

Test Report (SVHC)

No. SHAEC1405830702

Date: 12 Sep 2014

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TOPDIODE MANUFACTURING COMPANY LIMITED
SHANGKENG INDUSTRIAL ROAD NO.3, SHANGKENG INDUSTRIAL PARK, CHANGPING
TOWN, DONGGUAN, GUANGDONG, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : DIODE BRIDGE

SGS Job No. : SP14-009722 - SUZ

Date of Sample Received : 10 Apr 2014

Testing Period : 10 Apr 2014 - 18 Apr 2014

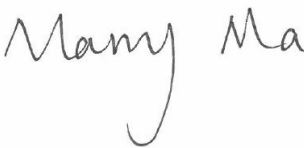
Test Requested : As requested by client, SVHC screening is performed according to:
(i) Four (4) substances in the Public Consultation List of potential Substances of Very High Concern (SVHC) published by European Chemicals Agency (ECHA) on March 3, 2014 regarding Regulation (EC) No 1907/2006 concerning the REACH.

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

Summary :

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



Marry Ma
Approved Signatory



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SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center

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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



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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:

- (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
SN1	SHA14-058307.001	DIODE BRIDGE

Test Method :

SGS In-House method-SHTC-CHEM-SOP-97-T, SHTC-CHEM-SOP-302-T, Analyzed by ICP-OES, UV-VIS, GC-MS, HPLC-DAD/MS and Colorimetric Method.



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Test Result: (Substances in the Consultation List of potential SVHC)

Batch	Substance Name	CAS No.	001 Concentration (%)	RL (%)
-	All tested SVHC in consultation list	-	ND	-

Notes :

- (1) The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
- (2) RL = Reporting Limit. All RL are based on homogenous material
ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
- (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 compounds are based on the water extractive boron by ICP-OES.
RL = 0.005% is evaluated for element (i.e. boron, Sodium and cadmium respectively).
- (4) / = Substances in the Consultation List of SVHC
- (5) The test results are taken from report SHAEC1405830701.



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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
/	1	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.050
/	2	Cadmium chloride*	10108-64-2	0.005
/	3	Sodium perborate; perboric acid, sodium salt*	-	0.005
/	4	Sodium peroxometaborate*	7632-04-4	0.005



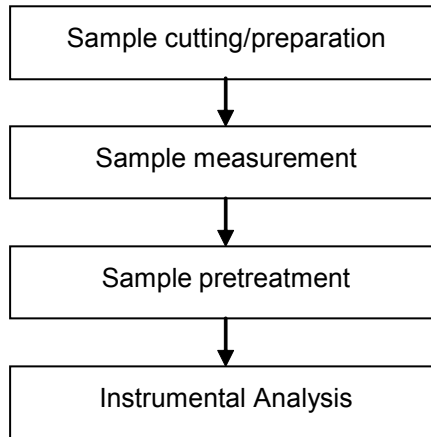
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ATTACHMENTS

SVHC Testing Flow Chart

- 1) Name of the person who made testing: Anne Huang / Brin Feng
- 2) Name of the person in charge of testing: Zirco Yu



Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***



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