

# Test Report

Report No. NCL02H003714

Page 1 of 6

**Applicant** LIAONING DIYA ELECTRONIC CO.,LTD

**Address** NORTH 3.ROAD 12.THE EAST OF ROAD C ECONOMIC DEVELOPMENT  
ZONE FUXIN LIAONING CHINA

**The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client**

**Sample Name** Polyester Film Capacitor-Epoxy Resin Coating 、  
Polypropylene Film Capacitor-Epoxy Resin Coating 、  
Polyester Film Capacitor-Powder Coating 、  
Polypropylene Film Capacitor-Powder Coating

**Material** 1.Film 2.Sisc(Pb Free) 3.Leads 4.Epoxy Resin 5.Powder

**Sample Received Date** Jun. 15, 2015

**Testing Period** Jun. 15, 2015 to Jun. 18, 2015

**Test Requested** As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg),  
Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs),  
Polybrominated Diphenyl Ethers(PBDEs) in the submitted sample(s).

## Test Method

Tested Item(s)	Test Method	Measured Equipment(s)
Lead (Pb)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Cadmium (Cd)	IEC 62321-5:2013 Ed.1.0	ICP-OES
Mercury (Hg)	IEC 62321-4:2013 Ed.1.0	ICP-OES
Hexavalent Chromium (Cr(VI))	IEC 62321:2008 Ed.1 Annex B	UV-Vis
	IEC 62321:2008 Ed.1 Annex C	
Polybrominated Biphenyls (PBBs)	IEC 62321:2008 Ed.1 Annex A	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321:2008 Ed.1 Annex A	GC-MS

**Test Result(s)** Please refer to the following page(s).

Tested by

*Cain*  
*Allen Wang*



Allen Wang

Technical Manager

Centre Testing International (Tianjin) Co., Ltd.

Reviewed by

*Morim*

Date

Jun. 18, 2015

No. R216451841

No.99, Xianfeng East Road, Dongli District, Tianjin, China

# Test Report

Report No. NCL02H003714

Page 2 of 6

## Test Result(s)

Tested Item(s)	Result					MDL
	1	2	3	4	5	
Lead (Pb)	N.D.	14 mg/kg	N.D.	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	—	—	N.D.	N.D.	2 mg/kg
	—	Negative	Negative	—	—	/

Tested Item(s)	Result					MDL
	1	2	3	4	5	
Polybrominated Biphenyls(PBBs)						
Monobromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	—	—	N.D.	N.D.	5 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)						
Monobromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	—	—	N.D.	N.D.	5 mg/kg

## Tested Sample/Part Description

- 1.Film(capacitor core)
- 2.Silver color core(capacitor core)
- 3.Metal with silvery plating
- 4.Red paste
- 5.Red powder

# Test Report

Report No. NCL02H003714

Page 3 of 6

**Remark:** The sample had been dissolved totally tested for Lead, Cadmium, Mercury.

-MDL = Method Detection Limit

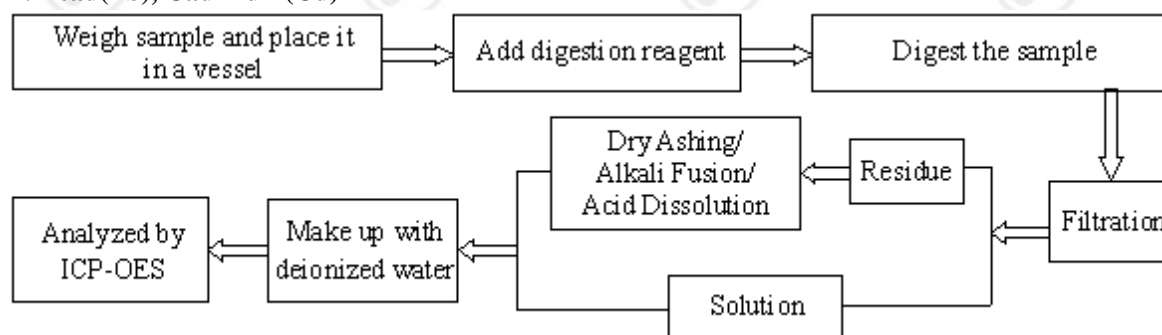
-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

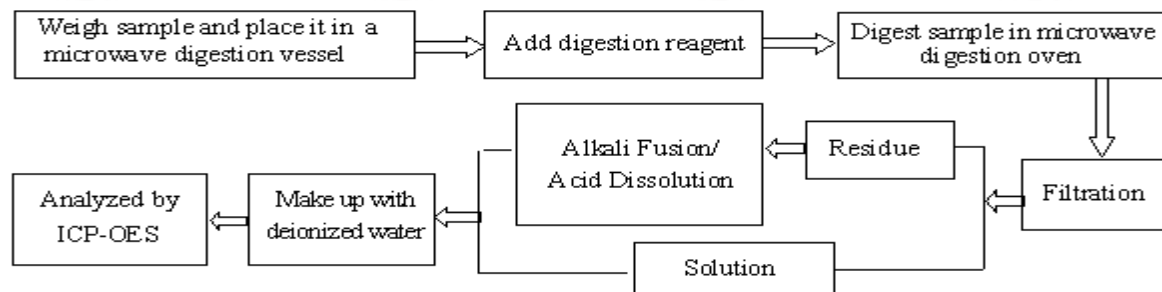
-Negative = Absence of Cr(VI), the detected Cr(VI) concentration in the boiling water extraction solution is less than 0.02 mg/kg with 50cm<sup>2</sup> sample surface area used.

## Test Process

### 1. Lead(Pb), Cadmium(Cd)

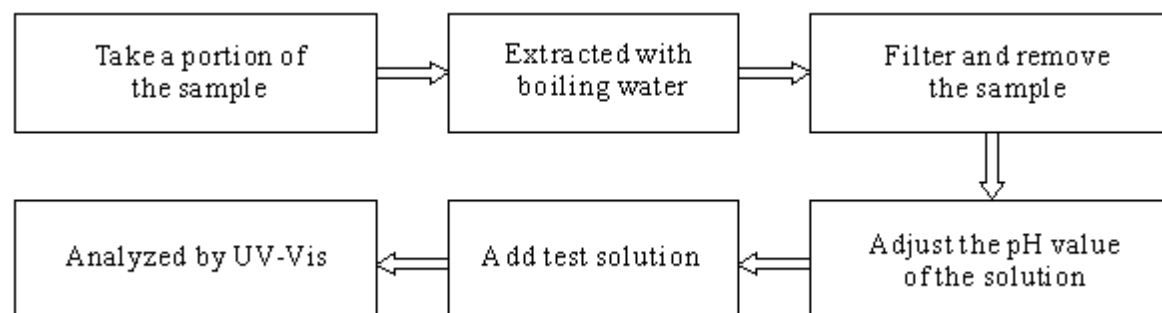


### 2. Mercury(Hg)



### 3. Hexavalent Chromium(Cr(VI))

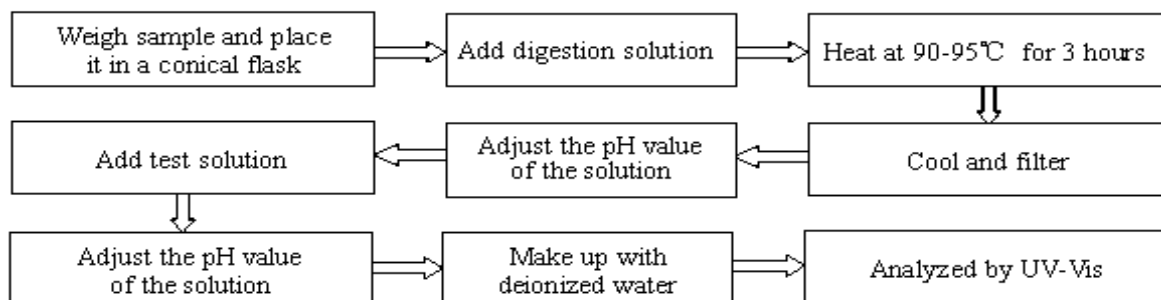
IEC 62321:2008 Ed.1 Annex B



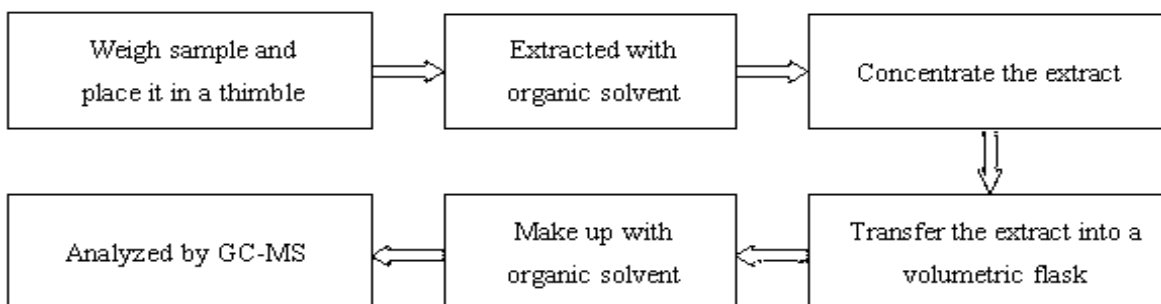
# Test Report

Report No. NCL02H003714  
IEC 62321:2008 Ed.1 Annex C

Page 4 of 6



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

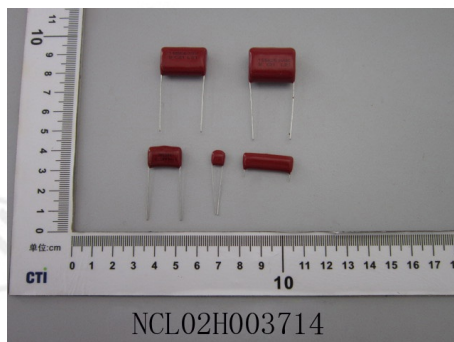


# Test Report

Report No. NCL02H003714

Page 5 of 6

## Photo(s) of the sample(s)



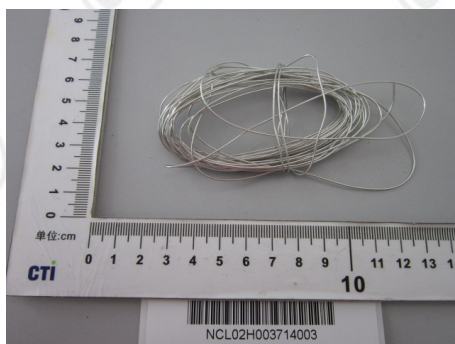
Product



1



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4



# Test Report

Report No. NCL02H003714

Page 6 of 6

## Photo(s) of the sample(s)



5

\*\*\* End of report \*\*\*

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