



Test Report

Report No. A222051919710100201

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Company Name SEA&LAND ELECTRONIC CORP**shown on Report****Address** 13F, NO.120-10, SEC. 3, ZHONGSHAN RD., ZHONGHE DIST., NEW TAIPEI CITY
235, TAIWAN, CHINA**The following sample(s) and sample information was/were submitted and identified by/on the behalf of the applicant**

Sample Name	Polymeric Positive Temperature Coefficient SMD-TYPE
Part No.	SMD075L
Sample Received Date	Nov. 18, 2022
Testing Period	Nov. 18, 2022 to Nov. 23, 2022

Test Conducted:

As requested by the applicant. For details refer to next page(s)

Tested by

Yeon Xu

Reviewed by

Cathy Huang

Approved by

Helen Liu

Date

Nov. 23, 2022

Helen Liu

Lab Authorized Signatory

No. R393382499

Centre Testing International Group Co.,Ltd.

CTI Building, Ying Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

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Executive Summary:

TEST REQUEST

CONCLUSION

- | | |
|---|---------------------------|
| 1) RoHS Directive 2011/65/EU with amendment (EU) 2015/863 | |
| - Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr(VI)),
Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs),
Phthalates (DBP, BBP, DEHP, DIBP) | PASS |
| 2) As specified by client, to test Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I),
Phthalates in the submitted sample(s). | See test result(s) |
| 3) EN 71-3:2019+A1:2021 European Standard on Safety of Toys | |
| - Migration of certain elements | PASS |

***** For further details, please refer to the following page(s) *****

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Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
Polybrominated Biphenyls (PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
Fluorine (F)	Refer to EN 14582:2016	IC
Chlorine (Cl)	Refer to EN 14582:2016	IC
Bromine (Br)	Refer to EN 14582:2016	IC
Iodine (I)	Refer to EN 14582:2016	IC
Phthalates	Refer to EN 14372:2004(E)	GC-MS

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Test Result(s) 1

Tested Item(s)	Result	MDL	Limit
Lead (Pb)	N.D.	2 mg/kg	1000 mg/kg
Cadmium (Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury (Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

Tested Item(s)	Result	MDL	Limit
Polybrominated Biphenyls (PBBs)			
Monobromobiphenyl	N.D.	5 mg/kg	1000 mg/kg
Dibromobiphenyl	N.D.	5 mg/kg	
Tribromobiphenyl	N.D.	5 mg/kg	
Tetrabromobiphenyl	N.D.	5 mg/kg	
Pentabromobiphenyl	N.D.	5 mg/kg	
Hexabromobiphenyl	N.D.	5 mg/kg	
Heptabromobiphenyl	N.D.	5 mg/kg	
Octabromobiphenyl	N.D.	5 mg/kg	
Nonabromobiphenyl	N.D.	5 mg/kg	
Decabromobiphenyl	N.D.	5 mg/kg	

Tested Item(s)	Result	MDL	Limit
Polybrominated Diphenyl Ethers (PBDEs)			
Monobromodiphenyl ether	N.D.	5 mg/kg	1000 mg/kg
Dibromodiphenyl ether	N.D.	5 mg/kg	
Tribromodiphenyl ether	N.D.	5 mg/kg	
Tetrabromodiphenyl ether	N.D.	5 mg/kg	
Pentabromodiphenyl ether	N.D.	5 mg/kg	
Hexabromodiphenyl ether	N.D.	5 mg/kg	
Heptabromodiphenyl ether	N.D.	5 mg/kg	
Octabromodiphenyl ether	N.D.	5 mg/kg	
Nonabromodiphenyl ether	N.D.	5 mg/kg	
Decabromodiphenyl ether	N.D.	5 mg/kg	

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Tested Item(s)	Result	MDL	Limit
Phthalates (DBP, BBP, DEHP, DIBP)			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

Test Result(s) 2

Tested Item(s)	Result	MDL
Fluorine (F)	178 mg/kg	10 mg/kg
Chlorine (Cl)	121 mg/kg	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
Phthalates		
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	30 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	30 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	30 mg/kg
Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	30 mg/kg
Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	50 mg/kg
Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	50 mg/kg

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

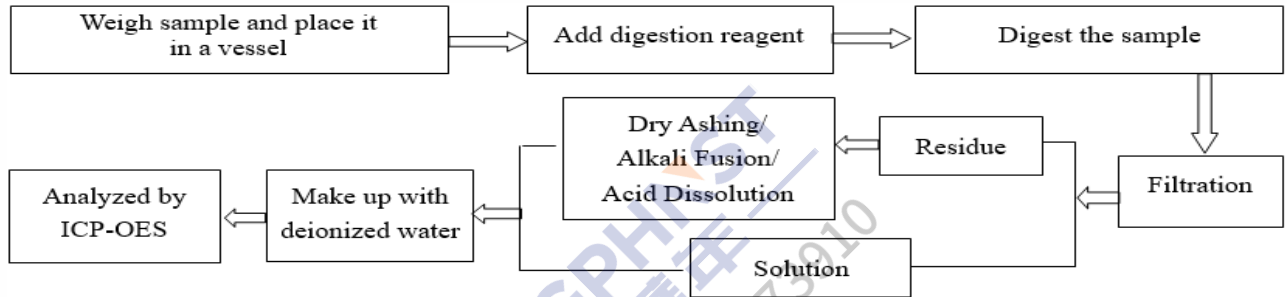
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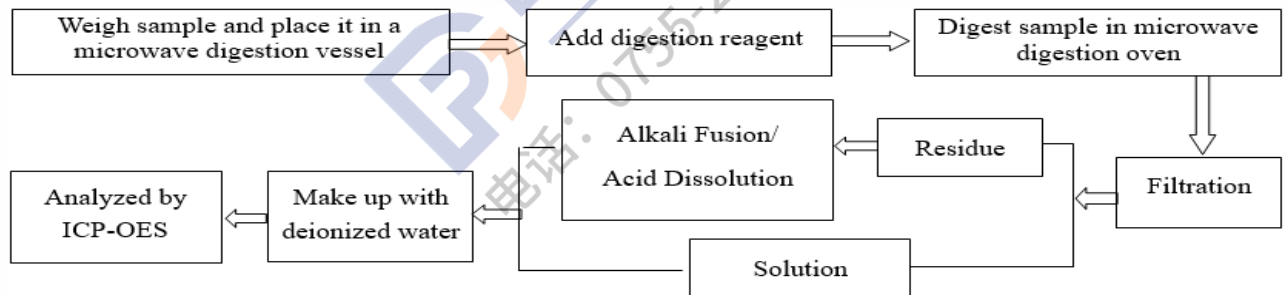
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Test Process

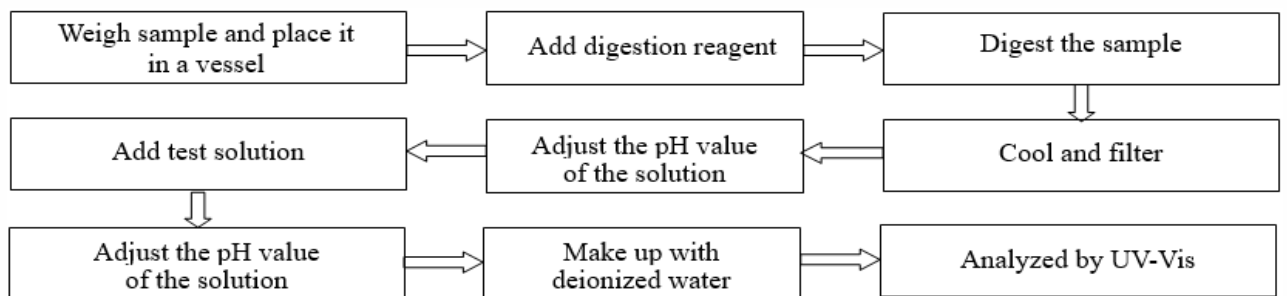
1. Lead (Pb), Cadmium (Cd), Chromium(Cr)



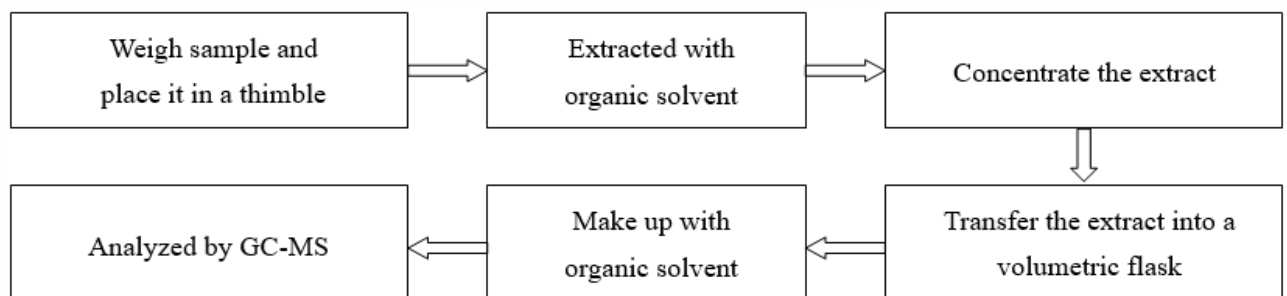
2. Mercury (Hg)



3. Hexavalent Chromium (Cr(VI))



4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)

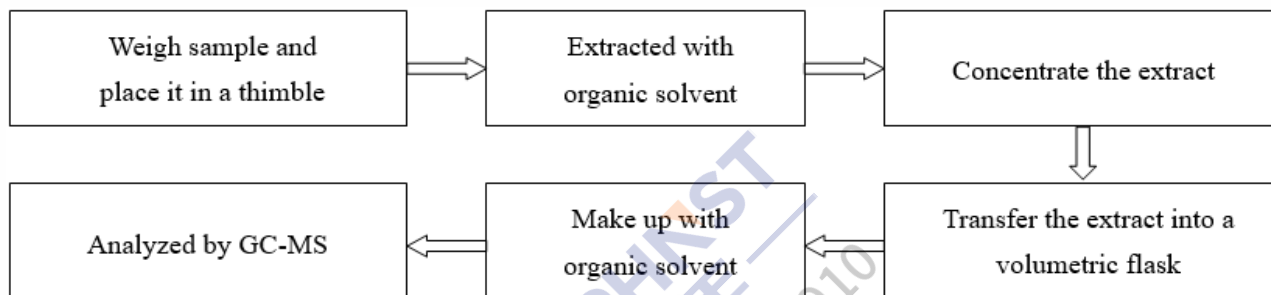


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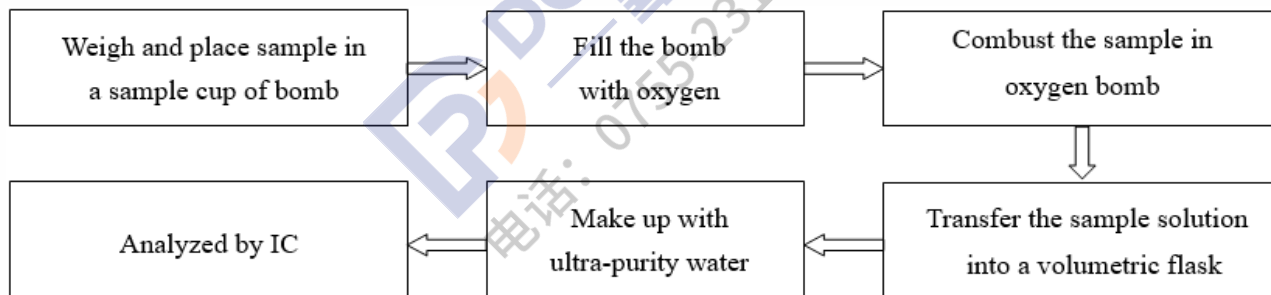
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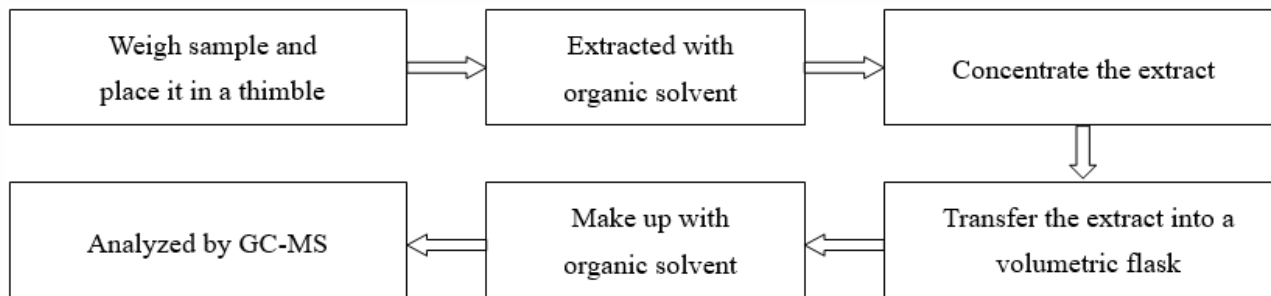
5. Phthalates (DBP, BBP, DEHP, DIBP)



6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



7. Phthalates



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Test Result(s) 3

EN 71-3:2019+A1:2021 European Standard on Safety of Toys

▼ Migration of certain elements*

Method(s) EN 71-3:2019+A1:2021 was/were used, and the item(s) was/were analyzed by ICP-OES, ICP-MS, IC-UV and/or GC-MS.

Category III: scraped-off toy material

<u>Tested Item(s)</u>	<u>Result (mg/kg)</u>	<u>MDL (mg/kg)</u>	<u>Limit (mg/kg)</u>
Aluminium (Al)	N.D.	50	28130
Antimony (Sb)	N.D.	5	560
Arsenic (As)	N.D.	5	47
Barium (Ba)	N.D.	50	18750
Boron (B)	N.D.	50	15000
Cadmium (Cd)	N.D.	1	17
Chromium (III) #1	0.5	0.2	460
Chromium (VI)	N.D.	0.002	0.053
Cobalt (Co)	N.D.	5	130
Copper (Cu)	N.D.	50	7700
Lead (Pb)	N.D.	1	23
Manganese (Mn)	N.D.	50	15000
Mercury (Hg)	N.D.	5	94
Nickel (Ni)	N.D.	5	930
Selenium (Se)	N.D.	5	460
Strontium (Sr)	N.D.	50	56000
Tin (Sn) #2	446	2	180000
Organic tin (TBT) #3	N.D.	0.05	12
Zinc (Zn)	N.D.	50	46000

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Remark:

- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million
- ^{#1} Trivalent chromium (Cr (III)) = Chromium (Cr) - Hexavalent chromium (Cr (VI)).
- ^{#2} Tin (Sn) content can be used for screen test for organic tins analysis to show compliance with the requirement of EN 71-3:2019+A1:2021.
- ^{#3} The migration of organic tin is expressed as tributyltin (TBT). Where the tin content exceeded the limit of organic tin, eleven organic tins listed in the table were determined by GC-MS and the client should note there are other organic tins that may be present in toy materials.

Organic tins tested under EN 71-3:2019+A1:2021
Methyl tin (MeT)
Butyl tin (BuT)
Dibutyl tin (DBT)
Tributyl tin (TBT)
Tetrabutyl tin (TeBT)
n-Octyl tin (MOT)
Di-n-octyl tin (DOT)
Di-n-propyl tin (DProT)
Diphenyl tin (DPhT)
Triphenyl tin (TPhT)
Dimethyl tin (DMT)

Sample/Part Description Black solid with white printing and silver-white covering layer
(Tested as a whole)

Note:

- *indicates the item(s)/method(s) is (are) not in CNAS accreditation scope.
- The sample(s) was tested as a whole, because it's impossible to disassemble or separate it by current equipment and technology. The result(s) shown on this report may be different from the content of any homogeneous material.
- According to the client's statement, the Company Name shown on Report in this report and the Company Name shown on Report in the report A2220519197101002C are the Group-subsidiary relations, the test result(s) of this report is/are presented in reference to the result(s) that reported in A2220519197101002C.

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Photo(s) of the sample(s)



Statement:

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Without written approval of CTI, this report can't be reproduced except in full;
5. In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** End of Report ***

Appendix

Client Reference Information

Polymeric Positive Temperature Coefficient SMD TYPE

SMD0603 Series:

SMD0603-001/SMD0603-002/SMD0603-003/SMD0603-004/
SMD0603-005/SMD0603-010/SMD0603-020/SMD0603-025/
SMD0603-035/SMD0603-050/SMD0603-075/SMD0603-100/
SMD0603-110

SMD0805 Series:

SMD0805-002/SMD0805-003/SMD0805-005/SMD0805-010/
SMD0805-020/SMD0805-025/SMD0805-035/SMD0805-050/
SMD0805-075/SMD0805-100/SMD0805-110/SMD0805-125

nSMD Series:

nSMD001/nSMD003/nSMD005/nSMD010/nSMD012/nSMD016/
nSMD020/nSMD025/nSMD035/nSMD050/nSMD050-13.2V/
nSMD075/nSMD100/nSMD110/ nSMD150/nSMD200

SMD1210 Series:

SMD1210-005/SMD1210-010/SMD1210-020/SMD1210-025/
SMD1210-035/SMD1210-050/SMD1210-075/SMD1210-100/
SMD1210-110/SMD1210-150/SMD1210-175/SMD1210-200

mSMD Series:

mSMD005/mSMD010/mSMD014/mSMD020/mSMD030/mSMD050/
mSMD050-33V/mSMD050-60V/mSMD075/mSMD100/mSMD110/
mSMD110-16V/mSMD125/mSMD150/mSMD150-16V/mSMD160/
mSMD200/mSMD260/mSMD300/mSMD350/mSMD375/mSMD400

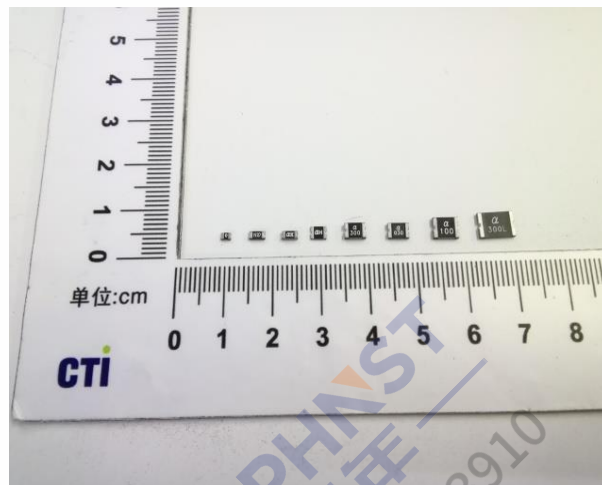
SMD2018 Series:

SMD2018-030/SMD2018-050/SMD2018-100/SMD2018-100-33V/
SMD2018-150/SMD2018-200

SMD Series:

SMD030L/SMD050L/SMD075L/SMD100L/SMD125L/SMD150L/
SMD185L/SMD200L/SMD250L/SMD260L/SMD300L-6V/SMD300L/
SMD400L/SMD500L/SMD600L/SMD700L/SMD800L

Client Reference Photo (Non-tested sample)



Statement:

1. The Appendix Information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified.
2. The Appendix Information is/are the supplement(s) for the Report A222051919710100201.