



华测检测
CENTRE TESTING INTERNATIONAL



180000343904



中国认可
国际互认
检测
TESTING
CNAS L1910

Test Report

Report No. A218007042510101

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Applicant JIANGXI JIAWEICHENG ELECTRONIC TECHNOLOGY CO.,LTD.
WANNIAN COUNTY JIAHUI ELECTRONIC TECHNOLOGY CO.,LTD.
HUIZHOU JIAWEICHENG ELECTRONICS CO.,LTD.
DONGGUAN JIAQING ELECTRONICS CO.,LTD.
HUIZHOU JIAWEICHENG ELECTRONICS CO.,LTD. DONGGUAN QINGXI BRANCH
SHENZHEN XINGJIAWEICHENG ELECTRONIC CO.,LTD.

Address FENGSHOU INDUSTRIAL PARK, WANNIAN COUNTY, SHANGRAO CITY, JIANGXI, CHINA
FENGSHOU INDUSTRIAL PARK, WANNIAN COUNTY, SHANGRAO CITY, JIANGXI, CHINA
HUABIANLING INDUSTRIAL ZONE, XINLIAN VILLAGE, XINXU TOWN, HUIYANG DISTRICT, HUIZHOU CITY, GUANGDONG, CHINA
JINHAI INDUSTRIAL ZONE, XIEGANG TOWN, DONGGUAN CITY, GUANGDONG, CHINA
NO.5, BAILANG WEST STREET, FUGANG VILLAGE, QINGXING TOWN, DONGGUAN CITY, GUANGDONG, CHINA
ZHOUTENG INDUSTRIAL ZONE(一)1ST FLOOR, SHANGLILANG VILLAGE, LONGGANG DISTRICT, SHENZHEN, GUANGDONG, CHINA

Sample Received Date May 15, 2018
Testing Period May 15, 2018 to May 22, 2018

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), Phthalates (DBP, BBP, DEHP, DIBP), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctanoic Acid (PFOA), Perfluorooctane Sulfonates (PFOS) in the submitted sample(s).

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

Tested by

Ada Zhang

Reviewed by

Tori Xia

Approved by

Hill Zheng

Date

May 22, 2018

Hill Zheng

Technical Manager

No. R158921561

Centre Testing International Group Co.,Ltd.

CTI Building, No.4, Liuxian 3rd road, Xin'an Street, Bao'an District, Shenzhen, P.R.China

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

No.	Sample Name(s)	Material
001	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Positive foil
002	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Negative foil
003	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Guide pin (Aluminum wire)
004	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Guide pin (CP wire)
005	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Aluminum shell
006	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Electrolytic paper
007	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Rubber plug
008	DIP Model(PET Sleeve) aluminum electrolytic capacitor	Electrolyte
009	DIP Model(PET Sleeve) aluminum electrolytic capacitor	PET Sleeve

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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
	IEC 62321-7-1:2015	UV-Vis
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
Perfluorooctanoic Acid (PFOA)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
Perfluorooctane Sulfonates (PFOS)	Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

Test Result(s)

Tested Item(s)	Result			MDL
	001	002	003	
Lead (Pb)	N.D.	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))	--	--	--	8 mg/kg
	N.D. ▼	N.D. ▼	N.D. ▼	0.10 µg/cm ² (LOQ)

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	Result			MDL
	004	005	006	
Lead (Pb)	N.D.	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.	8 mg/kg
	N.D. ▼	N.D. ▼	--	0.10 µg/cm ² (LOQ)

	Result			MDL
	007	008	009	
Lead (Pb)	N.D.	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.	8 mg/kg
	--	--	--	0.10 µg/cm ² (LOQ)

Tested Item(s)	Result			MDL
	006	007	008	
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

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Tested Item(s)	Result		MDL
	009		
Polybrominated Biphenyls(PBBs)			
Monobromobiphenyl	N.D.		5 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
	006	007	008	
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 Item(s)	Result		MDL
	009		
Polybrominated Diphenyl Ethers (PBDEs)			
Monobromodiphenyl ether	N.D.		5 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

Tested Item(s)	Result			MDL
	006	007	008	
Phthalates (DBP, BBP, DEHP, DIBP)				
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	N.D.	N.D.	50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	N.D.	N.D.	50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	N.D.	N.D.	50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	N.D.	N.D.	50 mg/kg

Tested Item(s)	Result		MDL
	009		
Phthalates (DBP, BBP, DEHP, DIBP)			
Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.		50 mg/kg
Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.		50 mg/kg
Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.		50 mg/kg
Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.		50 mg/kg

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Tested Item(s)	Result			MDL
	006	007	008	
Fluorine (F)	N.D.	N.D.	N.D.	10 mg/kg
Chlorine (Cl)	N.D.	N.D.	N.D.	10 mg/kg
Bromine (Br)	N.D.	N.D.	N.D.	10 mg/kg
Iodine (I)	N.D.	N.D.	N.D.	10 mg/kg

Tested Item(s)	Result	MDL
	009	
Fluorine (F)	N.D.	10 mg/kg
Chlorine (Cl)	113 mg/kg	10 mg/kg
Bromine (Br)	N.D.	10 mg/kg
Iodine (I)	N.D.	10 mg/kg

Tested Item(s)	Result				MDL
	006	007	008	009	
Perfluorooctanoic Acid (PFOA)	N.D.	N.D.	N.D.	N.D.	0.01 mg/kg

Tested Item(s)	Result				MDL
	006	007	008	009	
Perfluorooctane Sulfonates (PFOS)	N.D.	N.D.	N.D.	N.D.	0.01 mg/kg

Tested Sample/Part Description

- 001 Gray metal foil
- 002 Gray metal foil
- 003 Silver-white metal
- 004 Metal pin with silvery plating
- 005 Silver-white metal
- 006 Beige-white paper
- 007 Black rubber
- 008 Yellow liquid
- 009 Mixed test, black plastic tube with white printing, green plastic tube with white printing and blue plastic tube with silvery printing[#]

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

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

-LOQ = Limit of Quantification, The LOQ of Hexavalent chromium is $0.10 \mu\text{g}/\text{cm}^2$

-▼ The sample is negative for Cr(VI) – The Cr(VI) concentration is below $0.10 \mu\text{g}/\text{cm}^2$. The coating is considered a non-Cr(VI) based coating.

-# 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.

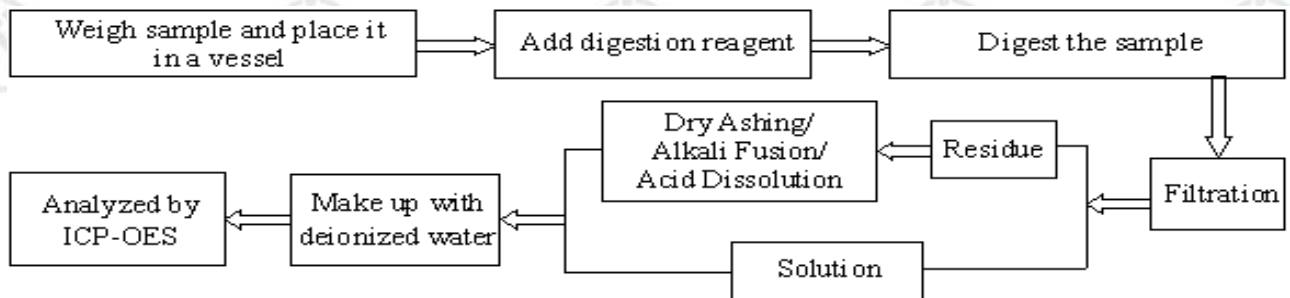
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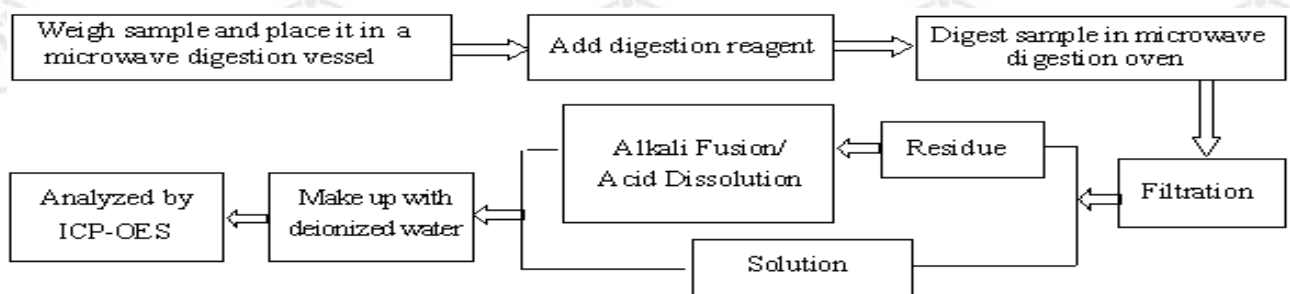
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Test Process

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

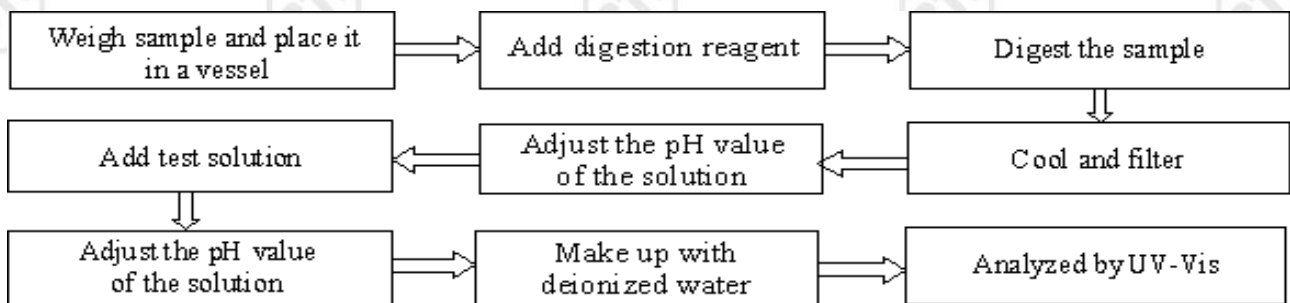


2. Mercury(Hg)

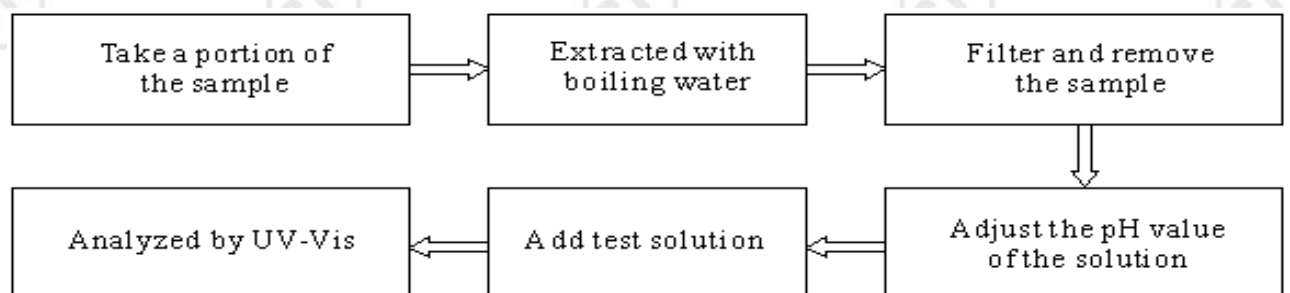


3. Hexavalent Chromium(Cr(VI))

(1) IEC 62321-7-2:2017



(2) IEC 62321-7-1:2015

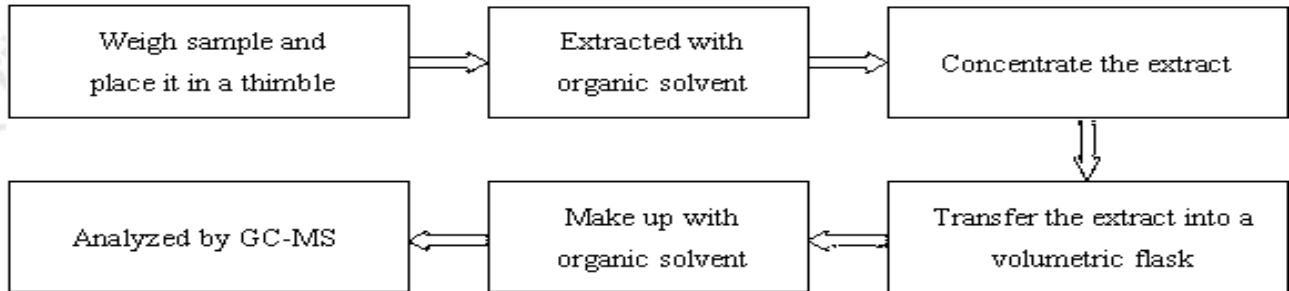


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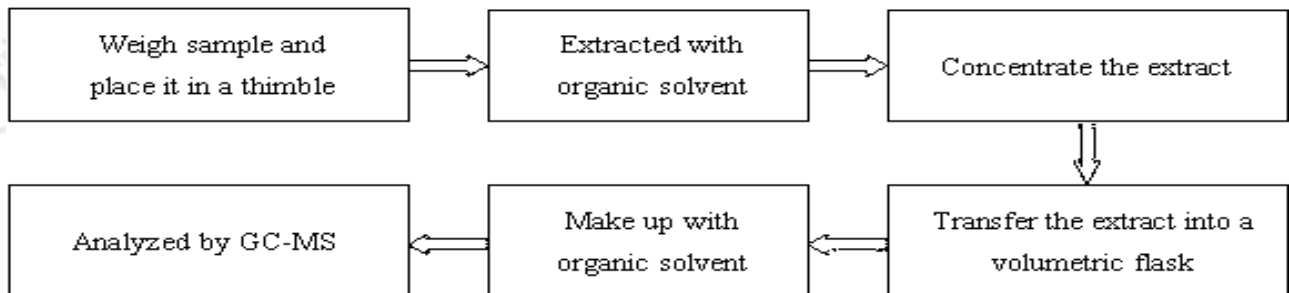
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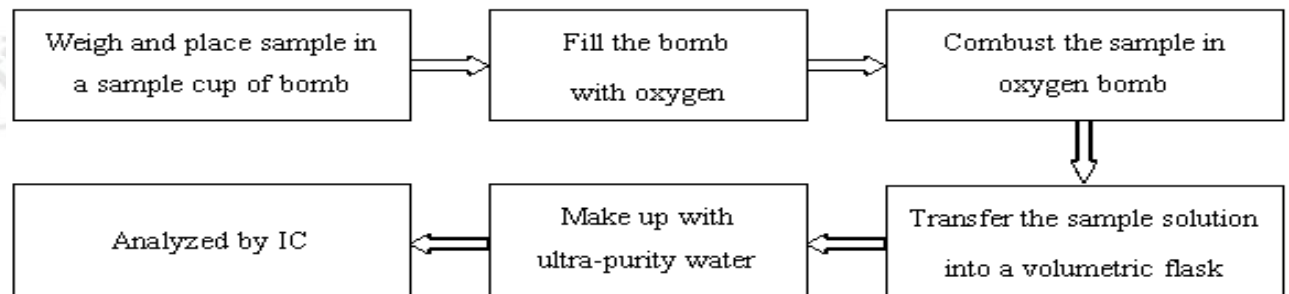
4. Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs)



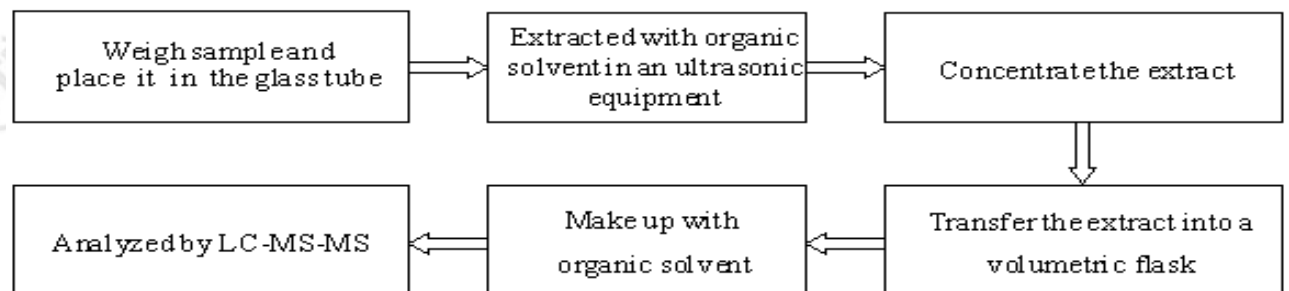
5. Phthalates (DBP, BBP, DEHP, DIBP)



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



7. Perfluorooctanoic Acid (PFOA),Perfluorooctane Sulfonates (PFOS)



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Photo(s) of the sample(s)

Final Product

001



002

003



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004



005



006



007



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008



009



*** End of Report ***

Statement:

1. This report is considered invalidated without approval signature, special seal and the seal on the perforation;
2. The sample(s) and sample information was/were provided by the client 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.