

SINGAPORE ASAHI CHEMICAL & SOLDER INDUSTRIES PTE LTD
47 PANDAN ROAD, SINGAPORE 609288

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

Sample Name : SnCu0.7H

SGS Order No. : 10581925
Sample ID : SGA24-0000302-0003
Sample Receiving Date : 25-Apr-2024
Testing Period : 25-Apr-2024 to 06-May-2024

Test Requested : Selected test(s) as requested by the client
Test Method(s) : Please refer to next page(s)
Test Result(s) : Please refer to next page(s)

Conclusion : Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP) **comply** with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of
SGS Testing & Control Services Singapore Pte Ltd



Y C Tham (Ms)
Technical Manager, Multi-Lab
FOLDER NUMBER : SGA24-0000302

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Test Result(s) :

Sample Description : SILVER COLOR METAL RIBBON

| Test Item(s) | Unit | Method | Results | MDL | Limit |
|-----------------------------------|--------------------|--|---------|------|-------|
| Lead(Pb) | mg/kg | With reference to IEC 62321-5:2013. Analysis was performed by ICP/OES | 79 | 2 | <1000 |
| Mercury(Hg) | mg/kg | With reference to IEC 62321-4 :2013 +AMD1:2017. Analysis was performed by ICP/OES | ND | 2 | <1000 |
| Cadmium(Cd) | mg/kg | With reference to IEC 62321-5:2013. Analysis was performed by ICP/OES | ND | 2 | <100 |
| Hexavalent Chromium (Cr(VI)) ▼ | µg/cm ² | With reference to IEC 62321-7-1:2015. Analysis was performed by UV-Vis Spectrometry. | ND | 0.10 | - |
| Polybromobiphenyl (PBBs) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | - | <1000 |
| Monobromobiphenyl (MonoBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Dibromobiphenyl (DiBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Tribromobiphenyl (TriBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Tetrabromobiphenyl (TetraBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Pentabromobiphenyl (PentaBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Hexabromobiphenyl (HexaBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Heptabromobiphenyl (HeptaBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Octabromobiphenyl (OctaBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Nonabromobiphenyl (NonaBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Decabromobiphenyl (DecaBB) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Polybromodiphenyl ether(PBDEs) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | - | <1000 |

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| Test Item(s) | Unit | Method | Results | MDL | Limit |
|------------------------------------|-------|---|---------|-----|-------|
| Monobromodiphenylether (MonoBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Dibromodiphenylether (DiBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Tribromodiphenylether (TriBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Tetrabromodiphenylether (TetraBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Pentabromodiphenylether (PentaBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Hexabromodiphenylether (HexaBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Heptabromodiphenylether (HeptaBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Octabromodiphenylether (OctaBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Nonabromodiphenylether (NonaBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Decabromodiphenylether (DecaBDE) | mg/kg | With reference to IEC62321-6 :2015. Analysis was performed by GC/MS | ND | 5 | - |
| Bis-(2-ethylhexyl) Phthalate(DEHP) | mg/kg | With reference to IEC62321-8 :2017. Analysis was performed by GC/MS | ND | 50 | <1000 |
| Benzyl Butyl Phthalate(BBP) | mg/kg | With reference to IEC62321-8 :2017. Analysis was performed by GC/MS | ND | 50 | <1000 |
| Dibutyl Phthalate(DBP) | mg/kg | With reference to IEC62321-8 :2017. Analysis was performed by GC/MS | ND | 50 | <1000 |
| Diisobutyl Phthalate(DIBP) | mg/kg | With reference to IEC62321-8 :2017. Analysis was performed by GC/MS | ND | 50 | <1000 |

Remarks:

- (1) mg/kg = ppm ; 0.1wt% = 1000ppm
- (2) ND = Not Detected (Less than MDL)
- (3) MDL = Method Detection Limit
- (4) "-" = Not regulated

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Notes:

(1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

(2) IEC 62321 series is equivalent to EN 62321 series.

- (3) ▼ =
- a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI).
 - b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-Cr(VI) based coating.
 - c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.

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Sample Photo:



SGA24-0000302-0003

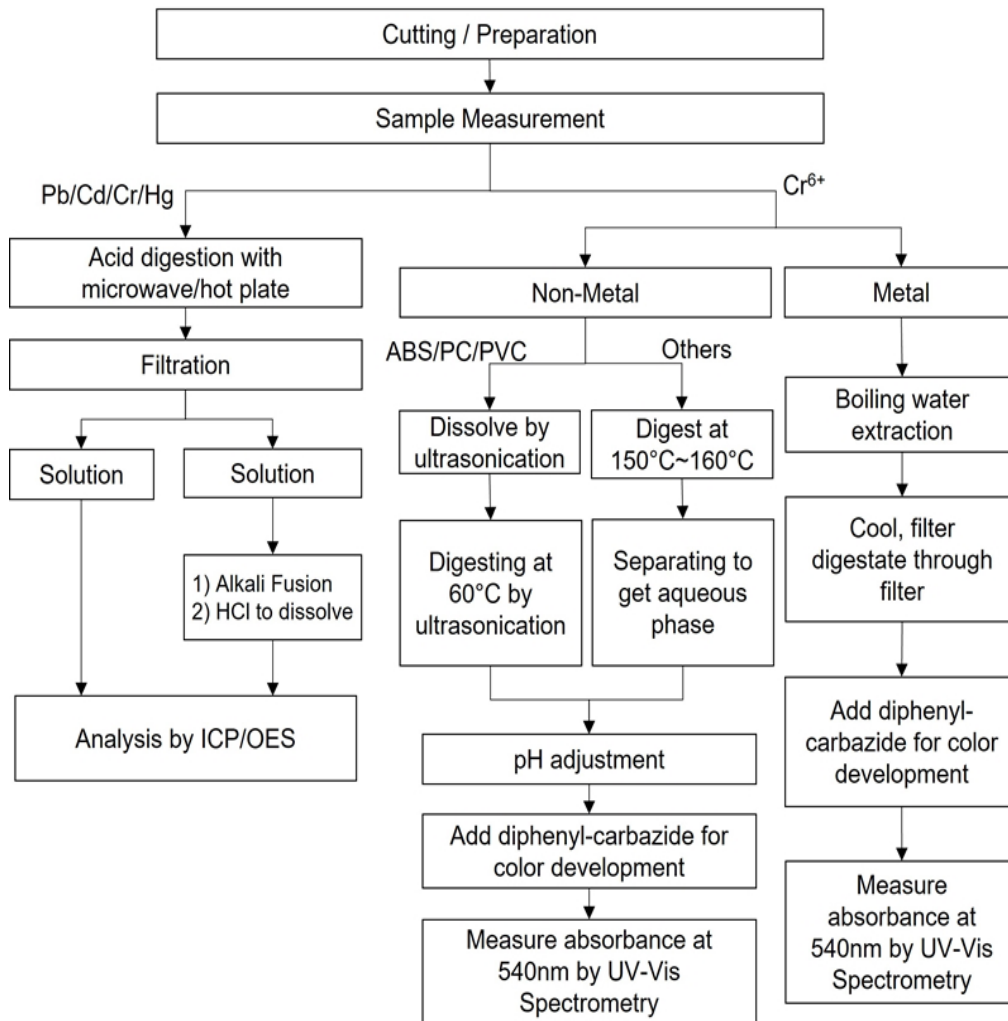
SGS authenticate the photo on original report only

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Analytical flow chart - Heavy metals

Sample received was totally dissolved by preconditioning method.
(Cr⁶⁺ test method excluded)

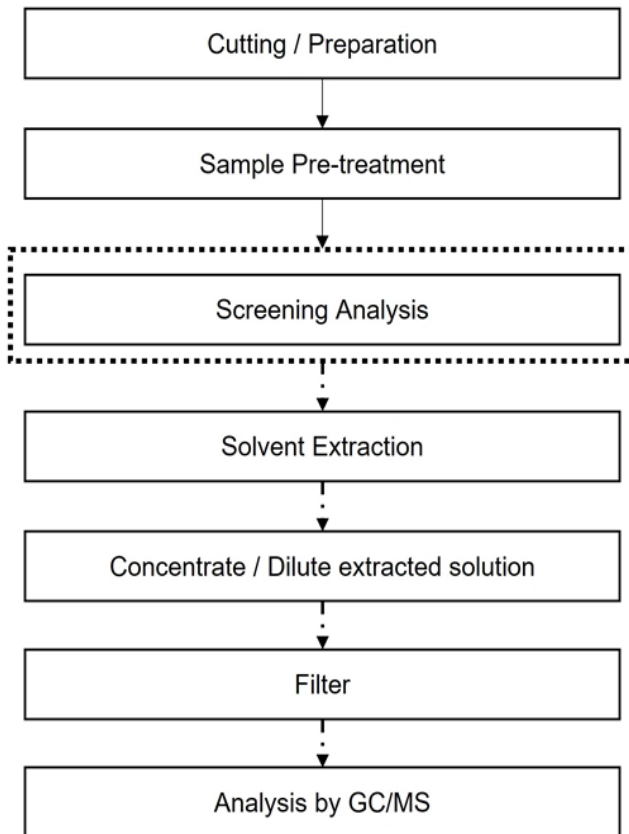


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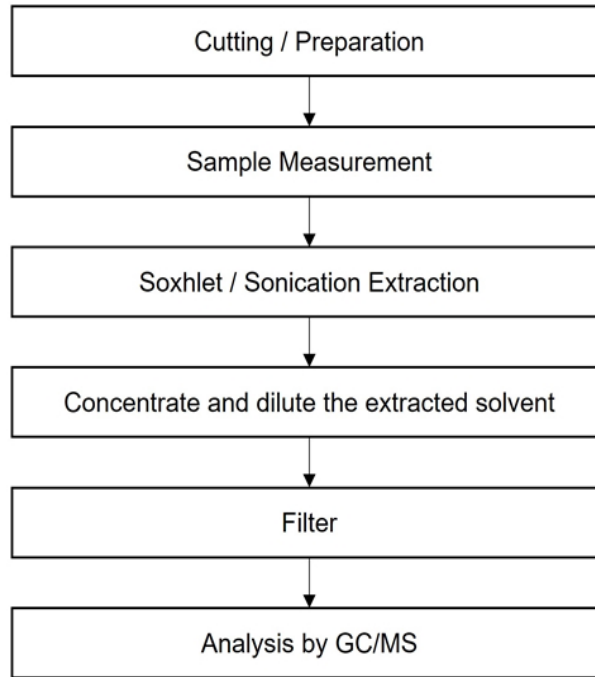
Analytical flow chart - PBBs and PBDEs

First Testing Process ———>
 Optional screen process ······>
 Confirmation process - - ->



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Analytical flow chart – Phthalates (IEC 62321)

End of Report

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