English Reference Translation

SGS report CANEC24016855501 | August 7, 2024

Translated from the original Chinese-language SGS report for reference only. This translation was not issued or endorsed by SGS. In case of any discrepancy, the original Chinese report prevails.

Translation note: This document translates the report text and expresses its process diagrams as ordered steps. It is not an SGS-issued report. SGS branding, stamps, signatures and the sample photograph have not been reproduced. Read this translation alongside the complete Chinese original.

REPORT FIELD	TRANSLATED CONTENT
Client / supplier	Dongguan Hengbang Titanium Industry Co., Ltd. (English rendering of the Chinese name)
Client address	No. 87, Tai’an Road, Xiaobian, Chang’an Town, Dongguan City, Guangdong Province, China
Sample name / main constituent	Titanium / Ti
Country of origin	China
SGS job number	GZP24-025656
Sample received	August 2, 2024
Testing period	August 2-7, 2024
Testing requested	Testing according to the client’s requirements
Test methods / results	See subsequent pages

The above sample and information were provided by the client.

Requested testing and conclusion

EU RoHS Directive 2011/65/EU Annex II, as amended by (EU) 2015/863: lead, mercury, cadmium and hexavalent chromium. **Conclusion: Compliant.**

Issuing laboratory: SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch. Authorized signatory named in the original: Dongyu Xie.

Test results & limitations

Sample appearance: silver-gray metal. Sample sequence: SN1. Sample number: A1. SGS sample ID: CAN24-0168555-0001.C001.

Test methods

With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 and IEC 62321-7-1:2015; analysis by ICP-OES/AAS and UV-Vis.

Test item	Limit	Unit	MDL	A1
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Cadmium (Cd)	100	mg/kg	2	ND
Hexavalent chromium (Cr(VI))*	-	µg/cm²	0.10	ND

1 mg/kg = 1 ppm = 0.0001%. MDL = Method Detection Limit. ND = Not Detected (< MDL). “-” = Not specified.

Result notes

1. Maximum permissible limits are quoted from RoHS Directive (EU) 2015/863.
2. The IEC 62321 series is equivalent to the EN 62321 series.

* Hexavalent chromium:
a. Above 0.13 µg/cm²: positive; the sample contains hexavalent chromium.
b. ND (below 0.10 µg/cm²): negative; hexavalent chromium was not detected.
c. Between 0.10 µg/cm² and 0.13 µg/cm²: the presence of hexavalent chromium cannot be determined directly, because differences in individual sample surfaces may affect the result.

Since the sample’s storage conditions and production date were unknown, the hexavalent chromium result represents only the sample’s condition at the time of testing.

Decision rule and use restrictions

Unless otherwise specified, a binary decision rule with simple acceptance (w = 0), with reference to ILAC-G8:09/2019, is used for the conformity decision.

Unless otherwise stated, the results in this report apply only to the tested sample. This report may not be partially reproduced without the company’s written permission.

The test report is intended only for the client’s scientific research, teaching, internal quality control, product research and development, and similar purposes, and is for internal reference only.

Appendix: elemental testing

Elemental testing flowchart

The sample was completely digested according to the following procedure. The original diagram is rendered below as ordered steps.

01 / Pretreatment

Pretreat the sample.

02 / Measurement

Measure out the sample portion.

03 / Acid digestion

Digest with acid using a microwave digestion system or a hot plate.

04 / Filtration

Filter the digested sample into solution and residue.

05 / Residue treatment

Treat the residue by (1) alkali fusion / ashing and (2) acid dissolution. The treated residue joins the solution stream.

06 / Instrumental analysis

Analyze by inductively coupled plasma optical emission spectroscopy / atomic absorption spectroscopy (ICP-OES/AAS).

07 / Data

Obtain the analytical data.

Translator’s note: Step numbering is added for readability. It does not change the sequence shown in the source flowchart.

Appendix: chromium testing

Hexavalent chromium testing flowchart

Common starting steps: pretreatment, then measurement of the sample portion. The original flowchart branches into metal and non-metal procedures.

A / Metals

1. Extract with boiling water.
2. Add 1,5-diphenylcarbazide for color development.
3. Analyze by ultraviolet-visible spectrophotometry.
4. Obtain data.

B / Non-metals: ABS / PC / PVC

1. Dissolve by ultrasonication.
2. Digest by ultrasonication at 60°C.
3. Continue to the common non-metal steps below.

C / Other non-metals

1. Digest at 150-160°C.
2. Separate the aqueous phase.
3. Continue to the common non-metal steps below.

Common non-metal steps

1. Adjust the pH.
2. Add 1,5-diphenylcarbazide for color development.
3. Analyze by ultraviolet-visible spectrophotometry.
4. Obtain data.

Translator’s note: The procedures above represent all branches shown in the original appendix. Their inclusion does not mean that every branch was applied to the submitted metal sample. The original diagram’s structure has been converted to text for readability.

Sample reference & source notices

Sample photograph

SGS sample ID: **CAN24-0168555-0001.C001**.
Report number appearing in the photograph: CANEC24016855501.

Translated photograph notice: “This photograph is only for use with the original SGS report.”

The photograph is therefore not reproduced in this reference translation. View the sample photograph on page 5 of the complete Chinese original.

End of report

The source marks the end of the report after the sample photograph and its notice.

English notice printed in the original footer

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The original footer also provides SGS authentication and contact information. Consult the Chinese original for the original contact details, laboratory seal and signature.

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