

**Test Report
(SVHC)**

No. CANEC1200873707

Date: 14 Feb 2012

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DONG GUAN CITY YUE CHENG TIN CO.,LTD.
LUDONG INDUSTRIAL ZONE,HUMEN,DONGGUAN,GUANGDONG
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : Lead-free solder wire(in chinese as 无铅锡线)(Sn-Cu/Sn-Ag-Cu)

SGS Job No. : CP12-002820 - SZ

Date of Sample Received : 08 Feb 2012

Testing Period : 08 Feb 2012 - 14 Feb 2012

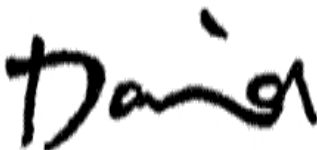
Test Requested : As requested by client, SVHC screening is performed according to:
(i) Seventy three (73) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Dec 19, 2011 regarding Regulation (EC) No 1907/2006 concerning the REACH.

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

Summary :

According to the specified scope and analytical techniques, concentrations of tested SVHC are ≤ 0.1% (w/w) in selected parts of the submitted sample.	PASS
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Signed for and on behalf of
SGS-CSTC Ltd.



David Zhou
Approved Signatory

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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:
<http://echa.europa.eu/web/guest/candidate-list-table>
 These lists are under evaluation by ECHA and may subject to change in the future.

- (2) Concerning article(s):

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).

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.

SGS adopts the interpretation of ECHA for SVHC in article unless indicated otherwise. Detail explanation is available at the following link:

http://webstage.contribute.sgs.net/corpreach/documents/SGS-CTS_SVHC-paper-EN-11.pdf

- (3) Concerning material(s):

Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

- (4) Concerning substance and preparation:

If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and No 790/2009, client is suggested to prepare a Safety Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:

- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.

- a mixture that is classified as dangerous according Dangerous Preparations Directive 1999/45/EC or classified as hazardous under the CLP Regulation (EC) No 1272/2008, when their concentrations are equal to, or greater than, those defined in the Article 3(3) of 1999/45/EC or the lower values given in Part 3 of Annex VI of Regulation (EC) No. 1272/2008; or

- a mixture is not classified as dangerous under Directive 1999/45/EC, but contains either:

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- (a) a substance posing human health or environmental hazards in an individual concentration of $\geq 1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or $\geq 0.2\%$ by volume for gaseous mixtures; or
- (b) a substance that is PBT, or vPvB in an individual concentration of $\geq 0.1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or
- (c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of $\geq 0.1\%$ by weight for non-gaseous mixtures; or
- (d) a substance for which there are Europe-wide workplace exposure limits.

- (5) 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 Sample :

Sample Description :

Specimen No.	SGS Sample ID	Description
1	CAN12-008737.001	Silvery metal wire

Test Method :

SGS In-House method-GZTC CHEM-TOP-092-01, GZTC CHEM-TOP-092-02, Analyzed by ICP-OES, GC-MS Colorimetric method/HPLC and UV-VIS.

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

Substance Name	CAS No.	EC No.	001 Concentration (%)	RL (%)
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	276-158-1	ND	0.050
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	271-084-6	ND	0.050
1,2-Dichloroethane	107-06-2	203-458-1	ND	0.050
1,2,3-trichloropropane	96-18-4	202-486-1	ND	0.050
1-methyl-2-pyrrolidone	872-50-4	212-828-1	ND	0.050
2,2'-dichloro-4,4'-methylenedianiline	101-14-4	202-918-9	ND	0.050
2,4-Dinitrotoluene	121-14-2	204-450-0	ND	0.050
2-Ethoxyethanol	110-80-5	203-804-1	ND	0.050
2-ethoxyethyl acetate	111-15-9	203-839-2	ND	0.050
2-Methoxyaniline; o-Anisidine	90-04-0	201-963-1	ND	0.050
2-Methoxyethanol	109-86-4	203-713-7	ND	0.050
4,4-Diaminodiphenylmethane(MDA)	101-77-9	202-974-4	ND	0.050
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	205-426-2	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

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Substance Name	CAS No.	EC No.	001 Concentration (%)	RL (%)
Aluminosilicate Refractory Ceramic Fibres [with Al ₂ O ₃ and SiO ₂ present in certain concentration ranges (Al ₂ O ₃ : 43.5 - 47 % w/w, and SiO ₂ : 49.5 - 53.5 % w/w, or Al ₂ O ₃ : 45.5 - 50.5 % w/w, and SiO ₂ : 48.5 - 54 % w/w)]*	650-017-00-8 (Index no.)	-	ND	0.005
Aluminosilicate Refractory Ceramic Fibres (with oxides of aluminium and silicon as the main components present in variable concentration ranges)*	650-017-00-8 (Index no.)	-	ND	0.005
Ammonium dichromate*	7789-09-5	232-143-1	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
Arsenic acid*	7778-39-4	231-901-9	ND	0.005
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(2-methoxyethyl) ether	111-96-6	203-924-4	ND	0.050
Bis(2-methoxyethyl) phthalate	117-82-8	204-212-6	ND	0.050
Bis(tributyltin)oxide (TBTO)	56-35-9	200-268-0	ND	0.050
Boric acid*	10043-35-3 11113-50-1	233-139-2 234-343-4	ND	0.005
Calcium arsenate*	7778-44-1	231-904-5	ND	0.005

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Substance Name	CAS No.	EC No.	001 Concentration (%)	RL (%)
Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid*	7738-94-5 13530-68-2	231-801-5 236-881-5	ND	0.005
Chromium trioxide*	1333-82-0	215-607-8	ND	0.005
Cobalt carbonate*	513-79-1	208-169-4	ND	0.005
Cobalt diacetate*	71-48-7	200-755-8	ND	0.005
Cobalt dichloride*	7646-79-9	231-589-4	ND	0.005
Cobalt dinitrate*	10141-05-6	233-402-1	ND	0.005
Cobalt sulphate*	10124-43-3	233-334-2	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
Dichromium tris(chromate) *	24613-89-6	246-356-2	ND	0.005
Diisobutyl phthalate	84-69-5	201-553-2	ND	0.050
Disodium tetraborate, anhydrous*	1303-96-4 1330-43-4 12179-04-3	215-540-4	ND	0.005
Formaldehyde, oligomeric reaction products with aniline	25214-70-4	500-036-1	ND	0.050
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) Δ	25637-99-4 3194-55-6	247-148-4 and 221-695-9	ND	0.050
Hydrazine	7803-57-8 302-01-2	206-114-9	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 diazide, Lead azide*	13424-46-9	236-542-1	ND	0.005

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Substance Name	CAS No.	EC No.	001 Concentration (%)	RL (%)
Lead dipicrate*	6477-64-1	229-335-2	ND	0.005
Lead hydrogen arsenate*	7784-40-9	232-064-2	ND	0.005
Lead styphnate*	15245-44-0	239-290-0	ND	0.005
Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	ND	0.005
N,N-dimethylacetamide	127-19-5	204-826-4	ND	0.050
Pentazinc chromate octahydroxide*	49663-84-5	256-418-0	ND	0.005
Phenolphthalein	77-09-8	201-004-7	ND	0.050
Pitch, coal tar, high temp.*	65996-93-2	266-028-2	ND	0.050
Potassium chromate*	7789-00-6	232-140-5	ND	0.005
Potassium dichromate*	7778-50-9	231-906-6	ND	0.005
Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	234-329-8	ND	0.005
Sodium chromate*	7775-11-3	231-889-5	ND	0.005
Sodium dichromate*	7789-12-0 10588-01-9	234-190-3	ND	0.005
Strontium chromate*	7789-06-2	232-142-6	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
Triethyl arsenate*	15606-95-8	427-700-2	ND	0.005
Trilead diarsenate*	3687-31-8	222-979-5	ND	0.005
Tris(2-chloroethyl)phosphate	115-96-8	204-118-5	ND	0.050

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Substance Name	CAS No.	EC No.	001 Concentration (%)	RL (%)
Zirconia Aluminosilicate Refractory Ceramic Fibres [with Al ₂ O ₃ , SiO ₂ and ZrO ₂ present in certain concentration ranges (Al ₂ O ₃ : 35 - 36 % w/w, SiO ₂ : 47.5 - 50 % w/w, and ZrO ₂ : 15 - 17 % w/w)]*	650-017-00-8 (Index no.)	-	ND	0.005
Zirconia Aluminosilicate Refractory Ceramic Fibres (with oxides of aluminium, silicon and zirconium as the main components present in variable concentration ranges)*	650-017-00-8 (Index no.)	-	ND	0.005

Notes :

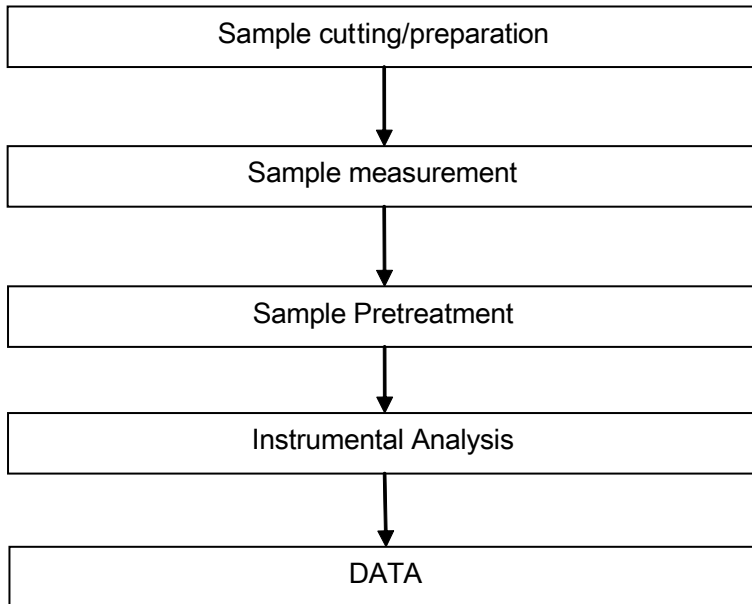
1. RL = Reporting Limit. All RL are based on homogenous material.
ND = Not detected (lower than RL), ND is denoted on the target compound.
2. Δ CAS No. of diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD): 134237-50-6, 134237-51-7, 134237-52-8.
3. *The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website:
www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm
Calculated concentration of boric acid, disodium tetraborate, anhydrous and tetraboron disodium heptaoxide, hydrate are based on the water extractive boron and sodium by ICP-OES.
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%.

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ATTACHMENTS

SVHC Testing Flow Chart

- 1) Name of the person who made testing: Bella Wang / Tina Zhao
- 2) Name of the person in charge of testing: Adams Yu / Ryan Yang



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