

Test Report

No.: CANEC24017575201

Date: Aug 14, 2024

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Client Name: FENGHUA SUPERCAPACITOR TECHNOLOGY CO.,LTD.

Client Address: 1F, ZHIHUI BUILDING, CUIKANG ROAD, YUNFU, GUANGDONG, PRC.

Sample Name: Carbon-based Leaded Supercapacitors

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

SGS Job No.: GZP24-026740

Sample Receiving Date: Aug 09, 2024

Testing Period: Aug 09, 2024 ~ Aug 14, 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
Halogen	See Results

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

Jessie Li

Jessie-JX Li
Approved Signatory

scan to see the report



1298089A



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Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN24-0175752-0001.C001	Black coating on the metal
SN2	A2	CAN24-0175752-0001.C002	Silvery metal
SN3	A4	CAN24-0175752-0001.C004	Silvery metal
SN4	A5	CAN24-0175752-0001.C005	White paper
SN5	A6	CAN24-0175752-0001.C006	Brown single sided adhesive sheet
SN6	A7	CAN24-0175752-0001.C007	Colorless transparent liquid
SN7	A8	CAN24-0175752-0001.C008	Black material
SN8	A9	CAN24-0175752-0001.C009	Silvery metal
SN9	A10	CAN24-0175752-0001.C010	Blue tube w/ white 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 and IEC 62321-12:2023, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1	A5	A6
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
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	25	ND	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	25	ND	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	25	ND	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	25	ND	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	25	ND	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	25	ND	ND	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	25	ND	ND	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	25	ND	ND	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	25	ND	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A1	A5	A6
Decabrominated biphenyl (DecaBB)	-	mg/kg	25	ND	ND	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND	ND	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	25	ND	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	25	ND	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	25	ND	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	25	ND	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	25	ND	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	25	ND	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	25	ND	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND	ND	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	ND	ND
Benzyl Butyl 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

Test Item(s)	Limit	Unit(s)	MDL	A8	A10
Lead (Pb)	1000	mg/kg	2	4	ND
Mercury (Hg)	1000	mg/kg	2	ND	ND
Cadmium (Cd)	100	mg/kg	2	ND	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND	ND
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	25	ND	ND
Dibrominated biphenyl (DiBB)	-	mg/kg	25	ND	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	25	ND	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	25	ND	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	25	ND	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	25	ND	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	25	ND	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	25	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A8	A10
Nonabrominated biphenyl (NonaBB)	-	mg/kg	25	ND	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	25	ND	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	25	ND	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	25	ND	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	25	ND	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	25	ND	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	25	ND	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	25	ND	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	25	ND	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	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.

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017 and IEC 62321-12:2023, analysis was performed by ICP-OES/AAS, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A7
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Cadmium (Cd)	100	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Polybrominated biphenyls (PBB)	1000	mg/kg	-	ND
Monobrominated biphenyl (MonoBB)	-	mg/kg	25	ND



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Test Item(s)	Limit	Unit(s)	MDL	A7
Dibrominated biphenyl (DiBB)	-	mg/kg	25	ND
Tribrominated biphenyl (TriBB)	-	mg/kg	25	ND
Tetrabrominated biphenyl (TetraBB)	-	mg/kg	25	ND
Pentabrominated biphenyl (PentaBB)	-	mg/kg	25	ND
Hexabrominated biphenyl (HexaBB)	-	mg/kg	25	ND
Heptabrominated biphenyl (HeptaBB)	-	mg/kg	25	ND
Octabrominated biphenyl (OctaBB)	-	mg/kg	25	ND
Nonabrominated biphenyl (NonaBB)	-	mg/kg	25	ND
Decabrominated biphenyl (DecaBB)	-	mg/kg	25	ND
Polybrominated diphenyl ethers (PBDE)	1000	mg/kg	-	ND
Monobrominated diphenyl ether (MonoBDE)	-	mg/kg	25	ND
Dibrominated diphenyl ether (DiBDE)	-	mg/kg	25	ND
Tribrominated diphenyl ether (TriBDE)	-	mg/kg	25	ND
Tetrabrominated diphenyl ether (TetraBDE)	-	mg/kg	25	ND
Pentabrominated diphenyl ether (PentaBDE)	-	mg/kg	25	ND
Hexabrominated diphenyl ether (HexaBDE)	-	mg/kg	25	ND
Heptabrominated diphenyl ether (HeptaBDE)	-	mg/kg	25	ND
Octabrominated diphenyl ether (OctaBDE)	-	mg/kg	25	ND
Nonabrominated diphenyl ether (NonaBDE)	-	mg/kg	25	ND
Decabrominated diphenyl ether (DecaBDE)	-	mg/kg	25	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND
Dibutyl Phthalate (DBP)	1000	mg/kg	50	ND
Diisobutyl Phthalate (DIBP)	1000	mg/kg	50	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	A2	A4	A9
Lead (Pb)	1000	mg/kg	2	ND	6	7
Mercury (Hg)	1000	mg/kg	2	ND	ND	ND



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Test Item(s)	Limit	Unit(s)	MDL	A2	A4	A9
Cadmium (Cd)	100	mg/kg	2	ND	ND	ND
Hexavalent Chromium (Cr(VI)) ▼	-	µg/cm ²	0.10	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) ▼ =
 - 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.

Halogen

Test Method: With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit(s)	MDL	A1	A5	A6
Fluorine(F)	mg/kg	20	49376	ND	ND
Chlorine(Cl)	mg/kg	50	ND	ND	ND
Bromine(Br)	mg/kg	50	ND	ND	ND
Iodine(I)	mg/kg	50	ND	ND	ND

Test Item(s)	Unit(s)	MDL	A7	A8	A10
Fluorine(F)	mg/kg	20	56357	ND	ND
Chlorine(Cl)	mg/kg	50	ND	ND	ND
Bromine(Br)	mg/kg	50	ND	ND	ND
Iodine(I)	mg/kg	50	ND	ND	ND

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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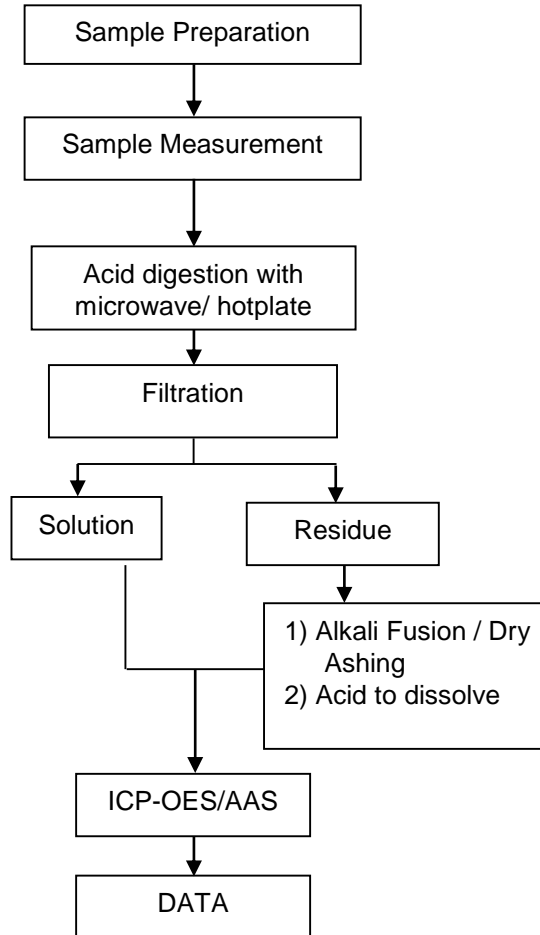
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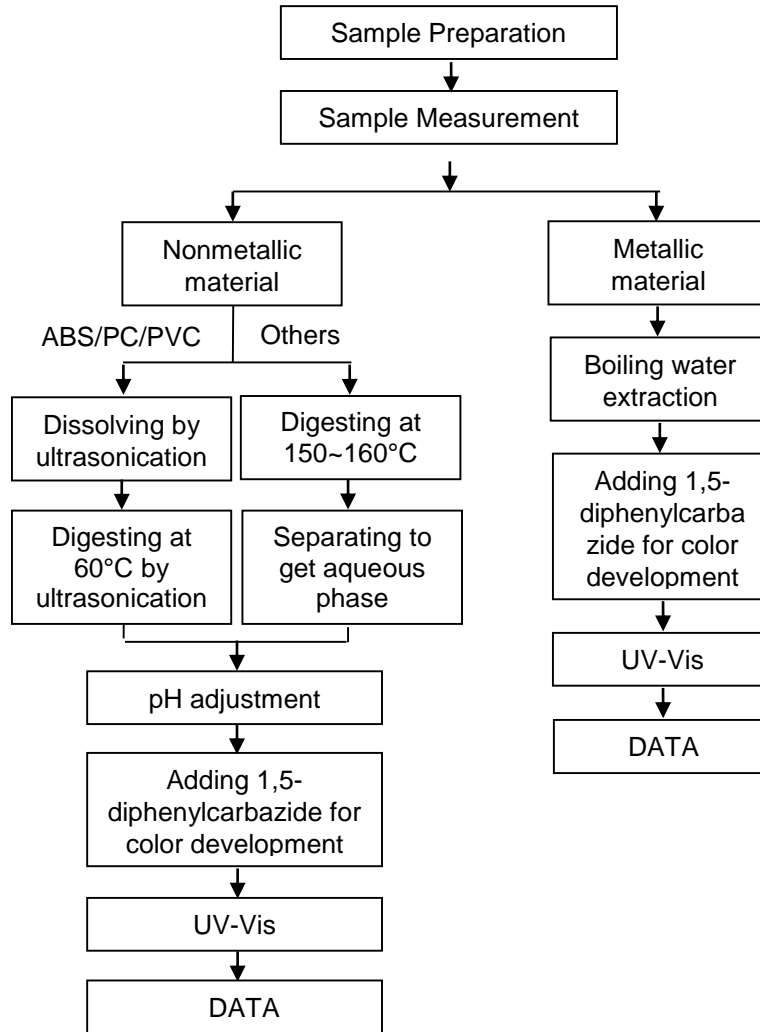
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Elements Testing Flow Chart

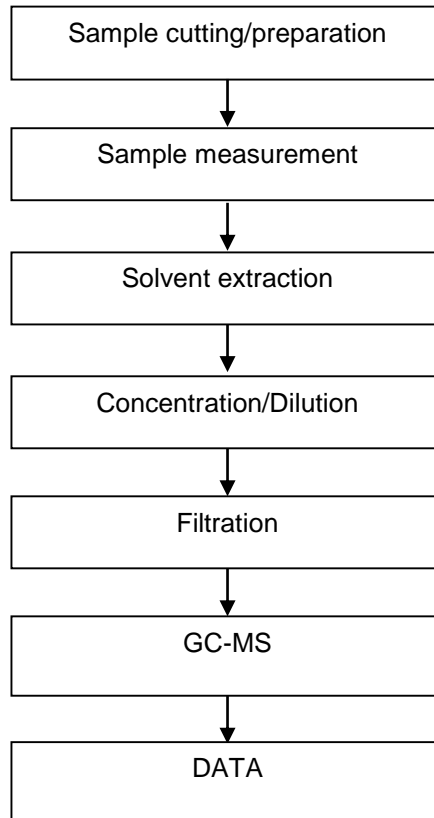
These samples were dissolved totally by pre-conditioning method according to below flow chart.



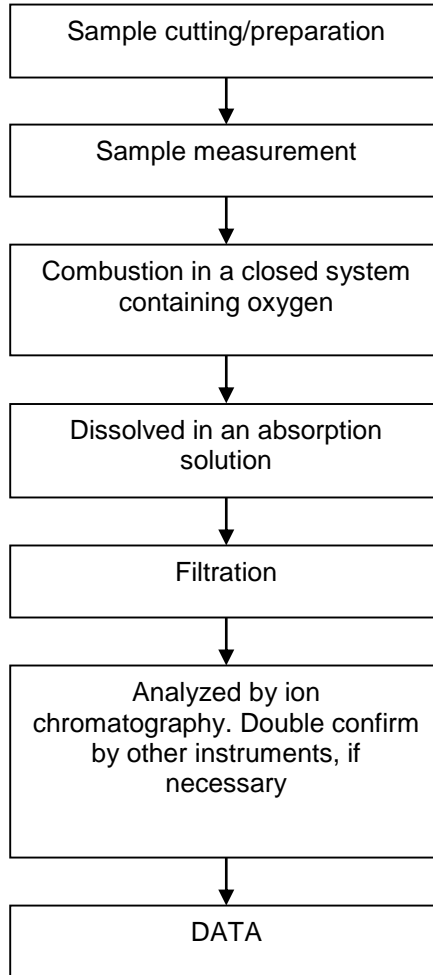
Hexavalent Chromium (Cr(VI)) Testing Flow Chart



PBBs/PBDEs/Phthalates Testing Flow Chart



Halogen Testing Flow Chart



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Sample Photo:



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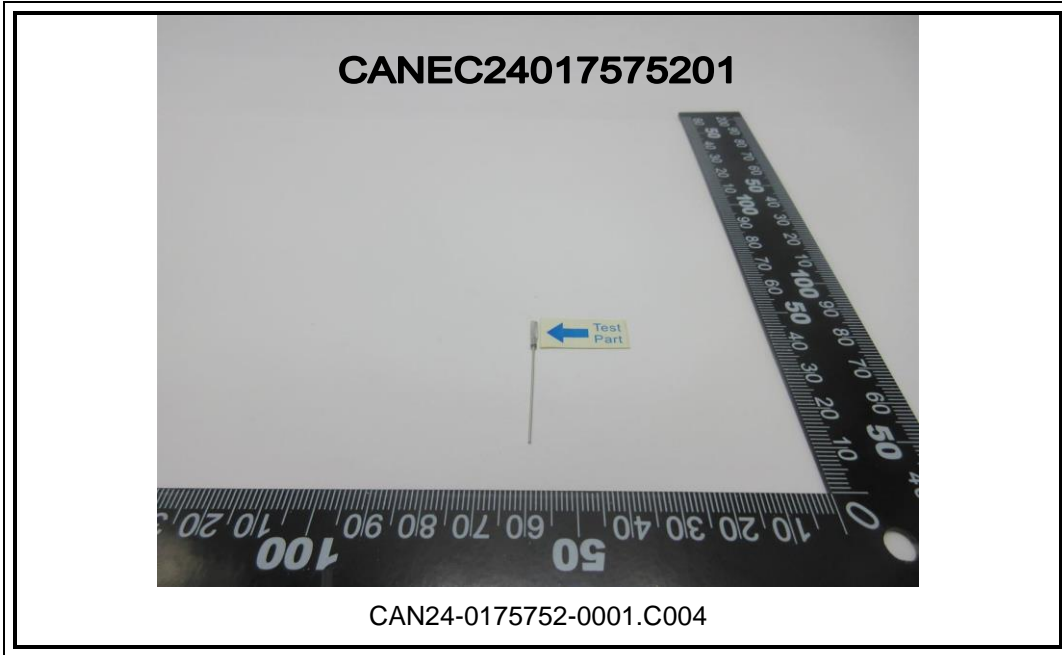
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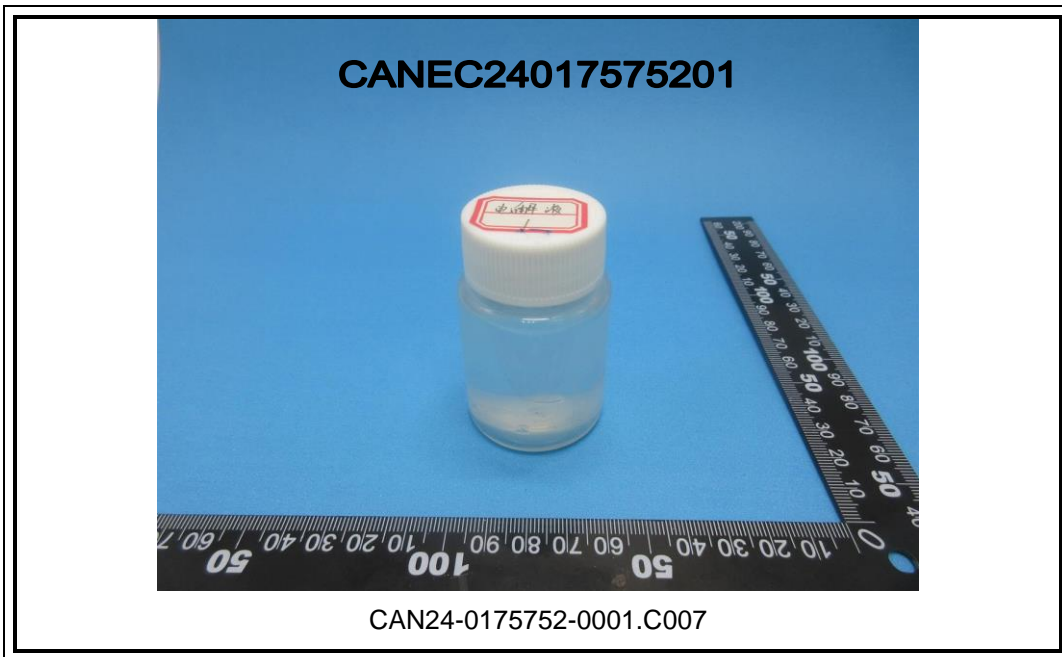
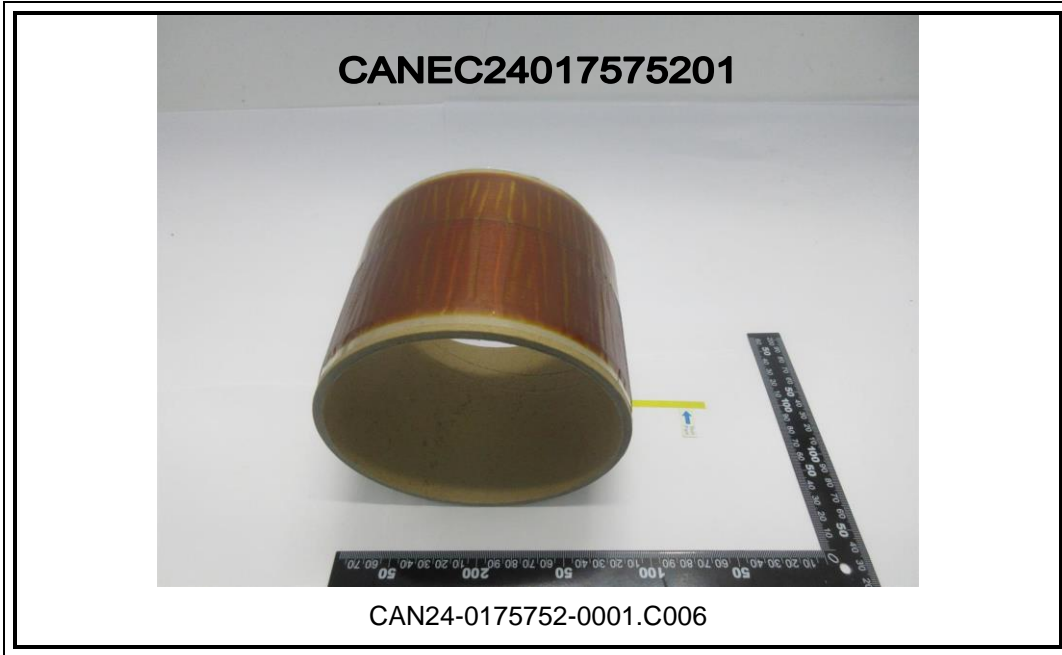
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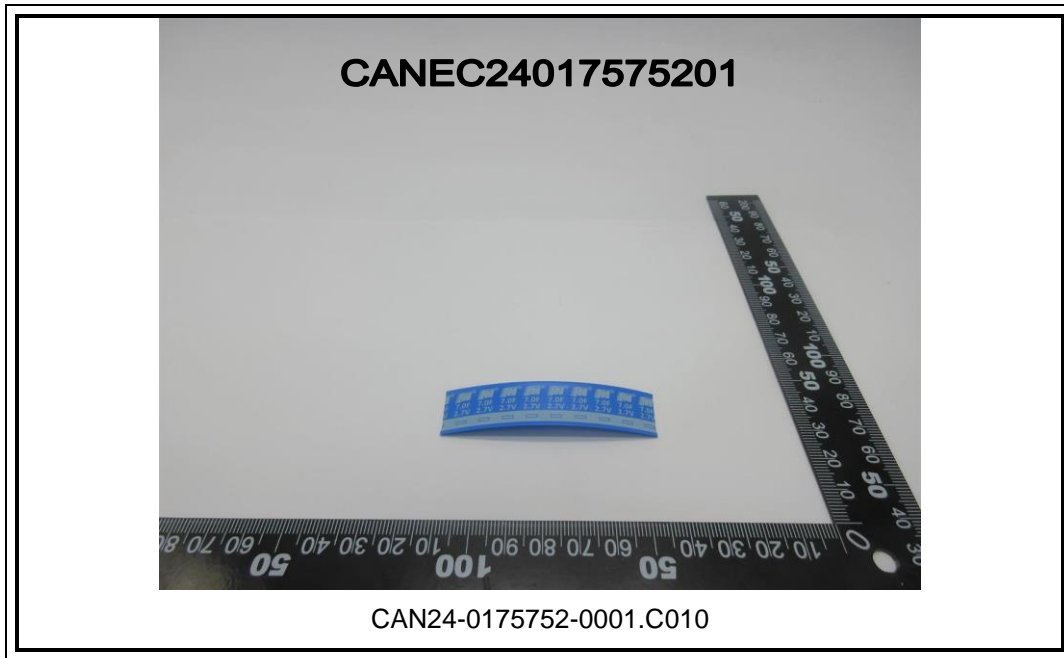
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