

Test Report

Report No. NCL02G001077

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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- Box Type 、
Polypropylene Film Capacitor- Box Type

Part No. 1.Film 2.Sisc(Pb Free)、AL、 BaSnSbCu
3.Leads 4.Epoxy Resin 5.Epoxy Resin
6.Epoxy Resin 7.Epoxy Resin 8.Epoxy Resin
9.Epoxy Resin 10.Plastic Box 11.Plastic Box
12.Plastic Box 13.Plastic Box

Sample Received Date Jun. 19, 2014

Testing Period Jun. 19, 2014 to Jun. 25, 2014

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	UV-Vis
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 Angela. Yue
Allen Wang



Allen Wang
Technical Manager

Centre Testing International (Tianjin) Co., Ltd.

Reviewed by Andy Chang

Date Jun. 25, 2014

No. R142867820

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

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Test Result(s)

Tested Item(s)	Result					MDL
	1	2	3	4	5	
Lead (Pb)	N.D.	N.D.	N.D.	10 mg/kg	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

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Test Result(s)

Tested Item(s)	Result					MDL
	6	7	8	9	10	
Lead (Pb)	N.D.	10 mg/kg	N.D.	N.D.	7 mg/kg	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	2 mg/kg	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.	N.D.	N.D.	2 mg/kg
	—	—	—	—	—	/

Tested Item(s)	Result					MDL
	6	7	8	9	10	
Polybrominated Biphenyls(PBBs)						
Monobromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Dibromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tribromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Pentabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Hexabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Heptabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Octabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Nonabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Decabromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Polybrominated Diphenyl Ethers(PBDEs)						
Monobromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Dibromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tribromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Tetrabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Pentabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Hexabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Heptabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Octabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Nonabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg
Decabromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	5 mg/kg

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Test Result(s)

Tested Item(s)	Result			MDL
	11	12	13	
Lead (Pb)	6 mg/kg	N.D.	N.D.	2 mg/kg
Cadmium (Cd)	N.D.	N.D.	N.D.	2 mg/kg
Mercury (Hg)	N.D.	N.D.	N.D.	2 mg/kg
Hexavalent Chromium (Cr(VI))	N.D.	N.D.	N.D.	2 mg/kg
	—	—	—	/

Tested Item(s)	Result			MDL
	11	12	13	
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

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Tested Sample/Part Description

1. Film(capacitor core)
2. Silver color core(capacitor core)
3. Metal with silvery plating
4. Yellow solid
5. Yellow solid
6. Yellow solid
7. Gray solid
8. Gray solid
9. Gray solid
10. Yellow plastic
11. Yellow plastic
12. Blue plastic
13. Gray plastic

Note: 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 50cm² sample surface area used.

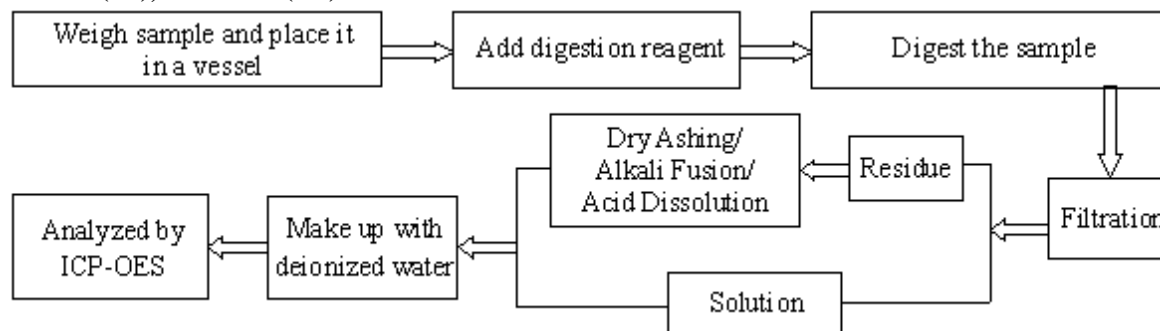
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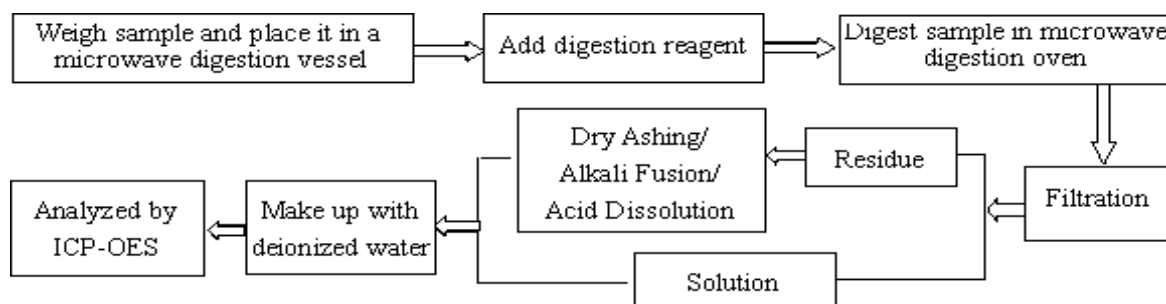
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Test Process

1. Lead(Pb), Cadmium(Cd)

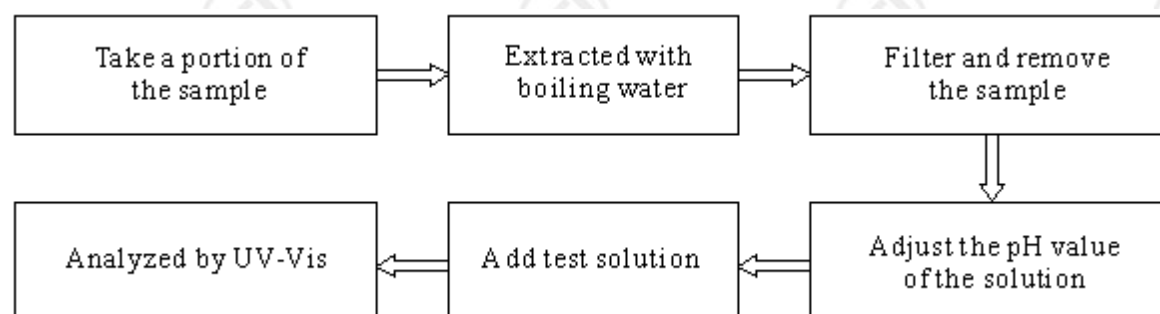


2. Mercury(Hg)

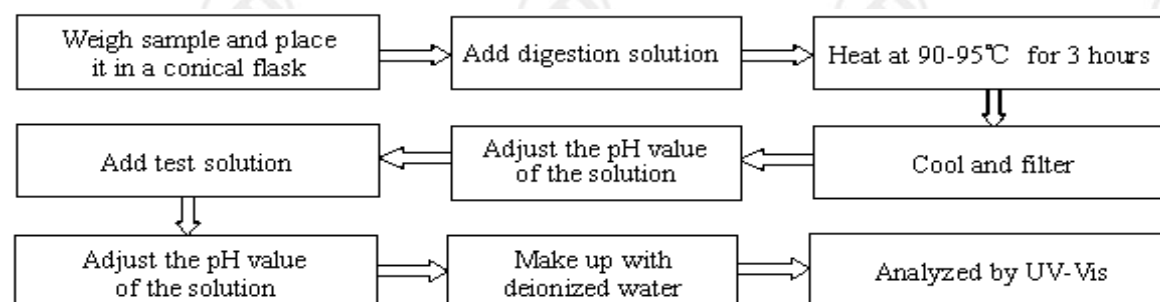


3. Hexavalent Chromium(Cr(VI))

IEC 62321:2008 Ed.1 Annex B



IEC 62321:2008 Ed.1 Annex C

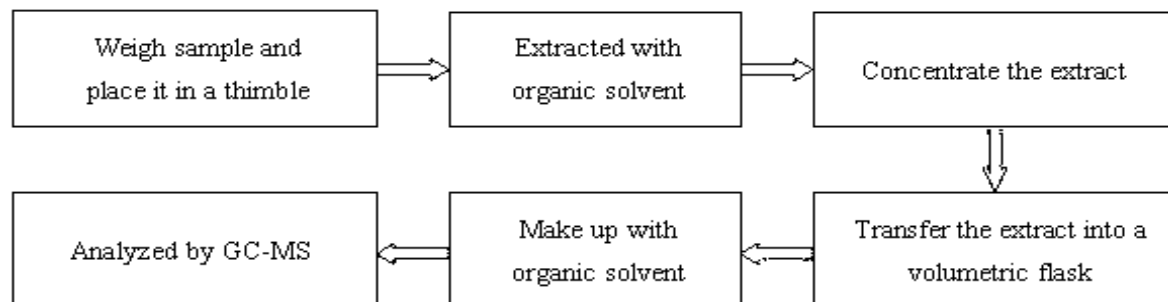


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4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs)

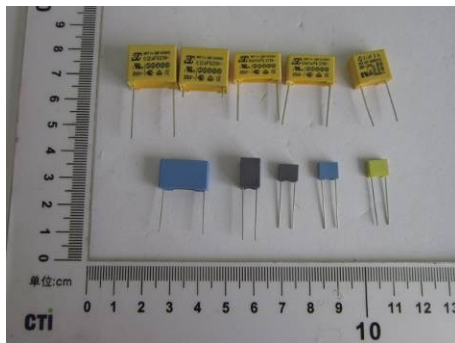


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Photo(s) of the sample(s)



Finished product



1



2



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Photo(s) of the sample(s)



5



6



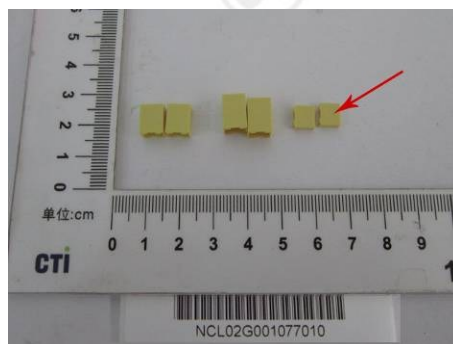
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8



9



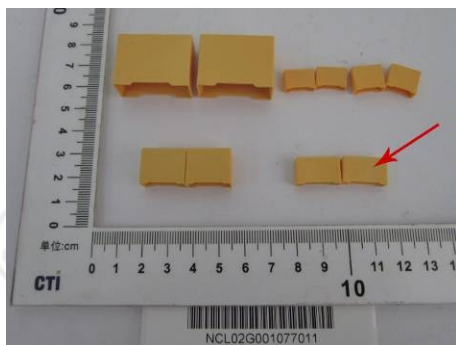
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Photo(s) of the sample(s)



11



12



13

*** End of report ***

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