

Test Report



Report No. A2200313901101002

Company Name TITANIUM INNOVATIONS
shown on Report

Address 50 SCHOOL HOUSE RD, UNIT 2, OLD SAYBROOK, CT 06475 USA

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

Sample Name Lithium Manganese Dioxide Battery
Part No. CR123A
Sample Received Date Sep. 9, 2020
Testing Period Sep. 9, 2020 to Sep. 14, 2020

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) in the submitted sample(s).

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

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



Tested by

Yu Liu

Approved by

Hill Zheng

Hill Zheng

Technical Manager

Reviewed by

Jori Xia

Date

Sep. 14, 2020

No. R177731395

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

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Test Method

Test 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

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Test Result(s)

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

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Test Result(s)

Tested Item(s)	Result	MDL
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

Sample/Part Description Mixed test, all parts(Battery)

Remark:

- The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury.
- 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.
- MDL = Method Detection Limit
- N.D. = Not Detected (<MDL)
- mg/kg = ppm = parts per million

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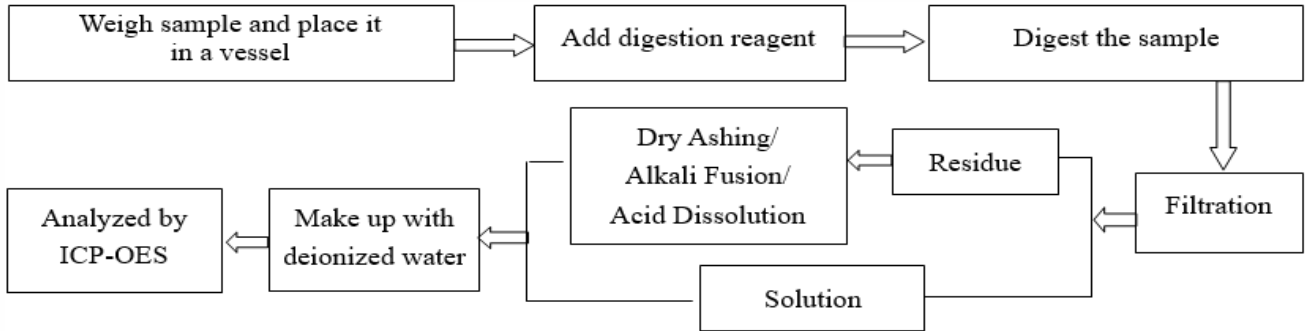
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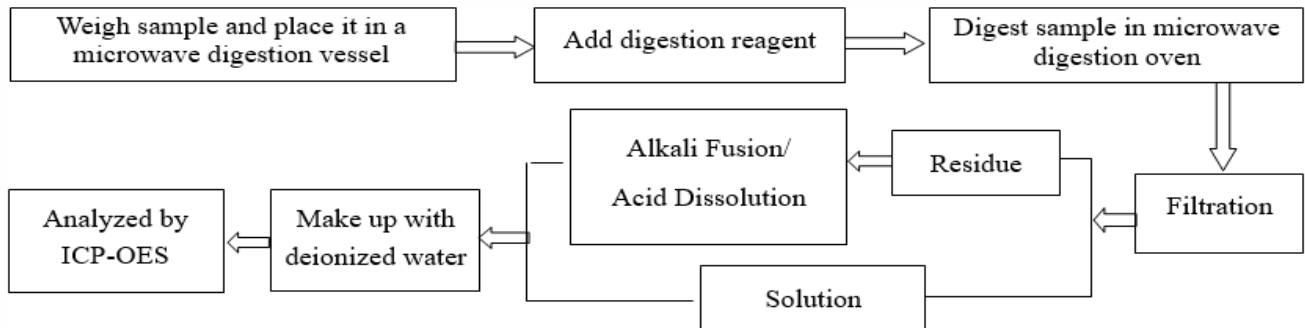
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Test Process

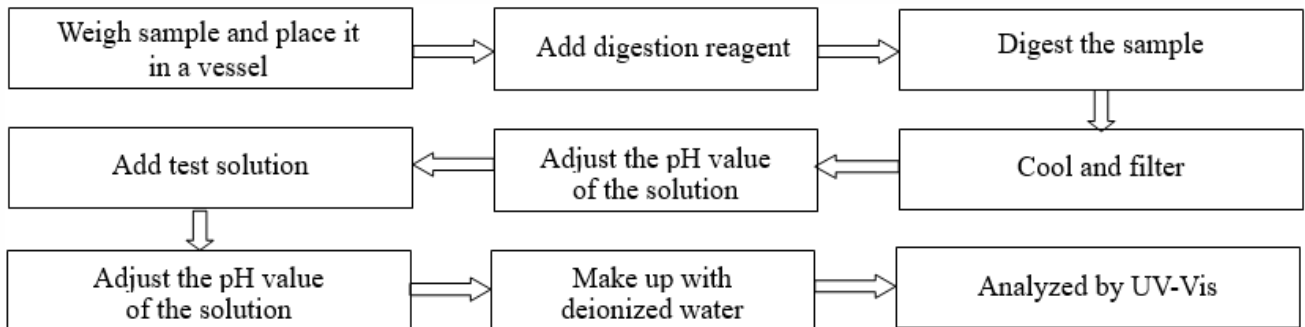
1. Lead(Pb), Cadmium(Cd), Chromium(Cr)



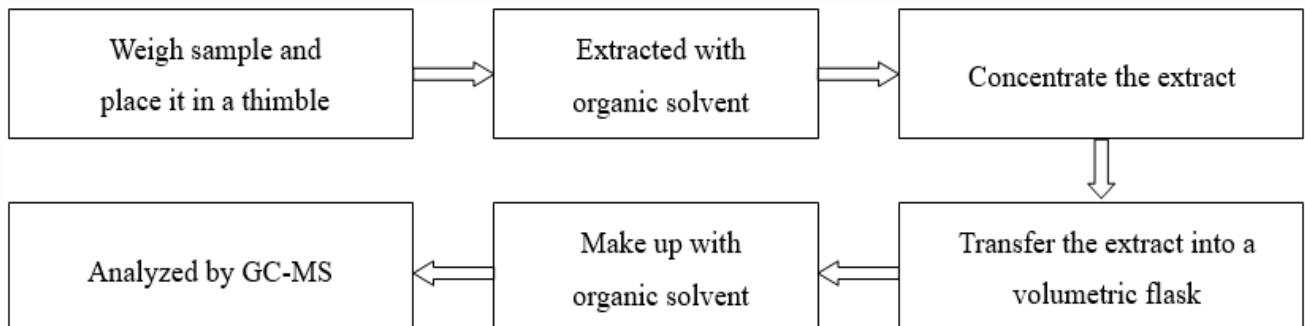
2. Mercury(Hg)



3. Hexavalent Chromium(Cr(VI))



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

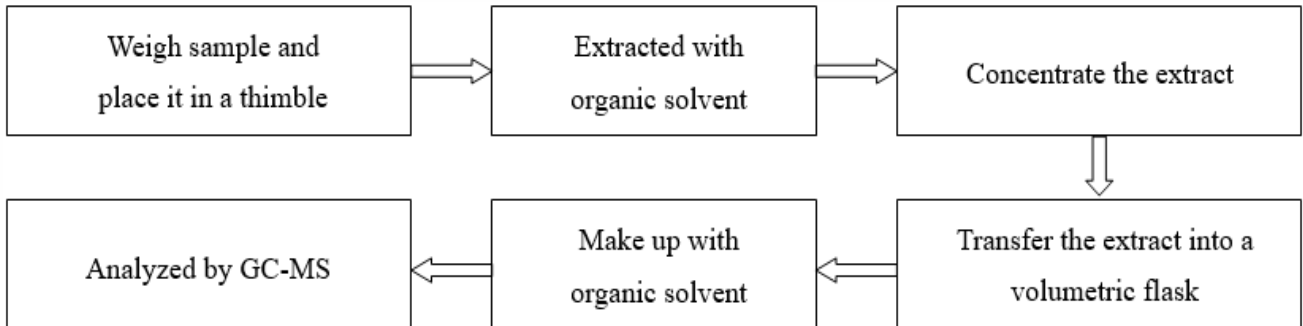


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5. Phthalates (DBP, BBP, DEHP, DIBP)



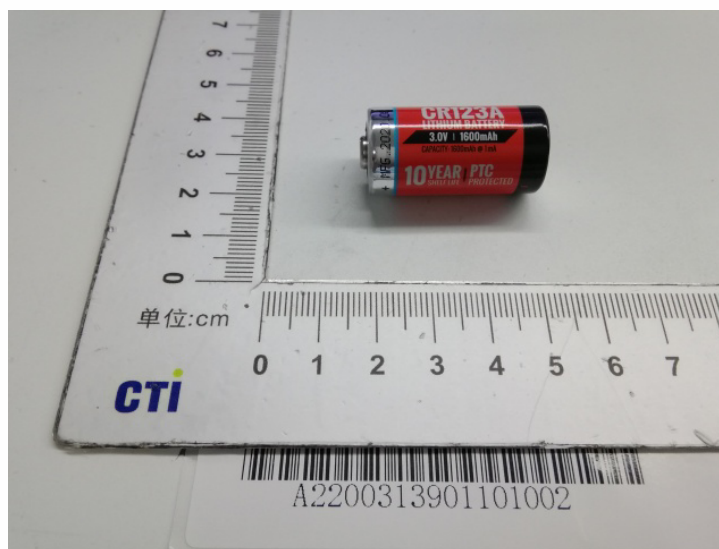
有限公司

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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 ***