

Test Report



Report No. A2220151860101001

Company Name shown on Report ARAKAWA CHEMICAL INDUSTRIES, LTD.

Address 1-1-9 TSURUMI TSURUMI-KU, OSAKA, OSAKA 538-0053 JAPAN

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

Sample Name TASLF219T
Lot. No. Lot. No.33432220229
Composition solder powder, Rosin, solvent
Sample Received Date Apr. 21, 2022
Testing Period Apr. 21, 2022 to Apr. 25, 2022

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), Antimony(Sb), Beryllium(Be), Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA) in the submitted sample(s).

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

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

Conclusion

Tested Sample	According to standard/directive	Result
Submitted Sample	RoHS Directive 2011/65/EU with amendment (EU) 2015/863	PASS

PASS means that the results shown on the report comply with the limits set by RoHS Directive 2011/65/EU with amendment (EU) 2015/863.



Tested by *Morgan Hsu*

Approved by *George Fong*

Laboratory Manager

Reviewed by *Polly Cheng*

Date Apr. 26, 2022

No. R392332301

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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	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
Beryllium(Be)	Refer to US EP A 3052:1996 & US EPA 6010D:2018	ICP-OES
Perfluorooctanoic Acid(PFOA)	Refer to CEN/TS 15968:2010	LC-MS-MS
Perfluorooctane Sulfonates(PFOS)	Refer to CEN/TS 15968:2010	LC-MS-MS
Antimony(Sb)	Refer to US EP A 3052:1996 & US EPA 6010D:2018	ICP-OES

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Test Result(s)

Tested Item(s)	Result	MDL	Limit
Lead(Pb)	163 mg/kg	2 mg/kg	1000 mg/kg
Cadmium(Cd)	N.D.	2 mg/kg	100 mg/kg
Mercury(Hg)	N.D.	2 mg/kg	1000 mg/kg
Hexavalent Chromium(Cr(VI))	N.D.	8 mg/kg	1000 mg/kg
Tested Item(s)	Result	MDL	Limit
Polybrominated Biphenyls (PBBs)			
PBBs(PBBs)	N.D.	/	1000 mg/kg
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)			
PBDEs(PBDEs)	N.D.	/	1000 mg/kg
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	Limit
Phthalates (DBP, BBP, DEHP, DIBP)			
Butyl benzyl phthalate(BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
Di-(2-ethylhexyl) phthalate(DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
Dibutyl phthalate(DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
Diisobutyl phthalate(DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg
Tested Item(s)	Result	MDL	
Fluorine(F)	N.D.	50 mg/kg	
Chlorine(Cl)	N.D.	50 mg/kg	
Bromine(Br)	2100 mg/kg	50 mg/kg	
Iodine(I)	N.D.	50 mg/kg	
Tested Item(s)	Result	MDL	
Antimony(Sb)	N.D.	10 mg/kg	
Beryllium(Be)	N.D.	10 mg/kg	
Tested Item(s)	Result	MDL	
Perfluorooctanoic Acid(PFOA)	N.D.	10 ppb	
Tested Item(s)	Result	MDL	
Perfluorooctane Sulfonates(PFOS)	N.D.	10 ppb	

Sample/Part Description Dark gray paste

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

-MDL = Method Detection Limit

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

-mg/kg = ppm = parts per million

-1000 mg/kg = 0.1%

Note: **The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.**

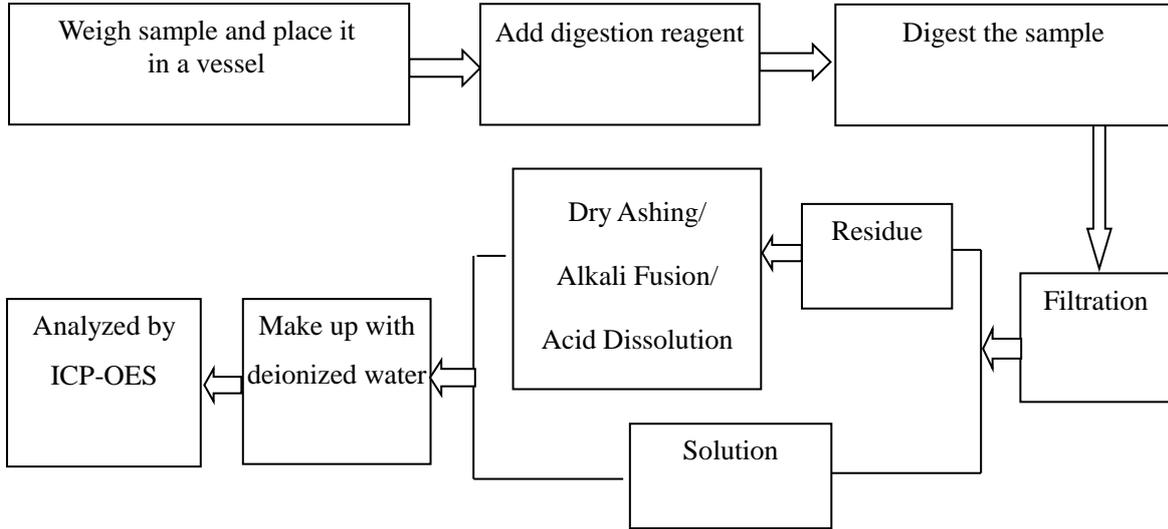
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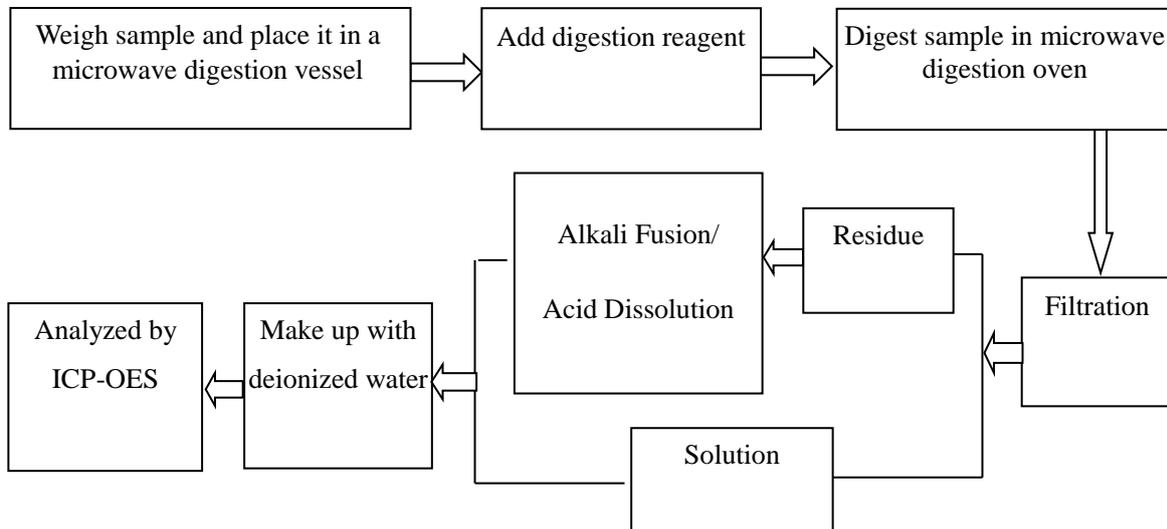
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Test Process

1. Lead (Pb), Cadmium (Cd)



2. Mercury (Hg)

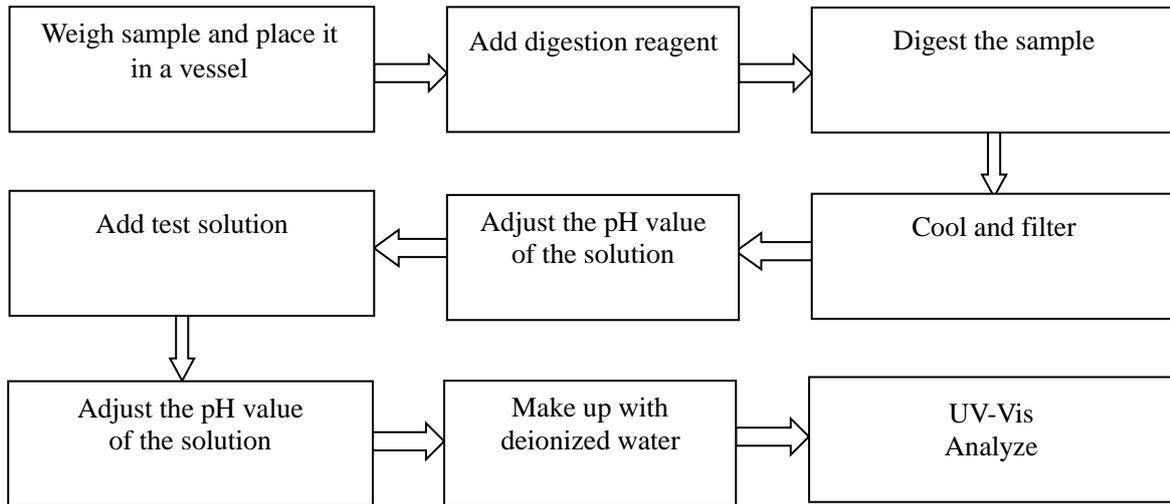


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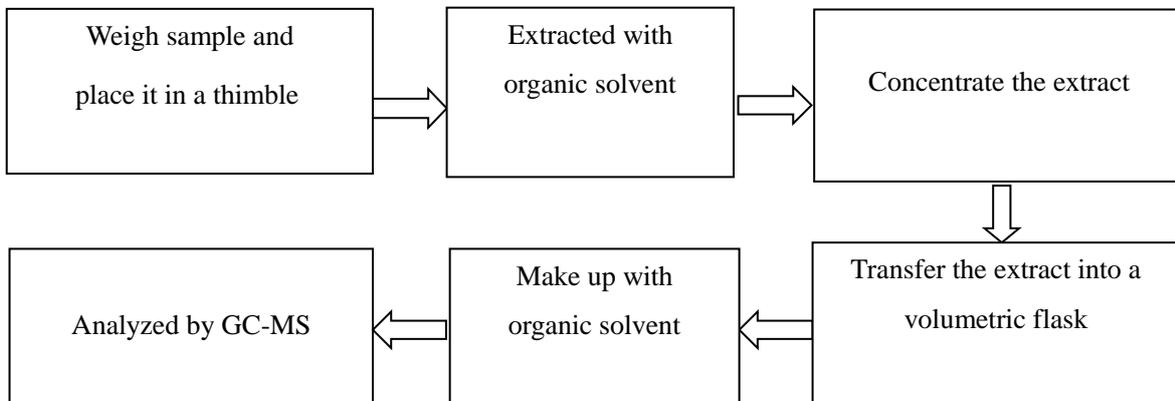
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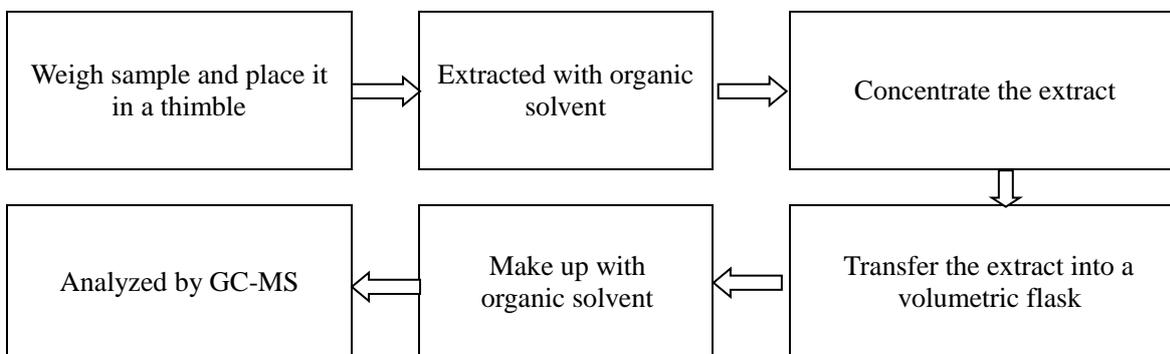
3. Hexavalent Chromium (Cr(VI))



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



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

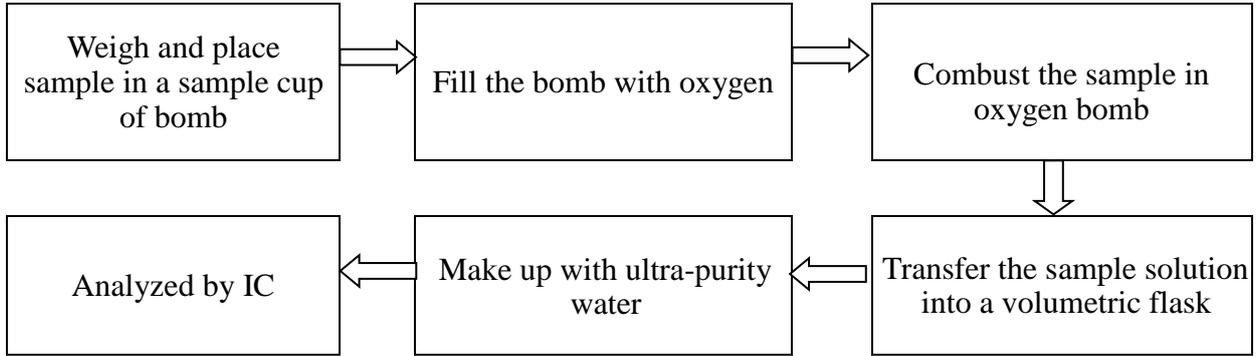


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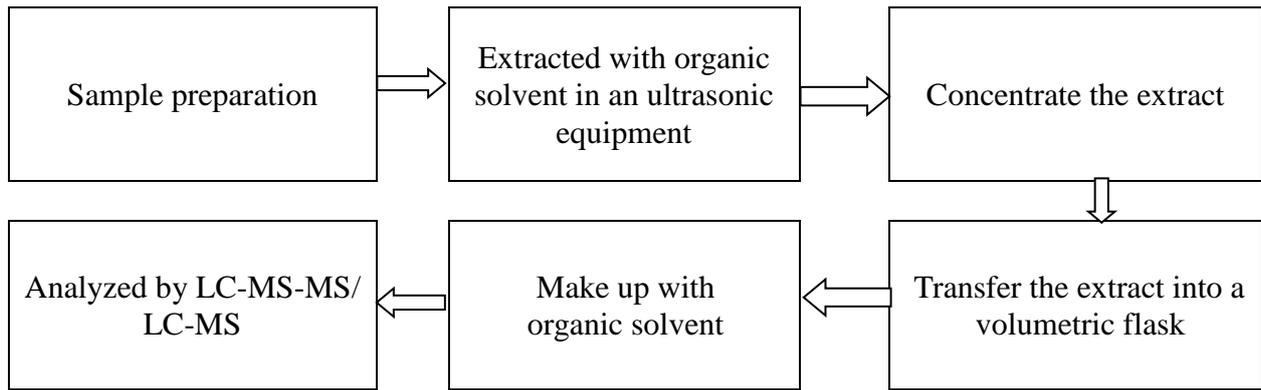
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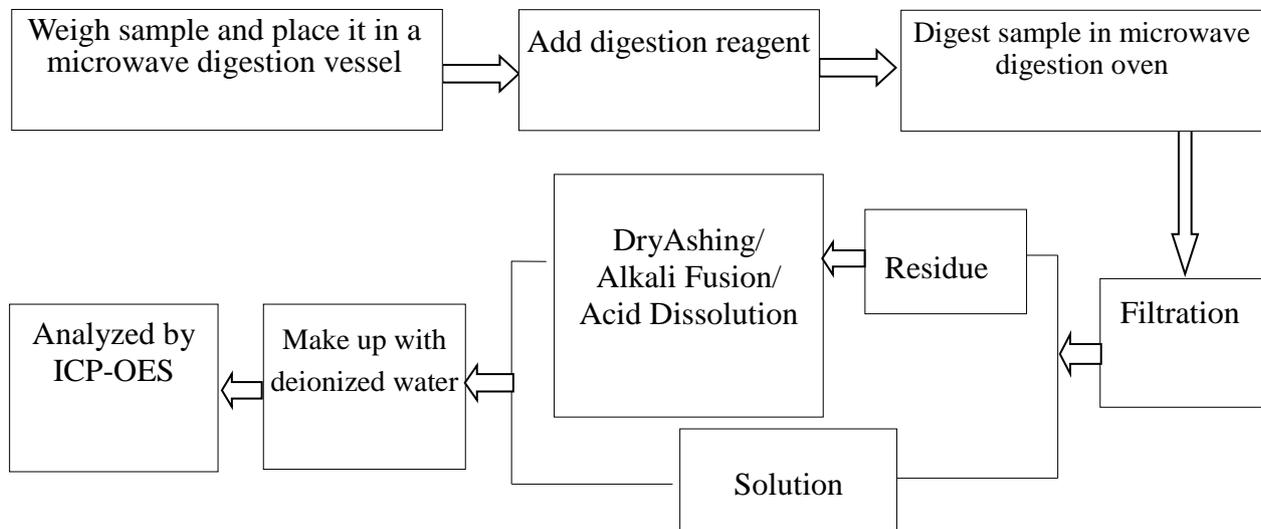
6. Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I)



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



8. Beryllium(Be), Antimony(Sb)



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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;
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*** End of report ***