NIHON HANDA CO., LTD.
Arca Central 16F,1-2-1, Kinshi, Sumida-ku, Tokyo 130-0013, Japan

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

Sample Name	:	Solder Paste,SULAP-S3AG0.5CU-0212-F-(92M(S)-D2)(200)

SGS Order No.	:	10587633
Sample ID	:	SGA24-0000559-0001
Sample Receiving Date	:	24-Jul-2024
Testing Period	:	24-Jul-2024 to 06-Aug-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 : SGA24-0000559

Test Result(s) :

Sample Description : GRAY PASTE

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	ND	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))	mg/kg	With reference to IEC 62321-7-2:2017, analysis was performed by UV-Vis.	ND	8	<1000
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
Chlorine(Cl)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC	ND	50	-
Bromine(Br)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC	526	50	-
PFOS and its salts (CAS No.: 1763-23-1 and its salts)*	mg/kg	Modified EN17681-1:2022 and EN 17681-2:2022. Analysis was performed by LC/MS/MS.	ND	0.01	-

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Test Item(s)	Unit	Method	Results	MDL	Limit
PFOA and its salts (CAS No,: 335-67-1 and its salts)*	mg/kg	Modified EN17681-1:2022 and EN 17681-2:2022. Analysis was performed by LC/MS/MS.	ND	0.01	-
Beryllium(Be)	mg/kg	With reference to US EPA 3052. Analysis was performed by ICP/OES.	ND	2	-
Antimony(Sb)	mg/kg	With reference to US EPA 3052. Analysis was performed by ICP/OES.	ND	2	-

Remarks:

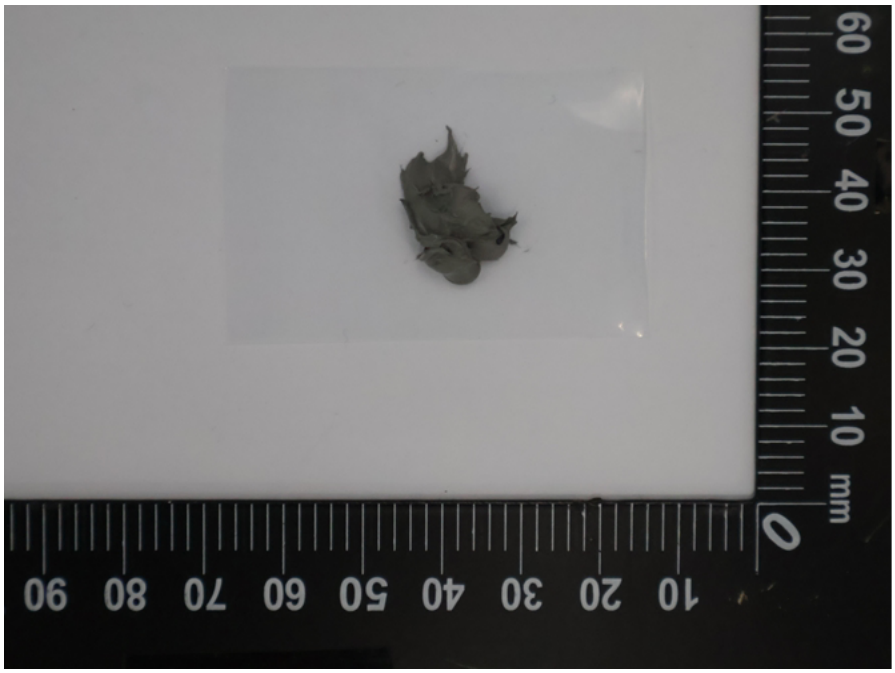
(1) mg/kg = ppm ; 0.1wt% = 1000ppm
(2) ND = Not Detected (Less than MDL)
(3) MDL = Method Detection Limit
(4) "-" = Not regulated

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) 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) PFOS and its salts including:
CAS No.: 1763-23-1, 2795-39-3, 29457-72-5, 29081-56-9, 70225-14-8, 56773-42-3, 251099-16-8, 307- 35-7, 91036-71-4, 4021-47-0, 71463-74-6 and others.
(5) PFOA and its salts including:
CAS No.: 335-67-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 3825-26-1, 17125-58-5 and others.

* Tested by an SGS Lab (Ref : ETR24705210)

Sample Photo:



SGA24-0000559-0001

SGS authenticate the photo on original report only

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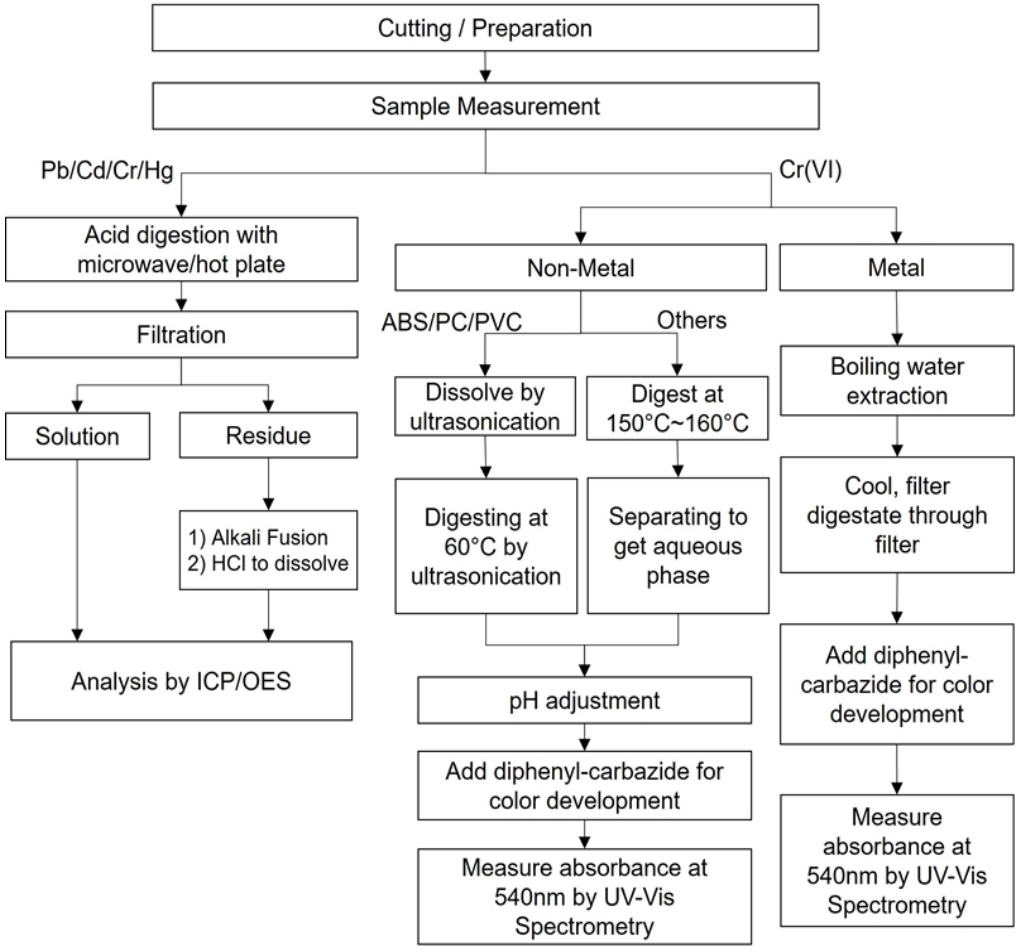
Analytical flow chart - Heavy metals

Sample received was totally dissolved by preconditioning method.
[Cr(VI) test method excluded]



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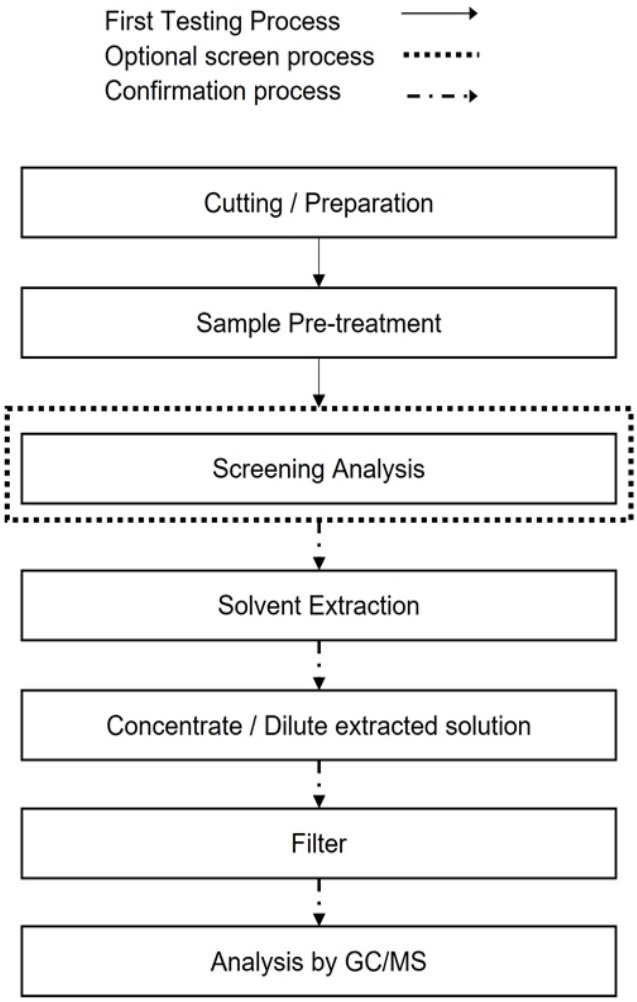
Analytical flow chart - PBBs and PBDEs



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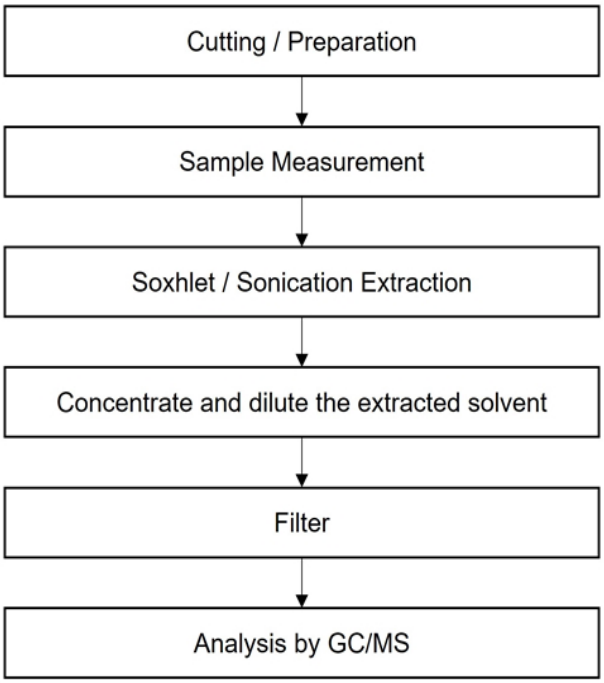
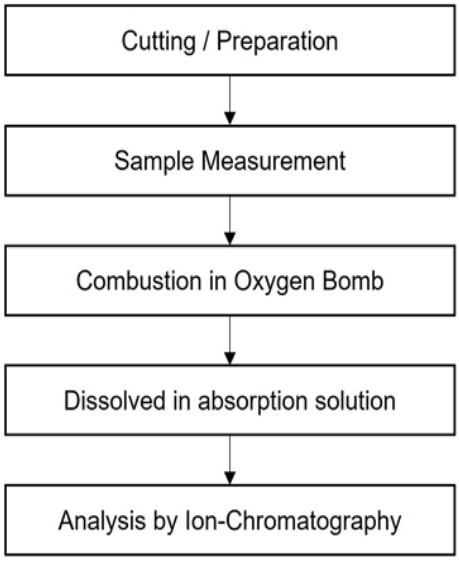
Analytical flow chart – Phthalates (IEC 62321)



Analytical flow chart - Halogen



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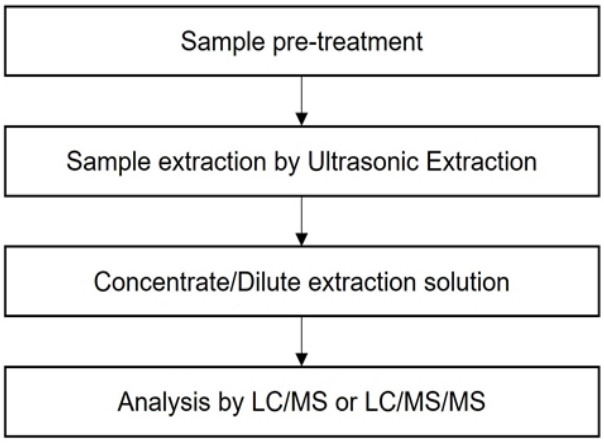
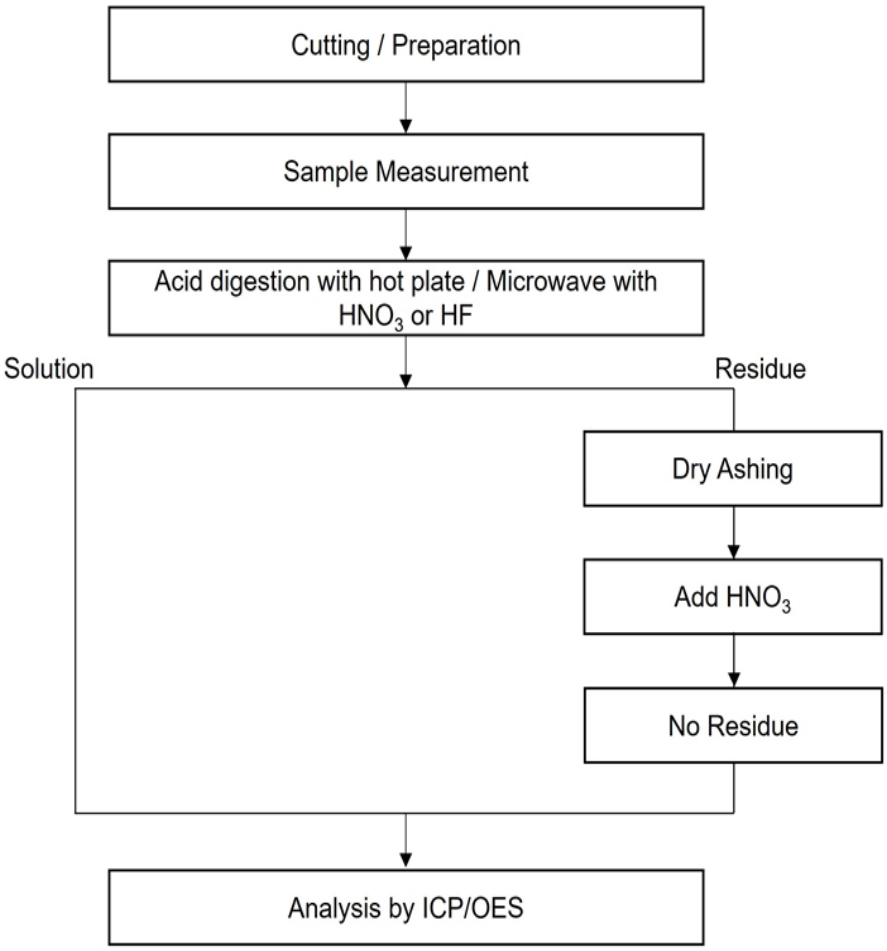
Analytical flow chart - PFOS/PFOA



Analytical flow chart - Heavy metals (US EPA 3050B/3051A/3052)



End of Report