



Customer: DONGGUAN LIANRUI PHOTOELECTRIC TECHNOLOGY CO., LTD

Customer Address: NO. 20, BEIZONG 1ST ROAD, QISHI TOWN, DONGGUAN CITY, GUANGDONG PROVINCE

Sample Name: Transformer

The above samples and information are provided by the customer

Sample Received Date: Jan 25, 2024

Test Period: Jan 25, 2024 to Jan 30, 2024

Test Requirements: Test according to customer requirement

Test Method: Please refer to next page(s)

Test Result: Please refer to next page(s)

### Result Summary:

| Test Requested   | Conclusion     |
|--|----------------|
| 1.As specified by the customer, the submitted sample(s) are tested in the following items:<br>—Lead, Cadmium, Mercury, Hexavalent Chromium, PBBs and PBDEs Content | See the result |
| —Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP) Content  | See the result |

WRITTEN BY

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REVIEWED BY

Kira Fu

Kira Fu

Soar Testing Certification  
(GuangDong) Co., Ltd.

APPROVED BY

Frank Wu

Frank Wu  
Approved Signatory



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Lab name: Soar Testing Certification (GuangDong) Co., Ltd.  
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Website: <http://www.soartestlab.com>

**Test Result(s):****Description of test sample:****Sample No. Description**

No.1 Non-metal (mixed)

No.2 Metal (mixed)

**1. Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated biphenyl(PBBs) and Polybrominated diphenyl ethers(PBDEs), Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP) content**

Test method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES, UV-Vis and GC-MS.

| Test Items                                     | Unit  | MDL | No.1 |
|--|-------|-----|------|
| Lead (Pb)                                      | mg/kg | 2   | N.D. |
| Mercury (Hg)                                   | mg/kg | 2   | N.D. |
| Cadmium(Cd)                                    | mg/kg | 2   | N.D. |
| Hexavalent Chromium (CrVI)                     | mg/kg | 2   | N.D. |
| Sum of Polybrominated biphenyls(PBBs)          | mg/kg | -   | N.D. |
| Sum of Polybrominated diphenyl ethers(PBDEs) . | mg/kg | -   | N.D. |
| Monobromobiphenyl                              | mg/kg | 5   | N.D. |
| Dibromobiphenyl                                | mg/kg | 5   | N.D. |
| Tribromobiphenyl                               | mg/kg | 5   | N.D. |
| Tetrabromobiphenyl                             | mg/kg | 5   | N.D. |
| Pentabromobiphenyl                             | mg/kg | 5   | N.D. |
| Hexabromobiphenyl                              | mg/kg | 5   | N.D. |
| Heptabromobiphenyl                             | mg/kg | 5   | N.D. |
| Octabromobiphenyl                              | mg/kg | 5   | N.D. |
| Nonabromobiphenyl                              | mg/kg | 5   | N.D. |
| Decabromobiphenyl                              | mg/kg | 5   | N.D. |
| Monobromodiphenyl ether                        | mg/kg | 5   | N.D. |
| Dibromodiphenyl ether                          | mg/kg | 5   | N.D. |
| Tribromodiphenyl ether                         | mg/kg | 5   | N.D. |
| Tetrabromodiphenyl ether                       | mg/kg | 5   | N.D. |
| Pentabromodiphenyl ether                       | mg/kg | 5   | N.D. |
| Hexabromodiphenyl ether                        | mg/kg | 5   | N.D. |
| Heptabromodiphenyl ether                       | mg/kg | 5   | N.D. |
| Octabromodiphenyl ether                        | mg/kg | 5   | N.D. |
| Nonabromodiphenyl ether                        | mg/kg | 5   | N.D. |
| Decabromodiphenyl ether                        | mg/kg | 5   | N.D. |

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| Test Items                         | Unit  | MDL | No.1 |
|------------------------------------|-------|-----|------|
| Dibutyl phthalate (DBP)            | mg/kg | 50  | N.D. |
| Benzylbutyl phthalate (BBP)        | mg/kg | 50  | N.D. |
| Di-(2-ethylhexyl) phthalate (DEHP) | mg/kg | 50  | N.D. |
| Diisobutyl phthalate(DIBP)         | mg/kg | 50  | N.D. |

Note: 1. mg/kg = milligram per kilogram = ppm  
2. N.D. = Not Detected (< MDL)  
3. MDL = Method Detection Limit  
4. As specified by client, the test was conducted by mixing several samples together. The result(s) shown on this report may be different from the content of any homogeneous material.

**1. Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated biphenyl(PBBs) and Polybrominated diphenyl ethers(PBDEs), Di-(2-ethylhexyl) phthalate(DEHP), Benzylbutyl phthalate(BBP), Dibutyl phthalate (DBP), Diisobutyl phthalate(DIBP)**

Test method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7- 1:2015, IEC62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES,UV-Vis and GC-MS .

| Test Items                                     | Unit               | MDL  | No.2 |
|--|--------------------|------|------|
| Lead (Pb)                                      | mg/kg              | 2    | 5    |
| Mercury (Hg)                                   | mg/kg              | 2    | N.D. |
| Cadmium(Cd)                                    | mg/kg              | 2    | N.D. |
| Hexavalent Chromium (CrVI)                     | µg/cm <sup>2</sup> | 0.10 | N.D. |
| Sum of Polybrominated biphenyls(PBBs)          | mg/kg              | -    | N.D. |
| Sum of Polybrominated diphenyl ethers(PBDEs) . | mg/kg              | -    | N.D. |
| Monobromobiphenyl                              | mg/kg              | 5    | N.D. |
| Dibromobiphenyl                                | mg/kg              | 5    | N.D. |
| Tribromobiphenyl                               | mg/kg              | 5    | N.D. |
| Tetrabromobiphenyl                             | mg/kg              | 5    | N.D. |
| Pentabromobiphenyl                             | mg/kg              | 5    | N.D. |
| Hexabromobiphenyl                              | mg/kg              | 5    | N.D. |
| Heptabromobiphenyl                             | mg/kg              | 5    | N.D. |
| Octabromobiphenyl                              | mg/kg              | 5    | N.D. |
| Nonabromobiphenyl                              | mg/kg              | 5    | N.D. |
| Decabromobiphenyl                              | mg/kg              | 5    | N.D. |
| Monobromodiphenyl ether                        | mg/kg              | 5    | N.D. |
| Dibromodiphenyl ether                          | mg/kg              | 5    | N.D. |
| Tribromodiphenyl ether                         | mg/kg              | 5    | N.D. |

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| Test Items                         | Unit  | MDL | No.2 |
|------------------------------------|-------|-----|------|
| Tetrabromodiphenyl ether           | mg/kg | 5   | N.D. |
| Pentabromodiphenyl ether           | mg/kg | 5   | N.D. |
| Hexabromodiphenyl ether            | mg/kg | 5   | N.D. |
| Heptabromodiphenyl ether           | mg/kg | 5   | N.D. |
| Octabromodiphenyl ether            | mg/kg | 5   | N.D. |
| Nonabromodiphenyl ether            | mg/kg | 5   | N.D. |
| Decabromodiphenyl ether            | mg/kg | 5   | N.D. |
| Dibutyl phthalate (DBP)            | mg/kg | 50  | N.D. |
| Benzylbutyl phthalate (BBP)        | mg/kg | 50  | N.D. |
| Di-(2-ethylhexyl) phthalate (DEHP) | mg/kg | 50  | N.D. |
| Diisobutyl phthalate(DIBP)         | mg/kg | 50  | N.D. |

**Note:**

1. mg/kg = milligram per kilogram = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
4. a. When the concentration of hexavalent chromium in boiling-water-extraction solution with 1cm<sup>2</sup> sample surface area is higher than 0.13 µg/cm<sup>2</sup>, the sample is positive, that is, contains hexavalent chromium;  
b. When the concentration of hexavalent chromium in boiling-water-extraction solution with 1cm<sup>2</sup> sample surface area is N.D.(less than 0.10µg/cm<sup>2</sup>), the sample is negative, that is, no hexavalent chromium is detected;  
c. When the concentration of hexavalent chromium in boiling-water-extraction solution with 1cm<sup>2</sup> sample surface area is between 0.10µg/cm<sup>2</sup> and 0.13µg/cm<sup>2</sup>, it is not possible to directly determine whether hexavalent chromium is detected.

Surface differences of samples from different individuals may affect the determination results:

Since the storage condition and production date of the sample are not known, the test result of the sample can only represent the state of the sample containing hexavalent chromium at the time of the test.

5. As specified by client, the test was conducted by mixing several samples together. The result(s) shown on this report may be different from the content of any homogeneous material.

Remark: As specified by applicant, to test content in the selected materials of the submitted samples. The test results are only responsible for the submitted sample. The test report is only for customer research, teaching, internal quality control, product development and other purposes, for reference only.

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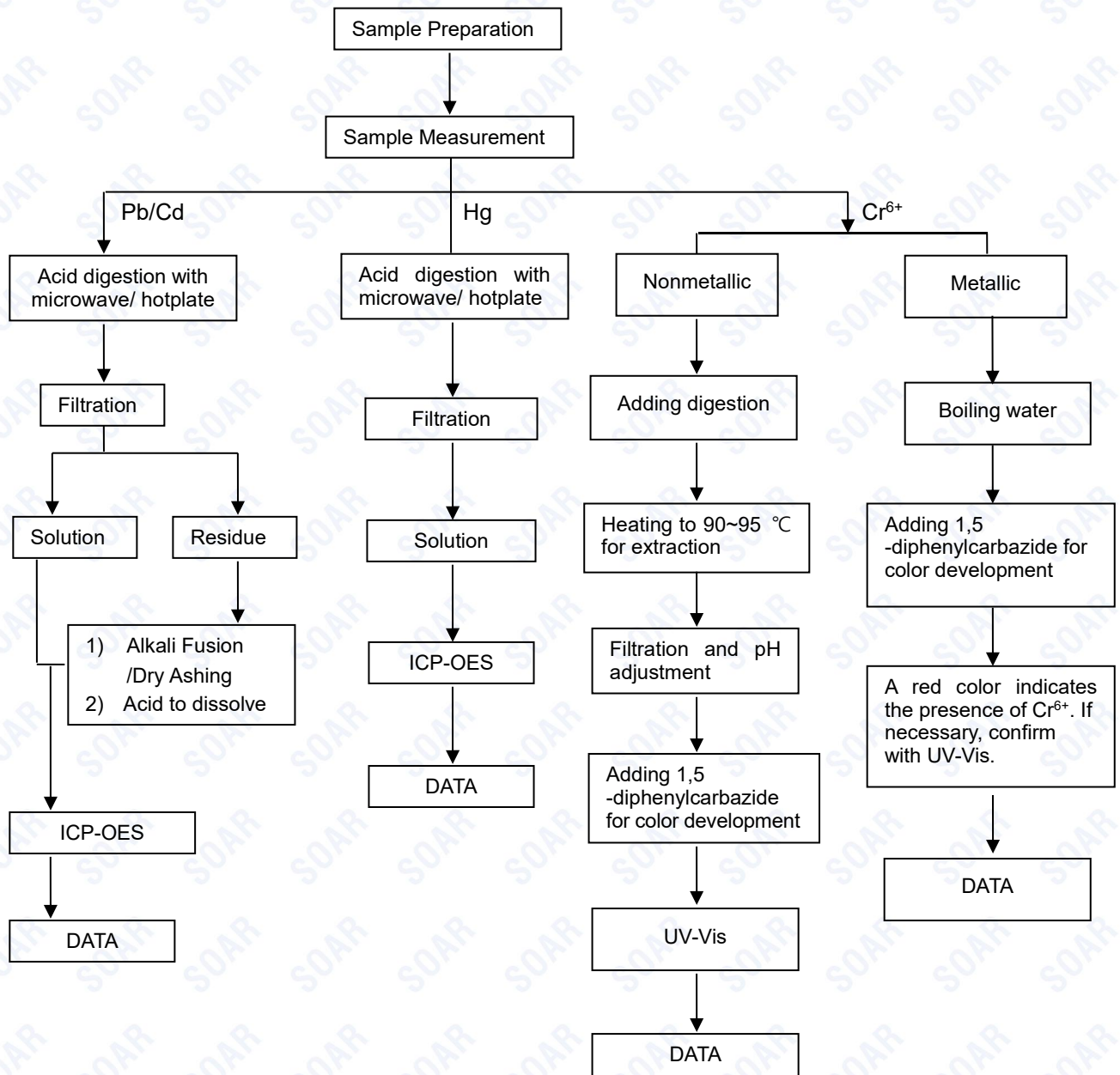
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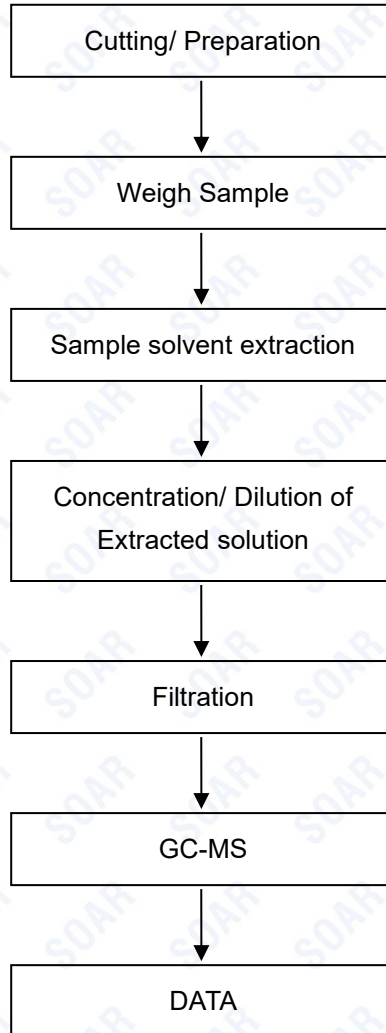


**Pb/Cd/Hg/Cr<sup>6+</sup> Testing Flow Chart**

- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)



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**PBBs/PBDEs Testing Flow Chart**

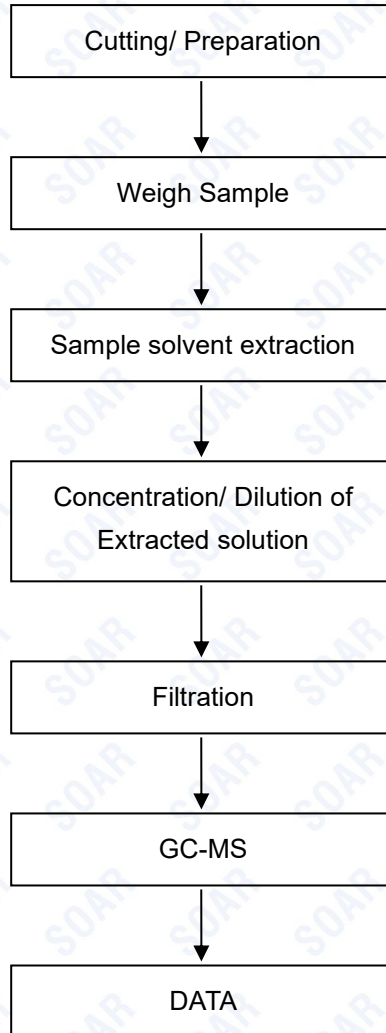
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**Phthalates Testing Flow Chart**

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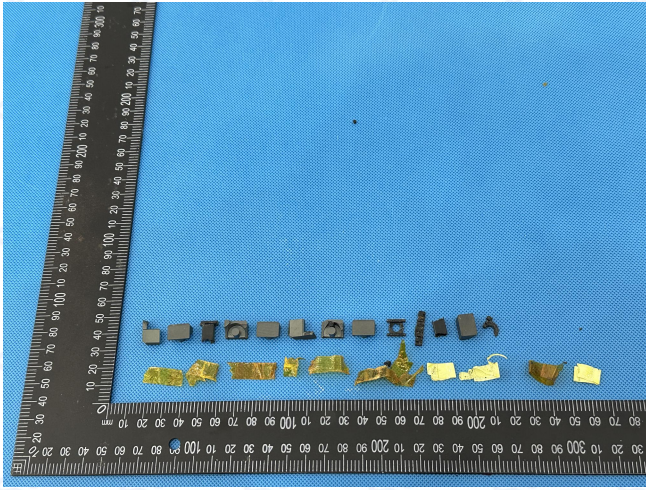
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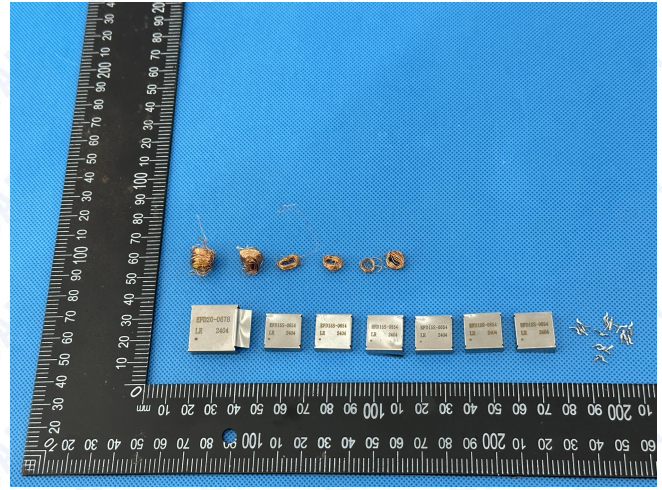
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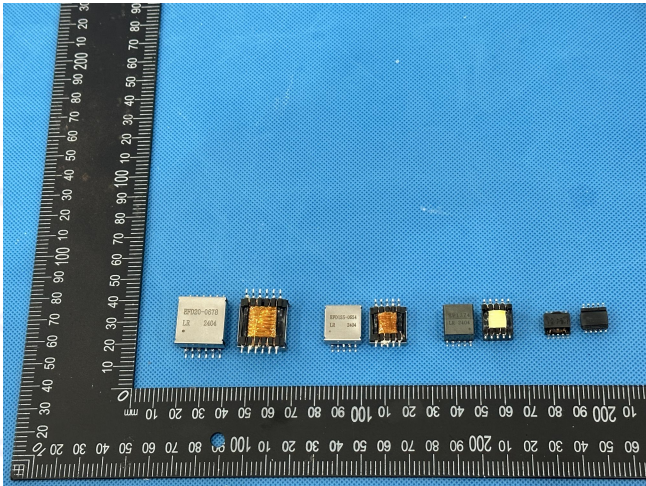
Photo of the Sample:



No.1



No.2



The photo is for use with SOAR original report only.

\*\*\* End of Report \*\*\*

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