

Test Report

No.: NGBEC24001503602_2

Date: Jul 15, 2024

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Client Name: HONGDA ELECTRONICS CO.,LIMITED

Client Address: BUILDING NO 22, CHANGPING ZHU BAO YUAN INDUSTRIAL PARK, CHANGPING, DONGGUAN, GUANGDONG, CHINA.

Sample Name: Supercapacitor

Client Ref. Information: 5.5V 0.1F~55.0F

The above sample(s) and information were provided by the client.

THIS REPORT IS TO SUPERSEDE TEST REPORT NO.NGBEC24001503602_1, DATE: Jun 21, 2024.

SGS Job No.: NBP24-001665

Sample Receiving Date: Mar 29, 2024

Testing Period: Mar 29, 2024 ~ Apr 03, 2024

Test Requested: Select 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).

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium	Pass

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch

Hayley Hong

Hayley Hong
Approved Signatory

scan to see the report



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Ningbo Branch Chemical Laboratory

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Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	NGB24-0015036-0001.C001	Silvery metal
SN2	A2	NGB24-0015036-0001.C002	Silvery metal
SN3	A3	NGB24-0015036-0001.C003	Black soft solid
SN4	A4	NGB24-0015036-0001.C004	White soft solid
SN5	A5	NGB24-0015036-0001.C005	Black soft solid with silvery printing

Remarks:

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU - Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A3	A4	A5
Lead (Pb)	1000	mg/kg	2	ND	ND	ND
Mercury (Hg)	1000	mg/kg	2	ND	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND	ND	ND
Polybromobiphenyl (PBB)	1000	mg/kg	-	ND	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	5	ND	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	5	ND	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	5	ND	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	5	ND	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	5	ND	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	5	ND	ND	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	5	ND	ND	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	5	ND	ND	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	5	ND	ND	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	5	ND	ND	ND
Polybromodiphenyl ether(PBDE)	1000	mg/kg	-	ND	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A3	A4	A5
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	5	ND	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	5	ND	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	5	ND	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	5	ND	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	5	ND	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	5	ND	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	5	ND	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	5	ND	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	5	ND	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	5	ND	ND	ND
Bis(2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND	ND	ND
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND	ND	ND
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	ND	ND
Diisobutyl phthalate (DIBP)	1000	mg/kg	50	ND	ND	ND

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.

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 and IEC 62321-7-1:2015, analysis was performed by ICP-OES/AAS and UV-Vis.

Test Item(s)	Limit	Unit(s)	MDL	A1	A2
Lead (Pb)	1000	mg/kg	2	ND	ND
Mercury (Hg)	1000	mg/kg	2	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND
Hexavalent Chromium (Cr(VI)) [▼]	-	µg/cm ²	0.10	ND	ND

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).



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- b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 $\mu\text{g}/\text{cm}^2$). The coating is considered a non-Cr(VI) based coating.
- c. The result between 0.10 $\mu\text{g}/\text{cm}^2$ and 0.13 $\mu\text{g}/\text{cm}^2$ 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.

This report updated Client Address.

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.



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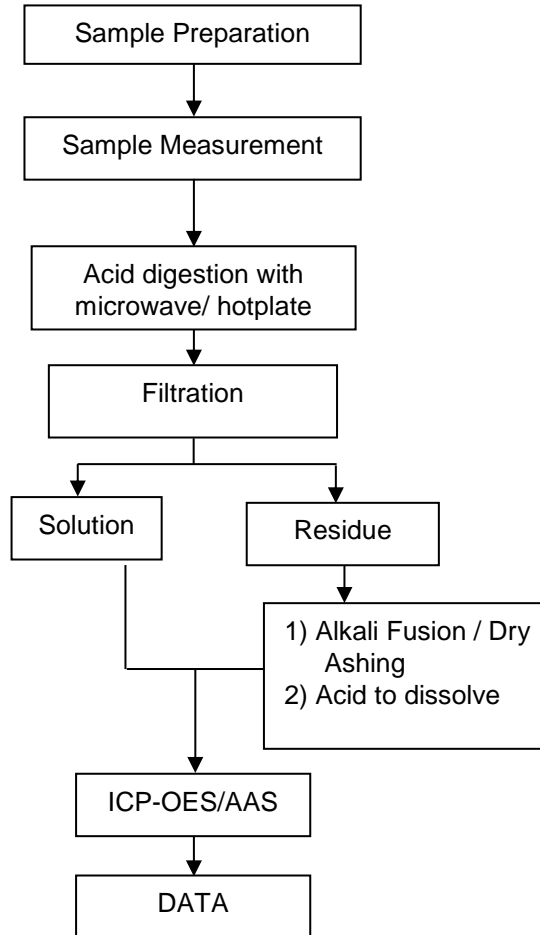
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Elements Testing Flow Chart

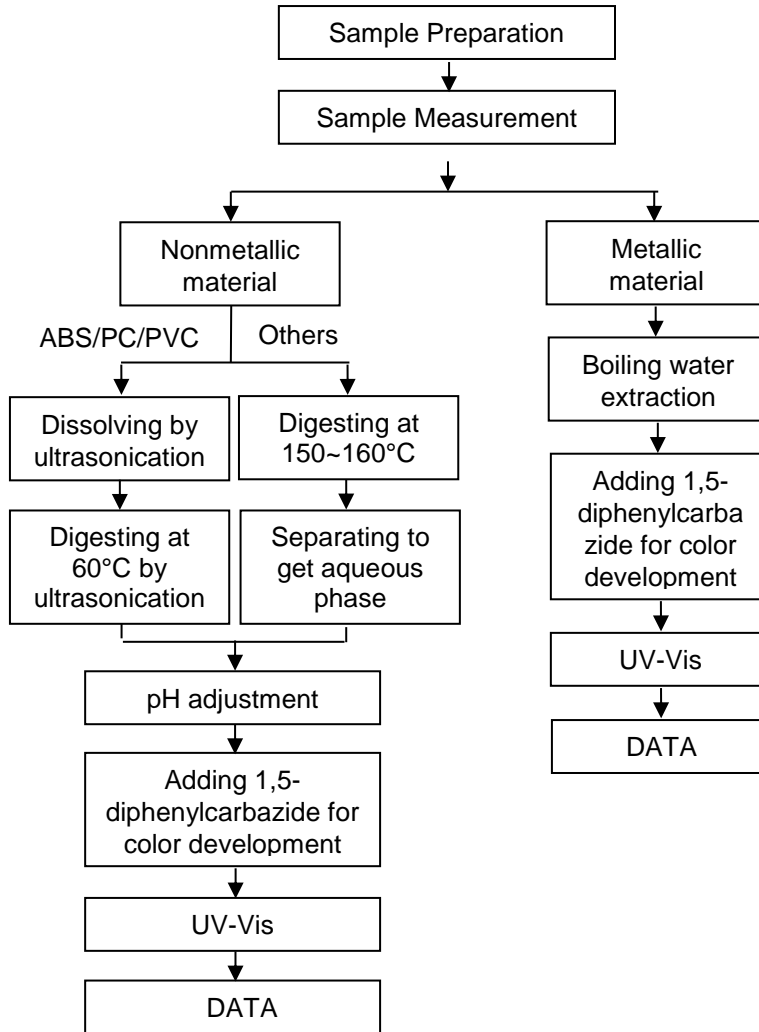
These samples were dissolved totally by pre-conditioning method according to below flow chart.



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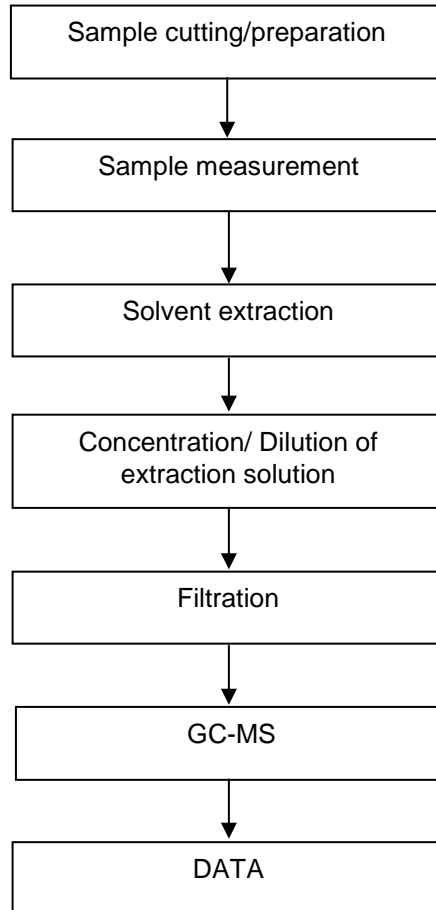
Hexavalent Chromium (Cr(VI)) Testing Flow Chart



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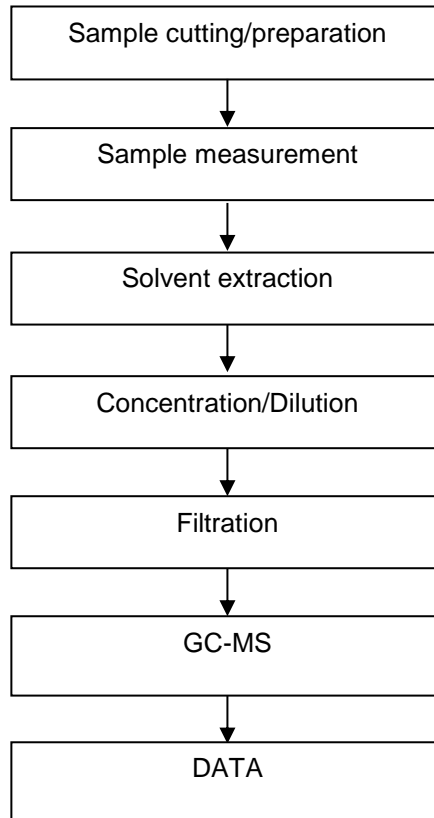
PBB/PBDE Testing Flow Chart



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Phthalates Testing Flow Chart



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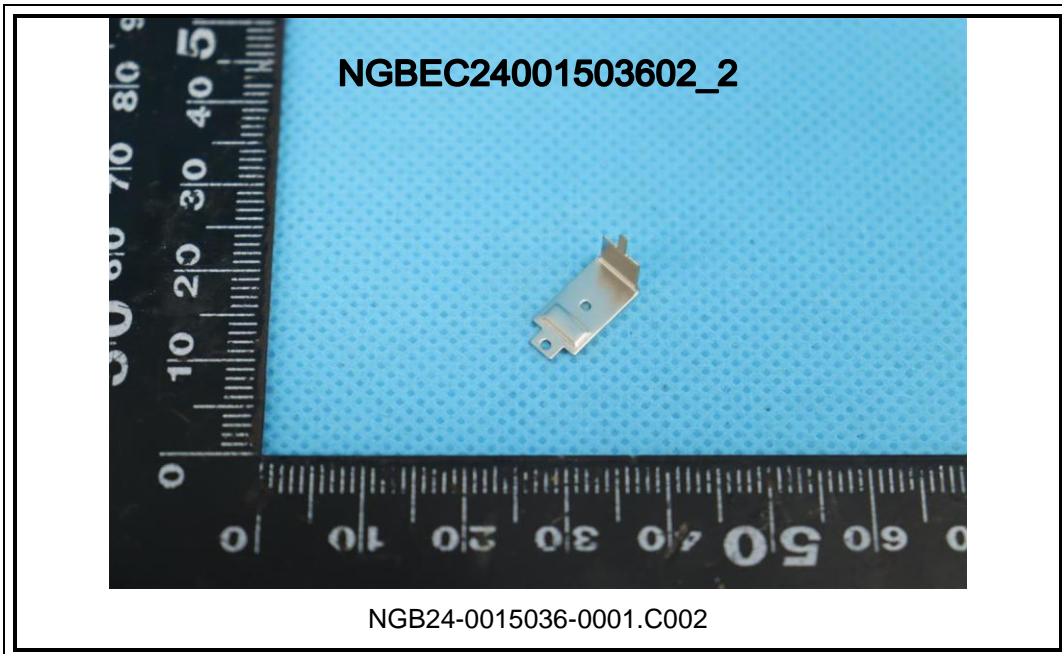
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Sample Photo:



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