-9	232-064-2	ND	0.005
Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	ND	0.005
Pitch, coal tar, high temp.**	65996-93-2	266-028-2	ND	0.050
Sodium dichromate*	7789-12-0 and 10588-01-9	234-190-3	ND	0.005
Triethyl arsenate*	15606-95-8	427-700-2	ND	0.005
Tris(2-chloroethyl)phosphate	115-96-8	204-118-5	ND	0.050
Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	-	ND	0.005

Test Result: (Substances in the Candidate List of SVHC)

Substance Name	CAS No.	EC No.	Concentration(%)	RL(%)
			No.1	
Ammonium dichromate*	7789-09-5	232-143-1	ND	0.005
Boric acid*	10043-35-3 11113-50-1	233-139-2 234-343-4	ND	0.005
Disodium tetraborate, anhydrous*	1303-96-4 1330-43-4 12179-04-3	215-540-4	ND	0.005
Potassium chromate*	7789-00-6	232-140-5	ND	0.005
Potassium dichromate*	7778-50-9	231-906-6	ND	0.005
Sodium chromate*	7775-11-3	231-889-5	ND	0.005
Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	ND	0.005
Trichloroethylene	79-01-6	201-167-4	ND	0.050

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Notes:

(1) RL = Reporting Limit. All RL are based on homogenous material
ND = Not detected (lower than RL), ND is denoted on the target compound.

(2) $^{\Delta}$ CAS No. of diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD): 134237-50-6, 134237-51-7, 134237-52-8

(3) * Calculated concentration of cobalt dichloride is based on the identified cobalt by ICP-OES with reference to the technique review.

Calculated concentration of diarsenic pentaoxide, diarsenic trioxide, lead hydrogen arsenate and triethyl arsenate are based on the identified arsenic and lead by ICP-OES.

Calculated concentrations of sodium dichromate is based on the identified sodium by ICP-OES and the identified chromium(VI) by UV-Vis.

Calculated concentration of lead chromate, lead chromate molybdate sulphate red and lead sulfochromate yellow are based on the identified lead, chromium and molybdenum by ICP-OES.

Calculated concentration of aluminosilicate refractory ceramic fibres and zirconia aluminosilicate refractory ceramic fibres are based on the identified silicon, aluminum and zirconium by ICP-OES, with reference to the technique review.

Calculated concentration of ammonium dichromate is based on the identified chromium(VI) by UV-Vis.

Calculated concentration of boric acid is based on the identified boron by ICP-OES and confirmation by water extraction.

Calculated concentration of disodium tetraborate, anhydrous and tetraboron disodium heptaoxide, hydrate are based on the identified sodium and boron by ICP-OES and confirmation by water extraction.

Calculated concentrations of potassium chromate and potassium dichromate are based on the identified potassium by ICP-OES and the identified chromium(VI) by UV-Vis.

Calculated concentrations of sodium chromate is based on the identified sodium by ICP-OES and the identified chromium(VI) by UV-Vis.

The client is advised to review the chemical formulation to ascertain above substances present in the sample.

RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, sodium, chromium, chromium (VI), silicon, aluminum, zirconium, boron and potassium respectively), except molybdenum RL=0.0005%

(4) ** The SVHC consists of a diverse combination of chemical compounds fulfilling the definition of UVCB (substances of Unknown or Variable composition, Complex reaction products or Biological materials) under REACH regulation. Test result is calculated as per selected identifiers of the SVHC. The values are determined based on a reference anthracene oil and coal tar. Calculation is based on the worst-case scenario. Due to the UVCB nature the reported values may be regarded as semi-quantitative.

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B: RoHS Directive 2002/95/EC

Test Item(s)	Unit	Test Method (Reference)	No.3	MDL	Limit
Cadmium (Cd)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	100
Lead (Pb)	mg/kg	IEC 62321: 2008, ICP-OES	24	2	1000
Mercury (Hg)	mg/kg	IEC 62321: 2008, ICP-OES	N.D.	2	1000
Hexavalent Chromium (CrVI) by boiling water extraction	-	IEC 62321: 2008, UV-Vis	Negative	◇	#
Sum of PBBs	mg/kg	-	N.D.	-	1000
Monobromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromobiphenyl	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Sum of PBDEs	mg/kg	-	N.D.	-	1000
Monobromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Dibromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tribromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Tetrabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Pentabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Hexabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Heptabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Octabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Nonabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	
Decabromodiphenyl ether	mg/kg	IEC 62321: 2008, GC-MS	N.D.	5	

Note:
1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
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 cm^2 sample surface area.
   Storage conditions and production date of the tested sample are unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.
5. # = Positive indicates the presence of CrVI on the tested area.
   Negative indicates the absence of CrVI on the tested area.
6. "-" = Not regulated

C: Halogen

Test Item(s)	Unit	Test Method (Reference)	No.3	MDL
Fluorine (F)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Chlorine (Cl)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Bromine (Br)	mg/kg	BS EN 14582:2007, IC	N.D.	50
Iodine (I)	mg/kg	BS EN 14582:2007, IC	N.D.	50

Note:
1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit

Remark1: Results & photo(s) of No.1 in this report refer to No.1 in test report GZ1007086992/CHEM.
Remark2: Results & photo(s) of No.2&No.3 in this report refer to No.1&No.2 in test report GZ1007084118/CHEM.
Remark3: Results & photo(s) of No.1 in test report GZ1007084118/CHEM refer to test report GZ1005056547/CHEM.
Remark4: Results & photo(s) of No.2 in test report GZ1007084118/CHEM refer to test report GZ1007084111/CHEM

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Sample photo :

No.1

No.2

No.3

SGS authenticate the photo on original report only

*** End of Report ***

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