



**Test Report
(SVHC)**

No. GZ1005054635/CHEM Date: MAY 27, 2010

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HANGZHOU SILAN MICROELECTRONICS CO., LTD
NO.4 HUANGGUSHAN ROAD, HANGZHOU, ZHEJIANG

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

SGS Job No. : GZ12527419EC
SGS Internal Reference No. : 2.1
Date of Sample Received : MAY 20, 2010
Testing Period : MAY 20, 2010 TO MAY 27, 2010

Test Requested: As requested by client, SVHC screening is performed according to:
Thirty (30) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on March 30, 2010 regarding Regulation (EC) No 1907/2006 concerning the REACH,

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

Summary:

According to the specified scope and analytical techniques, concentrations of SVHC are < 0.1% (w/w) in 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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Test Sample:

Sample Description: "IC"

Test Method:

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

Remark:

- 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/chem_data/authorisation_process/candidate_list_table_en.asp
 - http://echa.europa.eu/consultations/authorisation/svhc/svhc_cons_en.asp
 - http://echa.europa.eu/chem_data/reg_int_tables/reg_int_curr_int_en.asp#current_svhcThese lists are under evaluation by ECHA and may subject to change in the future.
- In accordance with Regulation (EC) No 1907/2006, any 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 is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance 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.
- 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.

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Guangzhou Environmental Chemical Laboratory

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Member of the SGS Group (SGS SA)



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Test Results : (30 substances in the Candidate List of SVHC for authorization)

Substance Name	CAS number	EC number	Concentration (%)	RL (%)
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	N.D.	0.01
Anthracene	120-12-7	204-371-1	N.D.	0.005
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	N.D.	0.005
Dibutyl phthalate (DBP)	84-74-2	201-557-4	N.D.	0.005
4,4-Diaminodiphenylmethane(MDA)	101-77-9	202-974-4	N.D.	0.005
Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	N.D.	0.005
Bis (2-ethylhexylphthalate) (DEHP)	117-81-7	204-211-0	N.D.	0.005
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD)	25637-99-4 / 3194- 55-6 (134237-50-6,134237-51-7,134237-52-8)	247-148-4 / 221-695-9	N.D.	0.005
Bis(tributyltin)oxide*	56-35-9	200-268-0	N.D.	0.005
Cobalt dichloride*	7646-79-9	231-589-4	N.D.	0.005
Diarsenic pentaoxide*	1303-28-2	215-116-9	N.D.	0.005
Diarsenic trioxide*	1327-53-3	215-481-4	N.D.	0.005
Triethyl arsenate*	15606-95-8	427-700-2	N.D.	0.005
Lead hydrogen arsenate*	7784-40-9	232-064-2	N.D.	0.005
Sodium dichromate*	10588-01-9 (7789-12-0)	234-190-3	N.D.	0.005
2,4-Dinitrotoluene	121-14-2	204-450-0	N.D.	0.005
Diisobutyl phthalate	84-69-5	201-553-2	N.D.	0.005
Tris(2-chloroethyl)phosphate	115-96-8	204-118-5	N.D.	0.005
Anthracene oil [⊕]	90640-80-5	292-602-7	N.D.	0.050
Anthracene oil, anthracene paste; distn. Lights [⊕]	91995-17-4	295-278-5		
Anthracene oil, anthracene paste, anthracene fraction [⊕]	91995-15-2	295-275-9		
Anthracene oil, anthracene-low [⊕]	90640-82-7	292-604-8		
Anthracene oil, anthracene paste [⊕]	90640-81-6	292-603-2		
Coal tar pitch, high temperature [⊕]	65996-93-2	266-028-2	N.D.	0.050
Aluminosilicate Refractory Ceramic Fibres *	650-017-00-8 (Index no.)	-	N.D.	0.005
Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	-	N.D.	0.005
Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	N.D.	0.005
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	N.D.	0.005
Lead chromate*	7758-97-6	231-846-0	N.D.	0.005
Acrylamide	79-06-1	201-173-7	N.D.	0.005

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Notes:

1. RL = Reporting Limit. All RL are based on homogenous material
N.D. = Not detected (lower than RL)
2. *Calculated concentration of cobalt dichloride is based on the identified cobalt by ICP-OES and the identified chloride by IC method.

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

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

Calculated concentration of bis(tributyltin)oxide TBTO is based on the identified tin by ICP-OES and TLC.

Calculated concentration of Lead sulfochromate yellow, lead chromate molybdate sulphate red, lead chromate are based on the identified lead, chromium, 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 and confirmation by microscope.

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

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

3. [⊕] 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.

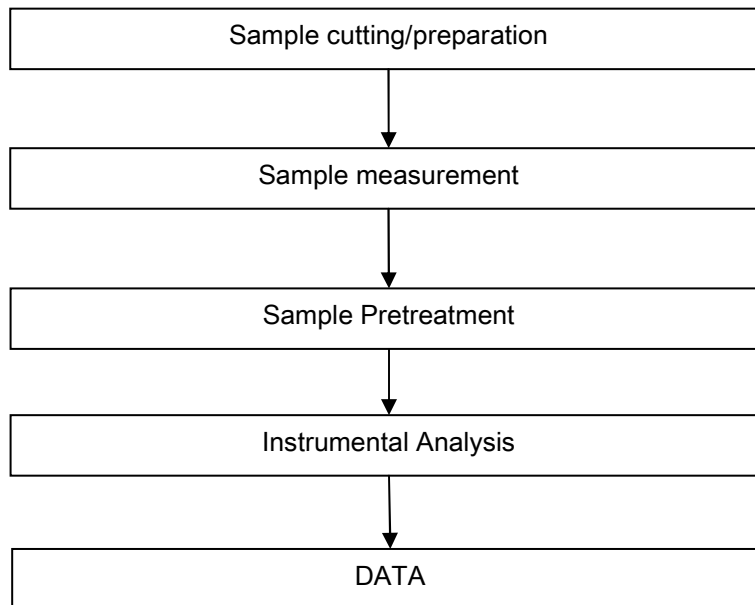
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ATTACHMENTS

SVHC Testing Flow Chart

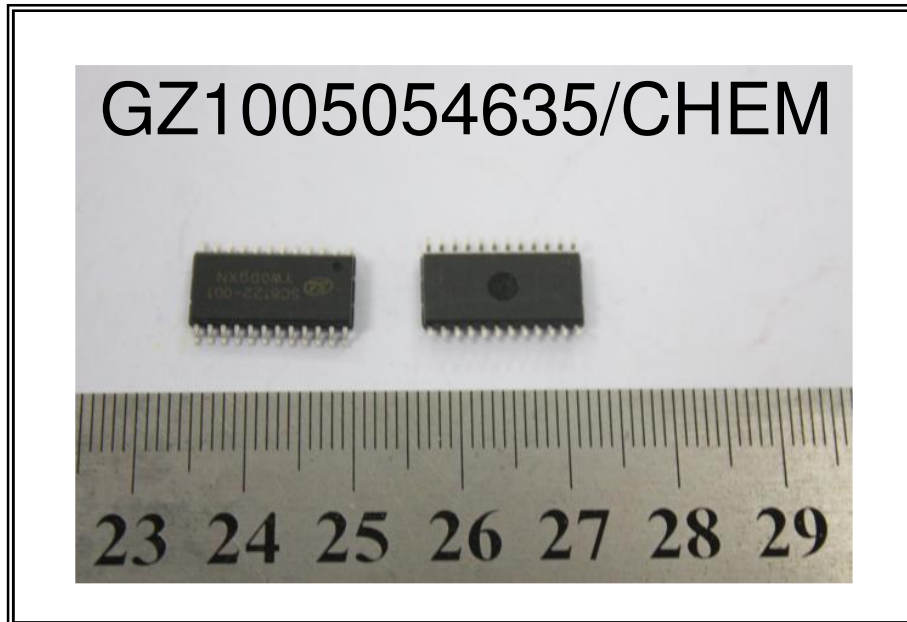
- 1) Name of the person who made testing: Bella Wang / Tina Zhao
- 2) Name of the person in charge of testing: Adams Yu / Ryan Yang



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Sample photo:



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*** End of Report ***

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