

**Test Report No.** 3139242

**Date :** 4-Jan-2016

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**Client : Hwa Lin Stainless Steel Industry Co.,Ltd.  
61/271-272 Rama 9 Road, Huaykwang, Huaykwang Bangkok 10310 Thailand**

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

Sample Description : STAINLESS STEEL (TITATUM)  
Sample No. : 3231257  
Sample Condition : Sample is contained in a plastic bag.  
Quantity Submitted : 1 pack

Sample Receiving Date : 24-Dec-2015  
Testing Period : 28-Dec-2015 to 04-Jan-2016

Test Requested : In accordance with the RoHS Directive 2011/65/EU Annex II [amended by Directive (EU) 2015/863]

Test Method : (1) IEC 62321-5 edition 1.0 :2013 by ICP-OES for Lead content.  
(2) IEC 62321-5 edition 1.0 :2013 by ICP-OES for Cadmium content  
(3) IEC 62321-4 edition 1.0 :2013 by ICP-OES (microwave digestion) for Mercury content  
(4) IEC 62321:2008 Annex B for Hexavalent Chromium Analyzed by UV-Vis spectrometry.

Test Results : Please refer to next page.

**Signed for and on behalf of  
SGS (Thailand) Limited**



**Patcharee Treeporncharoen  
Laboratory manager - Chemical**

2840955

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## TEST RESULTS

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result (1)	MDL	RoHS Limit
Lead (Pb)	(1)	n.d.	2	1000
Cadmium (Cd)	(2)	n.d.	2	100
Mercury (Hg)	(3)	n.d.	2	1000
Hexavalent Chromium (CrVI) by Spot test / boiling water extraction (optional) #	(4)	Negative	-	-

Test Part Description  
Result (1) metal

Note :

(a) mg/kg = ppm ; 0.1wt% = 1000 ppm

(b) n.d. = Not Detected

(c) MDL = Method Detection Limit

(d) 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 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 cm2 sample area.

(e) # = Positive indicates the presence of Hexavalent Chromium on the areas and result be regarded as conflict with RoHS requirement.

Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.

(f) "-" = Not regulated

(g) For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

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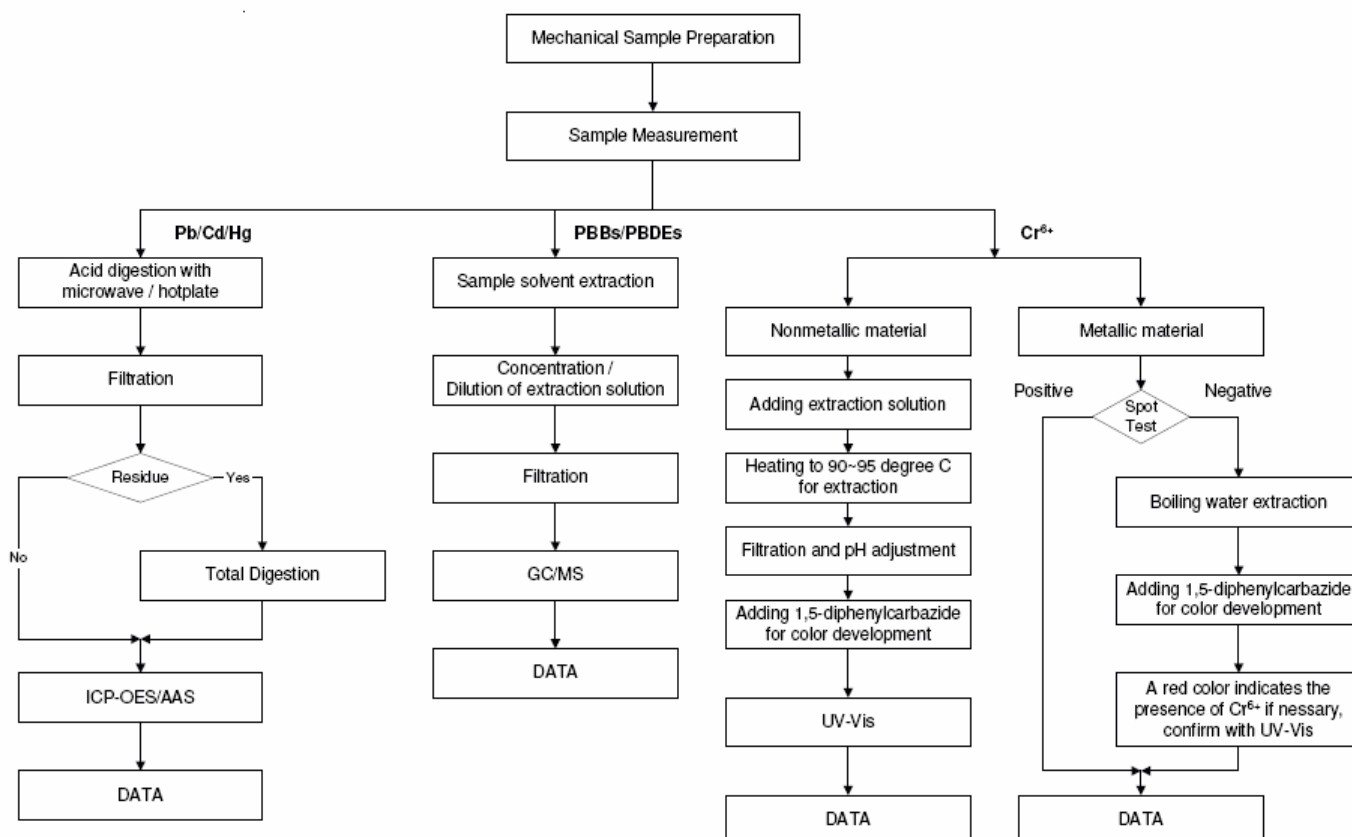
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## Flow Chart for IEC 62321 : Pb/Cd/Hg/Cr<sup>6+</sup>/PBBs/PBDEs Testing

1. Operator : Siam Polarwut

2. Section Chief : Patcharee Treepornchareon

3. The sample was dissolved totally by pre-conditioning method according to below flowchart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded)



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## SAMPLE/ATTACHMENT PICTURE



\*\*\*\*\* End of Report \*\*\*\*\*

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