

**Test Report** No. CKGEC2300337903 Date: 26 Apr 2023 Page 1 of 9

Client Name: ZHONGSHAN HUIYUAN CRYSTAL ELECTRONIC TECHNOLOGY CO..LTD

Client Address: 4TH FLOORBUILDING 4BLOCK AGUANGDONG GAME &AMUSEMENTCULTURE INDUSTRY

CITY.HENGFENG6TH ROADGANGKOU TOWNZHONGSHAN CITY.

Sample Name: **CRYSTAL** Model No.: SMD3225

Client Ref. Info.: SMD7050; SMD7015; SMD5032-2P; SMD5032-4P;

SMD2520; SMD2016;SMD3215;SMD2012

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

SGS Job No.: 10029453 - CQ Date of Sample Received: 14 Apr 2023

Testing Period: 14 Apr 2023 - 19 Apr 2023

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).

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-	PASS
Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls	
(PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate	
(DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl	
phthalate (DIBP)	
Halogen	See Results

Signed for and on behalf of

SGS-CSTC Standards Technical Services (Chongqing) Co., Ltd.

Tess Lv Approved Signatory





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Test Result(s):

### **Test Part Description:**

Specimen No. SGS Sample ID **Description** "CRYSTAL" SN<sub>1</sub> CKG23-003379.001

#### Remarks:

- (1) 1 mg/kg = 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 (PBBs), Polybrominated diphenyl ethers (PBDEs), 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+A1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1000	mg/kg	8	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



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Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</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	
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	
Butyl benzyl 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.
- (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.

### Halogen

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

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (CI)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
lodine (I)	mg/kg	50	ND

Remark: Results & photo(s) of this report refer to test report CKGEC2300337901.

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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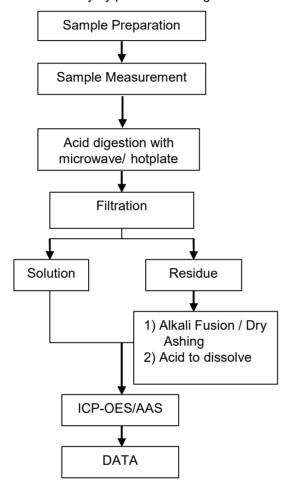
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# **Elements (IEC62321) Testing Flow Chart**

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





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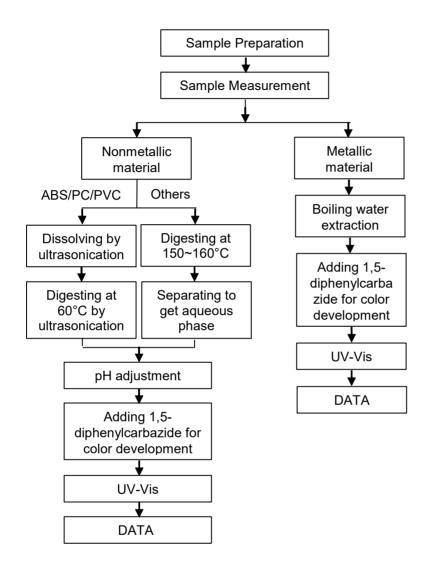
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# Hexavalent Chromium (Cr(VI)) Testing Flow Chart





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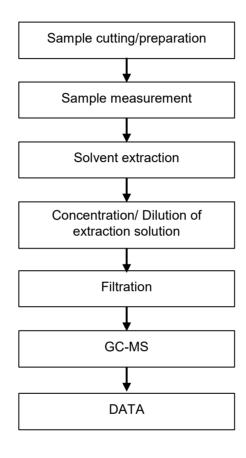
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# PBBs/PBDEs Testing Flow Chart





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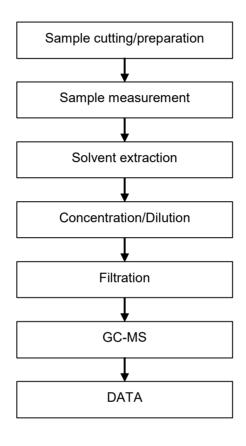


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# **Phthalates Testing Flow Chart**





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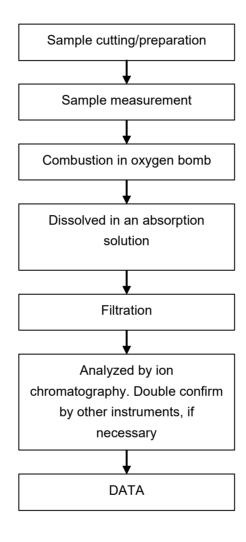
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# Halogen and Sulfur Testing (oxygen bomb) Flow Chart





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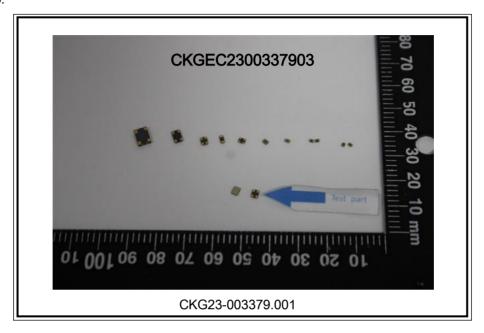


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