

Test Report

No. TAOEC2105524214 A01

Date: 14 Oct 2021

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JINAN HFZT ELECTRONIC CO.,LTD

INNOVATION WORKSHOP F1/F3,NO. 2016 FEIYUE AVENUE, INNOVATION ZONE , JINAN CHINA

THIS REPORT IS TO SUPERSEDE TEST REPORT NO.TAOEC2105524207.

The following sample(s) was/were submitted and identified on behalf of the clients as : PLASTIC TRANSISTORS

SGS Job No. : QP21-003576 - QD
Model No. : SOT-23
Client Ref. Information : Plastic diodes, bridge rectifiers, MOS, DO-41, DO-15, DO-27, R-1, R-6, SMA, SMB, SMC, MBS, MBF, DB, WOM, KBL, KBU, KBJ, KBP, KBPC, SOT-23, SOT-323, SOT-363, SOT-523, SOT-723, SOT-923, SOT-113, SOT-89, SOD-123, SOD-323, SOD-523, SOD-723, SOD-923, TO-92TO-126, TO-220, TO-251, TO-252, TO-3P, TO-247, TO263, TO-277, ABS, SOP-4, SOP-8, DFN, QFN
Date of Sample Received : 24 Sep 2021
Testing Period : 24 Sep 2021 - 12 Oct 2021
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).

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.

Wang Bo, Claire
Approved Signatory

scan to see the report



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Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	TAO21-055242.002	black solid with silver metal (mix all)

Remarks :

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

Elemental analysis, Hexavalent Chromium(Cr(VI)), Flame Retardants, Phthalates

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

Test Item(s)	Unit	MDL	002
Cadmium (Cd)	mg/kg	2	ND
Lead (Pb)	mg/kg	2	ND
Mercury (Hg)	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	mg/kg	8	ND
Sum of PBBs	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	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



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<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Pentabromodiphenyl ether	mg/kg	5	ND
Hexabromodiphenyl ether	mg/kg	5	ND
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)	mg/kg	50	ND
Benzyl Butyl Phthalate (BBP)	mg/kg	50	ND
Di-2-Ethyl Hexyl Phthalate (DEHP)	mg/kg	50	ND
Diisobutyl Phthalates (DIBP)	mg/kg	50	ND

Notes :

- Hexavalent Chromium was not detected on the sample. Analysis was performed by IEC 62321-7-1:2015 boiling-water-extraction.

Halogen

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

<u>Test Item(s)</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
Iodine (I)	mg/kg	50	ND

Perfluorooctanesulfonate (PFOS) and its derivatives and Perfluorooctanoic Acid (PFOA) and its salts

Test Method : With reference to CEN/TS 15968:2010, analysis was performed by LC-MS-MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Perfluorooctanesulfonate (PFOS) and its derivatives	-	mg/kg	-	ND
Perfluorooctane Sulfonates (PFOS)^	1763-23-1	mg/kg	0.01	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.01	ND
2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol (EtFOSE)	1691-99-2	mg/kg	0.01	ND
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	mg/kg	0.01	ND
2-(N-methylperfluoro- 1-octanesulfonamido) -ethanol (MeFOSE)	24448-09-7	mg/kg	0.01	ND



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<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Perfluorooctane sulfonamide (PFOSA)	754-91-6	mg/kg	0.01	ND
Perfluorooctanoic Acid (PFOA) and its salts+		mg/kg	0.01	ND

Notes :

- (1) ^ PFOS refer to its acid, salts/derivatives including PFOS (CAS No.: 1763-23-1) , PFOS-K (CAS No.: 2795-39-3) , PFOS-Li (CAS No.: 29457-72-5), PFOS-NH4 (CAS No.: 29081-56-9), PFOS-NH(OH)2 (CAS No.: 70225-14-8) and PFOS-N(C2H5)4 (CAS No.: 56773-42-3), PFOS-N(CH3)2(C10H21)2 (CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7).
- (2) PFOA and its salts+ refer to its acid / salts including PFOA (CAS No.: 335-67-1), PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1)

Note:

- The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing. The above result(s) was/were only given as the informality value and only for reference.
- This report updates Client Address.

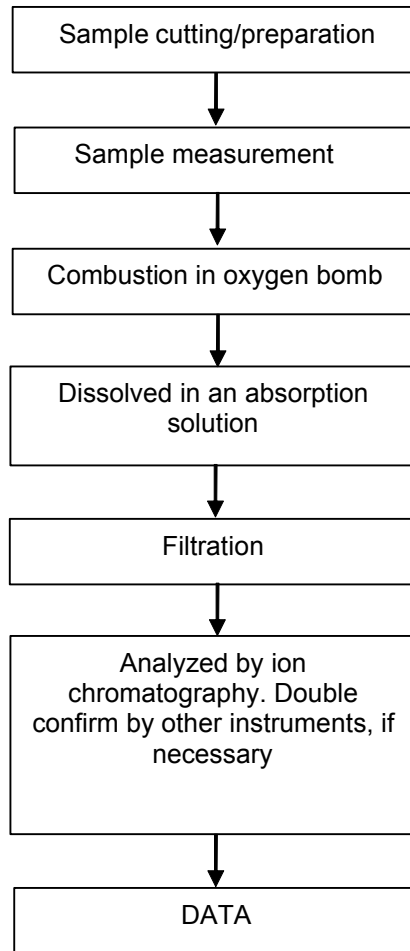


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Halogen Testing Flow Chart

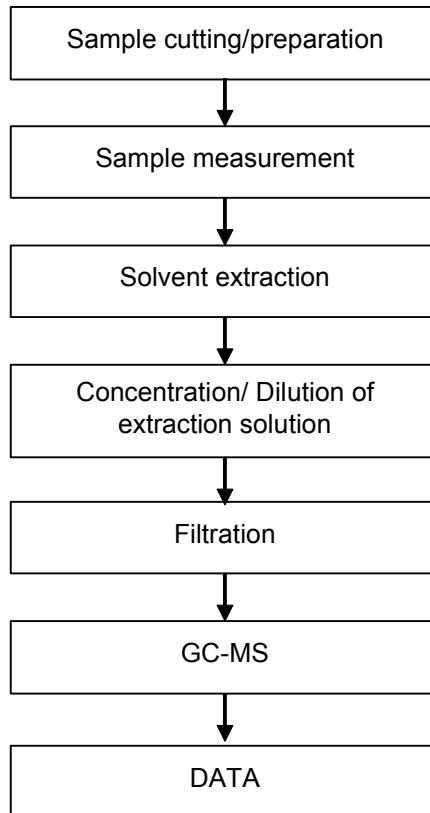


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PBBs/PBDEs Testing Flow Chart

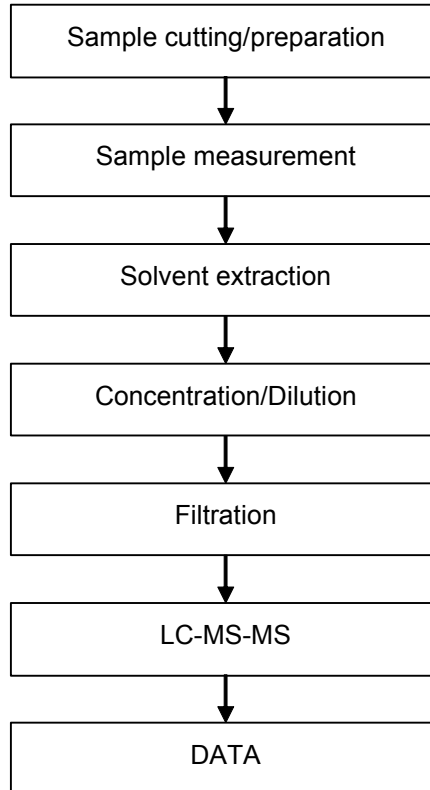


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PFOS/PFOA Testing Flow Chart

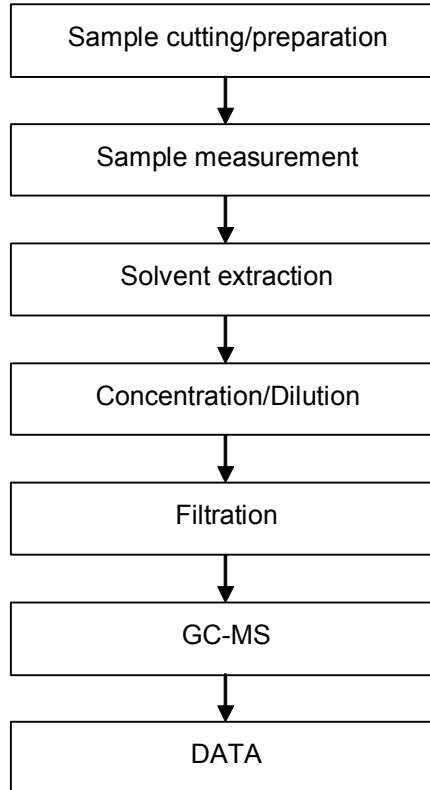


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Phthalates Testing Flow Chart

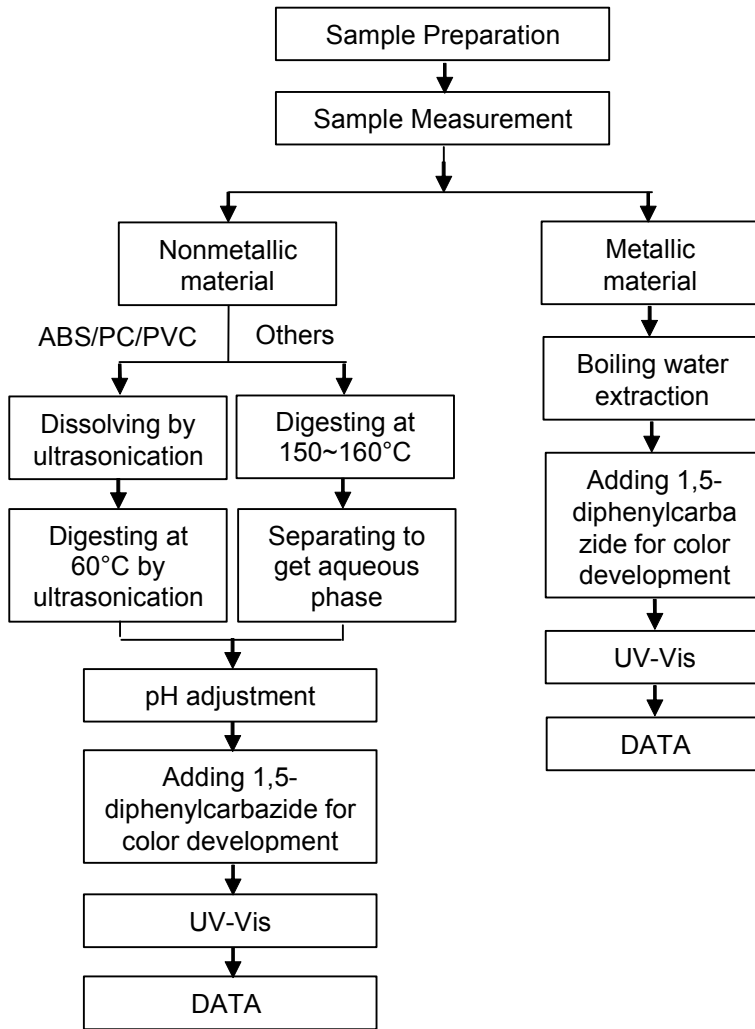


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Hexavalent Chromium (Cr(VI)) Testing Flow Chart



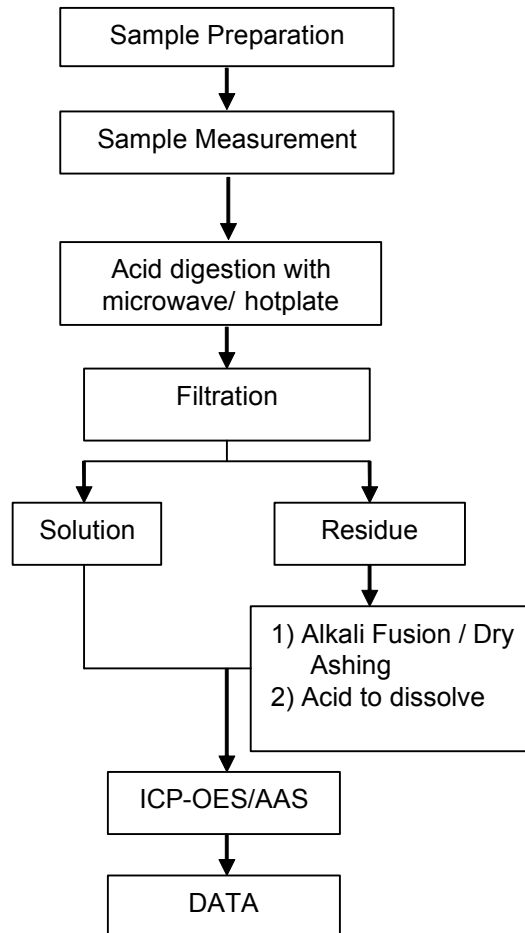
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Elements (IEC62321) Testing Flow Chart

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



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