

Test Report

No. NGBEC2005069903

Date: 30 Oct 2020

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NINGBO XIHAN TIN SOLDER CO.,LTD.

371# SOUTH OF DONGSHAO ZHUANGQIAO JIANGBEI NINGBO

The following sample(s) was/were submitted and identified on behalf of the clients as : LEAD-FREE SOLDER BAR. Sn,Cu

SGS Job No. : NP20-004330 - NB
Date of Sample Received : 26 Oct 2020
Testing Period : 26 Oct 2020 - 30 Oct 2020
Test Requested : Selected test(s) as requested by client.
Test Method : Please refer to next page(s).
Test Results : Please refer to next page(s).
Conclusion : Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, 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-CSTC Standards Technical Services Co., Ltd. Ningbo Branch



Iris Xiao
Approved Signatory



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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	NGB20-050699.002	Silver metal

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013 and IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	10
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm ²	0.10	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND



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<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Heptabromodiphenyl ether	-	mg/kg	5	ND
Octabromodiphenyl ether	-	mg/kg	5	ND
Nonabromodiphenyl ether	-	mg/kg	5	ND
Decabromodiphenyl ether	-	mg/kg	5	ND
Di-butyl Phthalate (DBP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND
Bis(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND

Notes :

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

IEC 62321 series is equivalent to EN 62321 series

https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(2) ▼ = 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.

(3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

(4) The restriction of DEHP, BBP, DBP and DIBP shall not apply to toys which are already subject to the restriction of DEHP, BBP, DBP and DIBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.'



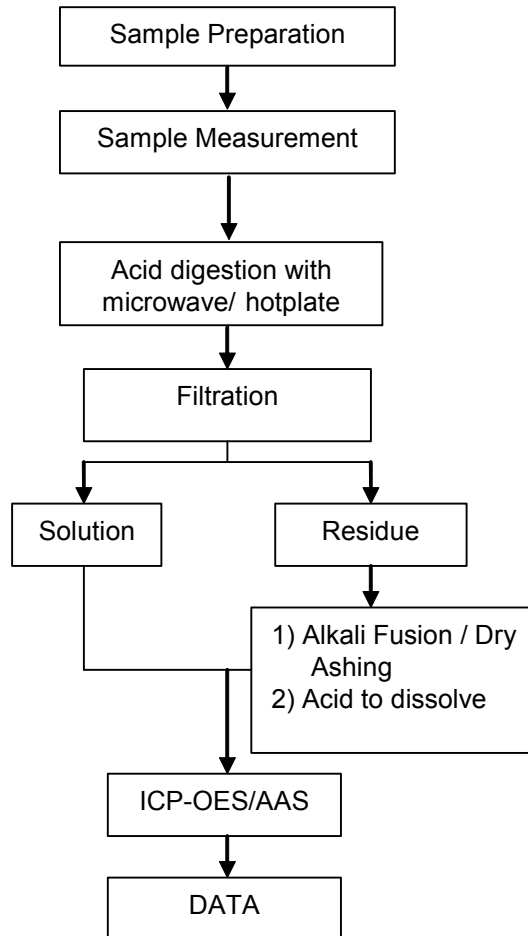
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Elements (IEC62321) Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart.

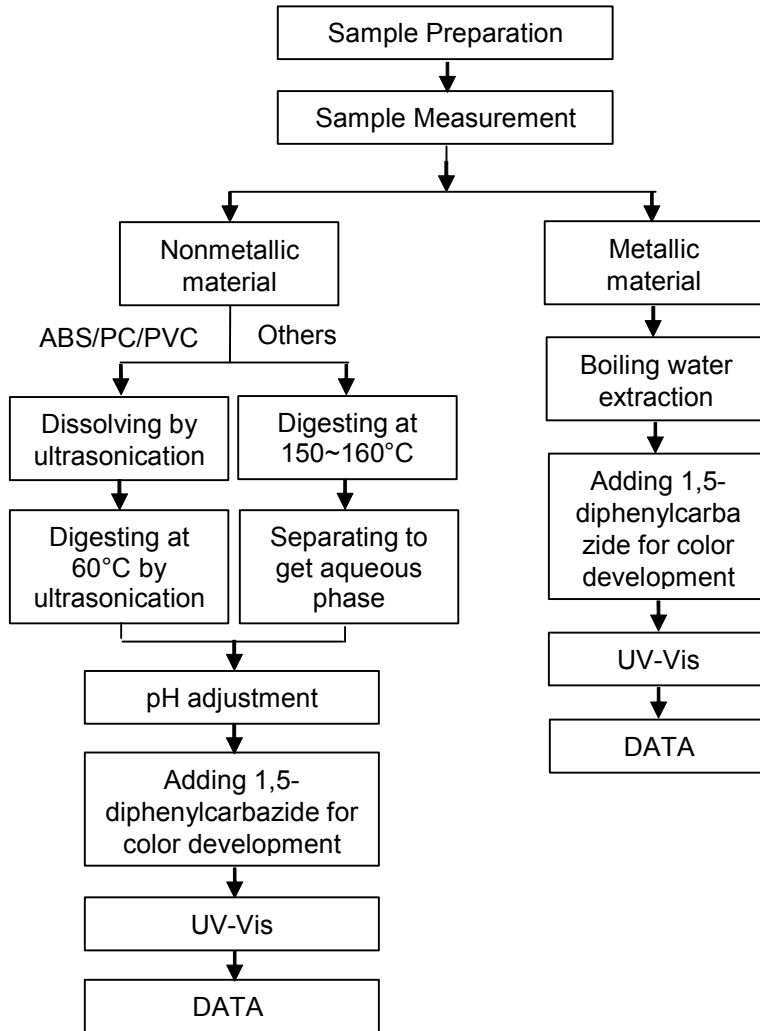


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Hexavalent Chromium (Cr(VI)) Testing Flow Chart

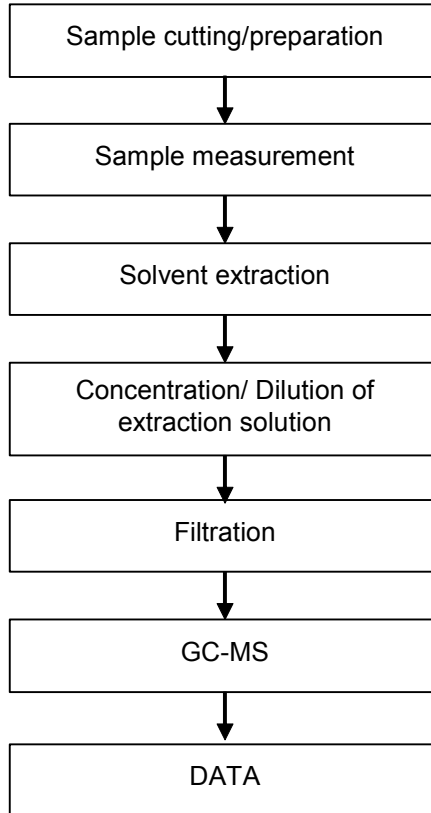


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PBBs/PBDEs Testing Flow Chart

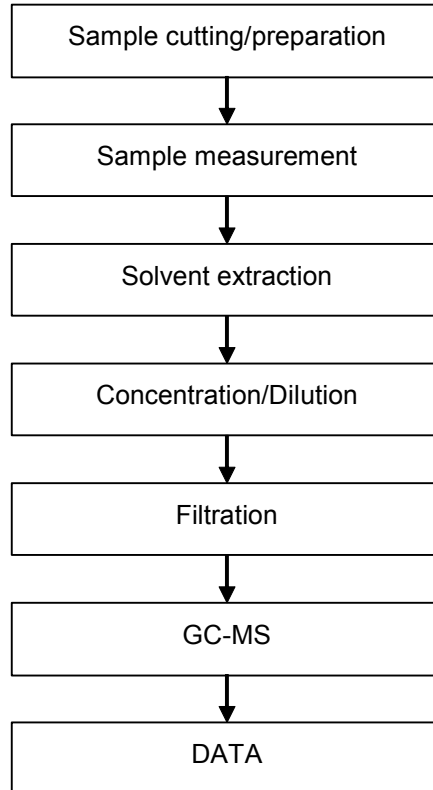


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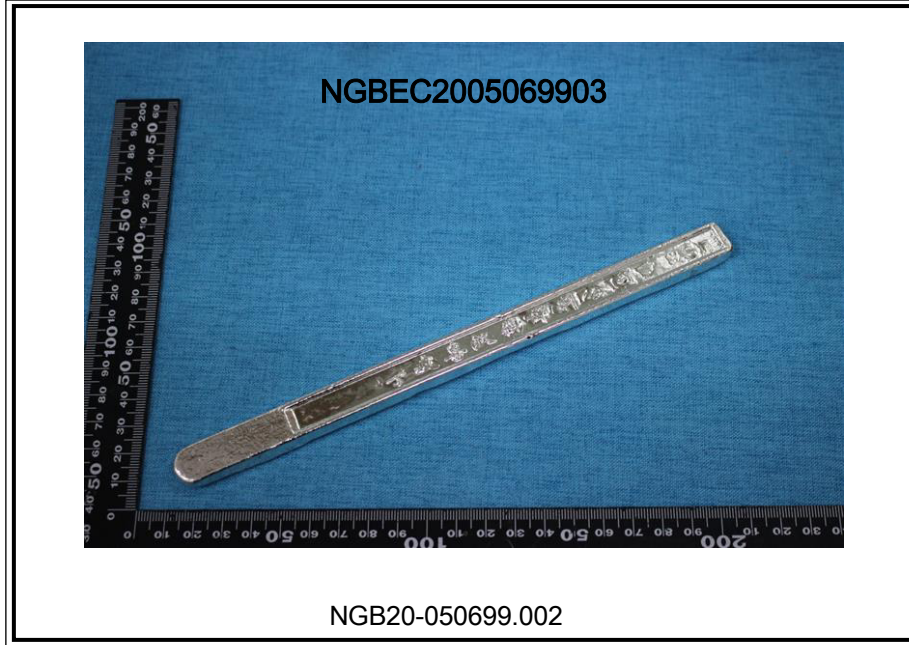
Phthalates Testing Flow Chart



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