

# TEST REPORT

**KOTITI No.** | 8223-1401-100739

**Applicant** | DUKSAN Hi-Metal

**Address** | 66, Muryong 1-ro, Buk-gu, Ulsan, Korea



**Date In** | Jan 26, 2023

**Date Out** | Feb 07, 2023

<b>Issue No</b>	1027258518
<b>Sample Description</b>	Sn3.0Ag0.5Cu
<b>Sample Quantity</b>	One (1) Sample(s)
<b>Buyer</b>	N/S
<b>Item Number</b>	N/S
<b>Material</b>	Metal
<b>Testing Period</b>	Jan 26, 2023 ~ Feb 07, 2023
<b>Test Result</b>	<b>For further details, please refer to the following page(s).</b>

\* N/S : Not Submitted, N.A. : Not Applicable, N.D. : Not Detected [< MDL(Method Detection Limit)]

\* Negative : Not Detected, Positive : Detected

Affirmation	Prepared by	Technical Manager
	Name : Yeon ji Park 	Name : Gun young Ryu 

**KOTITI** Testing & Research Institute



**Contact Information for technical questions and general inquiries.**

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- The test results contained in this report are limited to results on the sample(s) that is provided by client and are not necessarily indicative or representative of the qualities of the lot from which the sample(s) was taken or of all products.
- Further use of the results of this report is prohibited unless allowed under a separate agreement set forth in an official document that is established between the client identified on this letter and the KOTITI Testing & Research Institute.
- The test result in this report is not related to accreditation of KOLAS.
- You can verify the authenticity by the QR code at the bottom right side of the issued report, or access <http://cs.kotiti-global.com> and enter the test report number.

QPF-16-06(rev.01)KOTITI



<b>Tested Sample List</b>			
<b>Sample No.</b>	<b>Sample Description</b>	<b>Item No.</b>	<b>Material</b>
1	Sn3.0Ag0.5Cu	N/S	Metal

**Heavy metal, Unit: mg/kg**

Test Conducted	Test Method	MDL	Test Results
1			
Silver (Ag)	Reference to EPA 3052:1996 determined by ICP-OES	5	30 486.8
Copper (Cu)		5	5 083.6
Nickel (Ni)		5	33.3
Zinc (Zn)		5	N.D.
Iron (Fe)		5	27.7
Bismuth (Bi)		5	36.7
Aluminium (Al)		5	N.D.
Arsenic (As)		5	22.2
Antimony (Sb)		2	69.6
Phosphorus (P)		5	N.D.
Indium (In)		5	16.6
Germanium (Ge)		5	86.3
Gold (Au)		5	N.D.
Palladium (Pd)		5	N.D.
Beryllium (Be)		2	N.D.

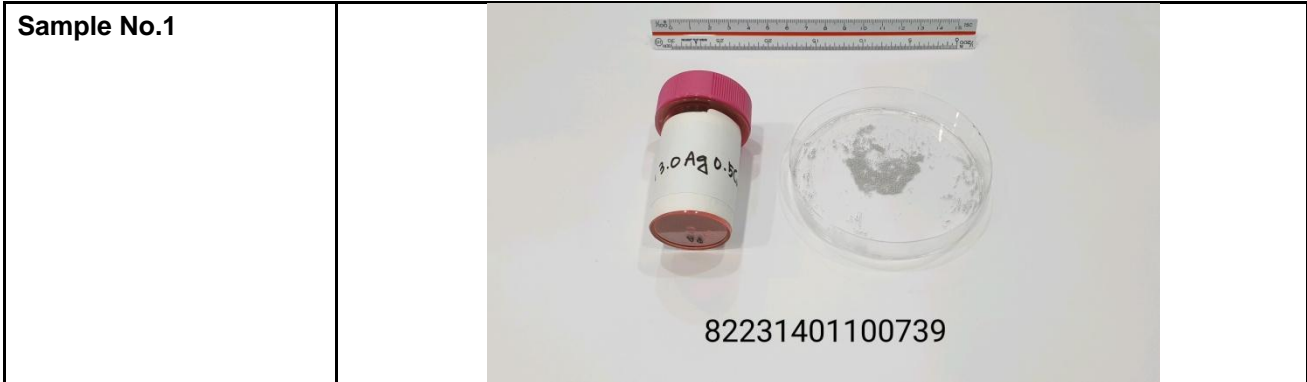
\* Tested by : Yeon ji Park

**Sulfur, Unit: mg/kg**

Test Conducted	Test Method	MDL	Test Results
1			
Sulfur(S)	IEC 62321-3-2:2020 & KS M 0180:2009 determined by C-IC	10	N.D.

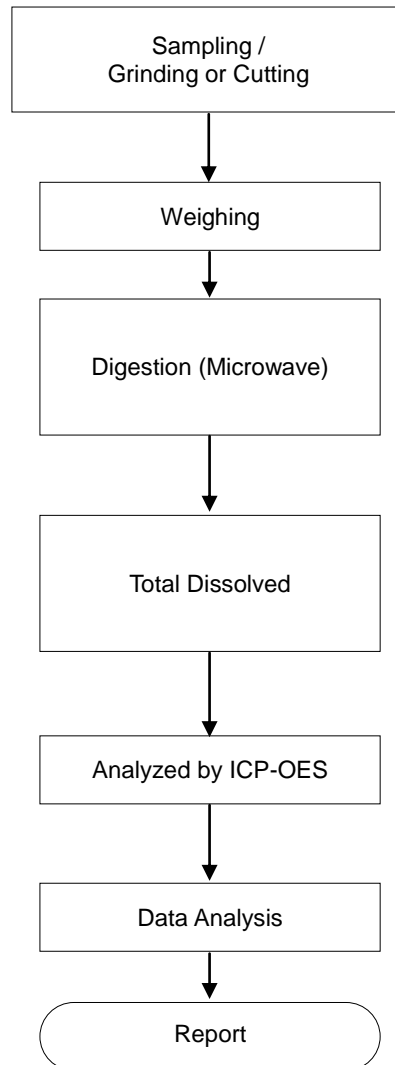
\* Tested by : Hyo jeong La

Photo of the submitted sample(s)



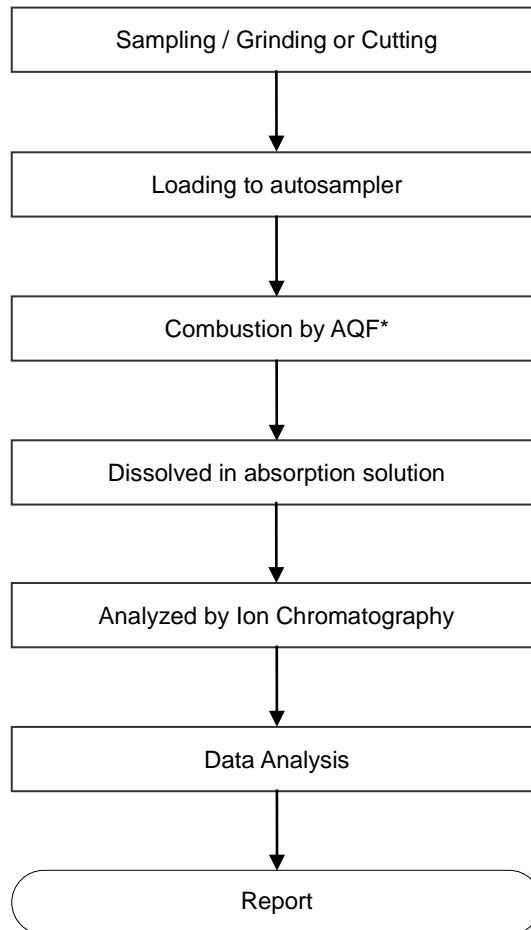
**Flow Chart**

**Heavy metal**



Material	Digestion Acid
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>2</sub> SO <sub>4</sub> , etc.
Metals	HNO <sub>3</sub> , HCl
Electronics	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>2</sub> SO <sub>4</sub> , etc.

\* The sample is totally digested.

**Flow Chart****Sulfur**

\*AQF : Automated Quick Furnace

\* The sample is totally digested.