TEST REPORT

APPLICANT : LG Innotek Co., Ltd.
ADDRESS : 50-9, Suchul-daero 7-gil,
Gumi-si, Gyeongsangbuk-do, Korea

REPORT NO. RT24R-S2055-001-E DATE: Mar. 21, 2024

SAMPLE DESCRIPTION	: The following submitted sample(s) said to be:-
NAME/TYPE OF PRODUCT	: Au plating
SAMPLE ID NO.	: RT24R-S2055-001
MANUFACTURER/VENDOR	: LG Innotek Co., Ltd.
SAMPLE RECEIVED	: Mar. 18, 2024
TESTING DATE	: Mar. 18, 2024 ~ Mar. 21, 2024
TEST METHOD(S)	: Please see the following page(s).
TEST RESULT(S)	: Please see the following page(s).

* Note 1 : The test results presented in this report refer only to the object tested.
* Note 2 : This report shall not be reproduced except in full without the written approval of the testing laboratory.

Approved by,

Jade Jang / Lab. Technical Manager

Authorized by,

Bo Park / Lab. General Manager

Authenticity check

Intertek Testing Services Korea Ltd.
Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0025 Web Site : intertek.co.kr
Seoul Lab. Address : 7, Achasan-ro 5-gil, Seongdong-gu, Seoul, 04793 Korea

TEST REPORT

REPORT NO. RT24R-S2055-001-E DATE: Mar. 21, 2024

SAMPLE ID NO. : RT24R-S2055-001
SAMPLE DESCRIPTION : Au plating

TEST ITEM	UNIT	TEST METHOD	MDL	RESULT
Cadmium (Cd)	㎎/㎏	With reference to IEC 62321-5 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES	0.5	N.D.
Lead (Pb)	㎎/㎏		5	N.D.
Mercury (Hg)	㎎/㎏	With reference to IEC 62321-4 : 2013/AMD1 : 2017, by acid digestion and determined by ICP-OES	2	N.D.
Hexavalent Chromium (Cr^{6+}) (For metal)	㎍/㎠	With reference to IEC 62321-7-1 Edition 1.0 : 2015, by boiling water extraction and determined by UV-VIS Spectrophotometer	0.10	Negative

Tested by : Jooyeon Lee, Chano Kim

Notes : ㎎/㎏ = ppm = parts per million
㎍/㎠ = microgram per square centimeter
< = Less than
N.D. = Not detected (<MDL)
MDL = Method detection limit

Remarks : Interpretation of Cr^{6+} results

Qualitative result	Concentration of Cr^{6+} (㎍/㎠)	Meaning
Negative	< 0.10	The sample coating is considered a non-Cr^{6+} based coating.
Inconclusive	0.10 ≤ and ≤ 0.13	Unavoidable coating variation may influence the determination.
Positive	> 0.13	The sample coating is considered to contain Cr^{6+}.

1. The qualitative results should be determination by the average result of three test results. (If concentration of Cr^{6+} is over 0.10㎍/㎠)
2. The above results will be carried out by visual comparison only with the standard.

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SAMPLE ID NO. : RT24R-S2055-001
SAMPLE DESCRIPTION : Au plating

TEST ITEM	UNIT	TEST METHOD	MDL	RESULT
Polybrominated Biphenyl (PBBs)				
Monobromobiphenyl	mg/kg	With reference to IEC 62321-6 Edition 1.0 : 2015, by solvent extraction and determined by GC/MS	5	N.D.
Dibromobiphenyl	mg/kg		5	N.D.
Tribromobiphenyl	mg/kg		5	N.D.
Tetrabromobiphenyl	mg/kg		5	N.D.
Pentabromobiphenyl	mg/kg		5	N.D.
Hexabromobiphenyl	mg/kg		5	N.D.
Heptabromobiphenyl	mg/kg		5	N.D.
Octabromobiphenyl	mg/kg		5	N.D.
Nonabromobiphenyl	mg/kg		5	N.D.
Decabromobiphenyl	mg/kg		5	N.D.
Polybrominated Diphenyl Ether (PBDEs)				
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-6 Edition 1.0 : 2015, by solvent extraction and determined by GC/MS	5	N.D.
Dibromodiphenyl ether	mg/kg		5	N.D.
Tribromodiphenyl ether	mg/kg		5	N.D.
Tetrabromodiphenyl ether	mg/kg		5	N.D.
Pentabromodiphenyl ether	mg/kg		5	N.D.
Hexabromodiphenyl ether	mg/kg		5	N.D.
Heptabromodiphenyl ether	mg/kg		5	N.D.
Octabromodiphenyl ether	mg/kg		5	N.D.
Nonabromodiphenyl ether	mg/kg		5	N.D.
Decabromodiphenyl ether	mg/kg		5	N.D.

Tested by : Hayan Park

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SAMPLE DESCRIPTION : Au plating

TEST ITEM	UNIT	TEST METHOD	MDL	RESULT
Bromine (Br)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	N.D.
Chlorine (Cl)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	79
Fluorine (F)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	2220
Iodine (I)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	N.D.
Beryllium (Be)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Antimony (Sb)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Perfluorooctanoic acid (PFOA)	mg/kg	With reference to DIN CEN/ TS 15968, by ultrasonic extraction and determined by LC/MS or LC/MS/MS	0.025	N.D.
Perfluorooctane sulfonate (PFOS)	mg/kg	With reference to DIN CEN/ TS 15968, by ultrasonic extraction and determined by LC/MS or LC/MS/MS	0.1	N.D.

Tested by : Chano Kim, Jooyeon Lee, Hayan Park

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SAMPLE ID NO. : RT24R-S2055-001
SAMPLE DESCRIPTION : Au plating

TEST ITEM	CAS NO.	UNIT	TEST METHOD	MDL	RESULT
Dibutyl phthalate (DBP)	84-74-2	mg/kg	With reference to IEC 62321-8 Edition 1.0 : 2017, by solvent extraction and determined by GC/MS	50	N.D.
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg		50	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	mg/kg		50	N.D.
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg		50	N.D.

Tested by : Hayan Park

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* View of sample as received;-

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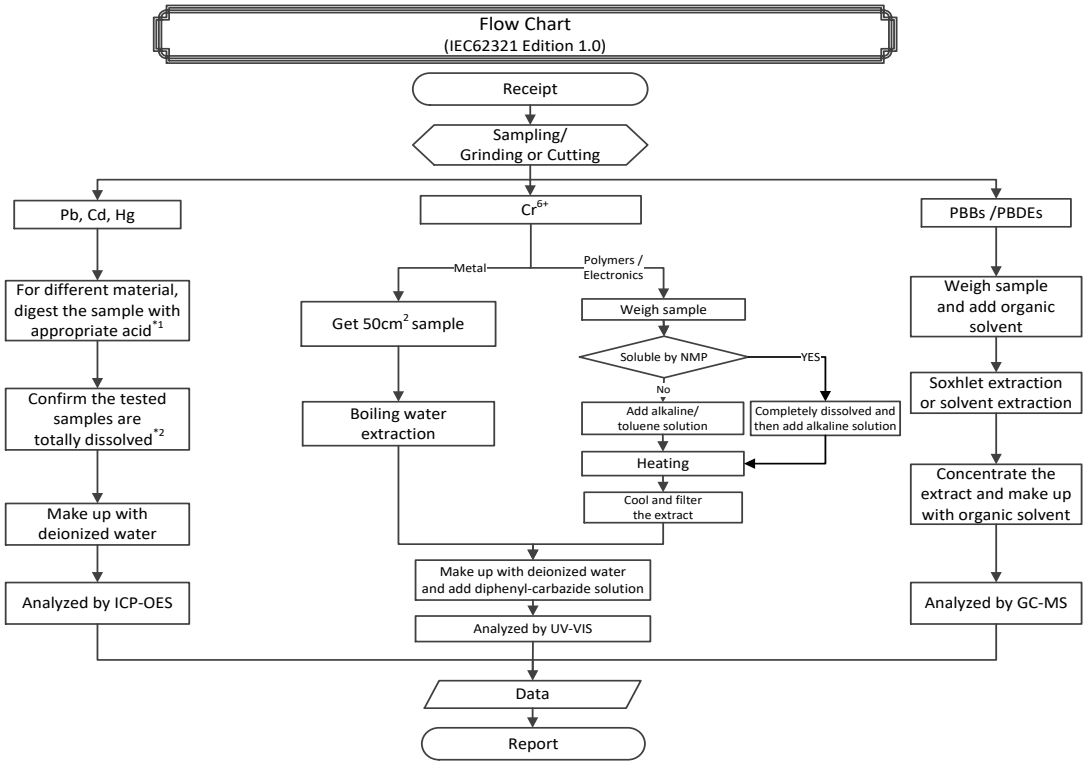
SAMPLE DESCRIPTION : Au plating



Remarks :
*1 : List of appropriate acid :

Material	Acid added for digestion
Polymers	HNO_3, HCl, HF, H_2O_2, $H3BO_3$
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

*2 : The samples were dissolved totally by pre-conditioning method according to above flow chart.

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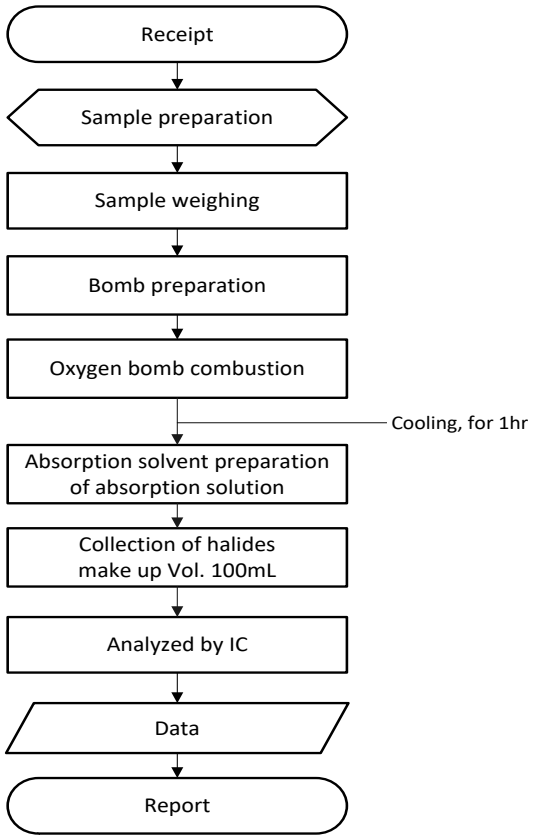
Flow Chart (EN14582)



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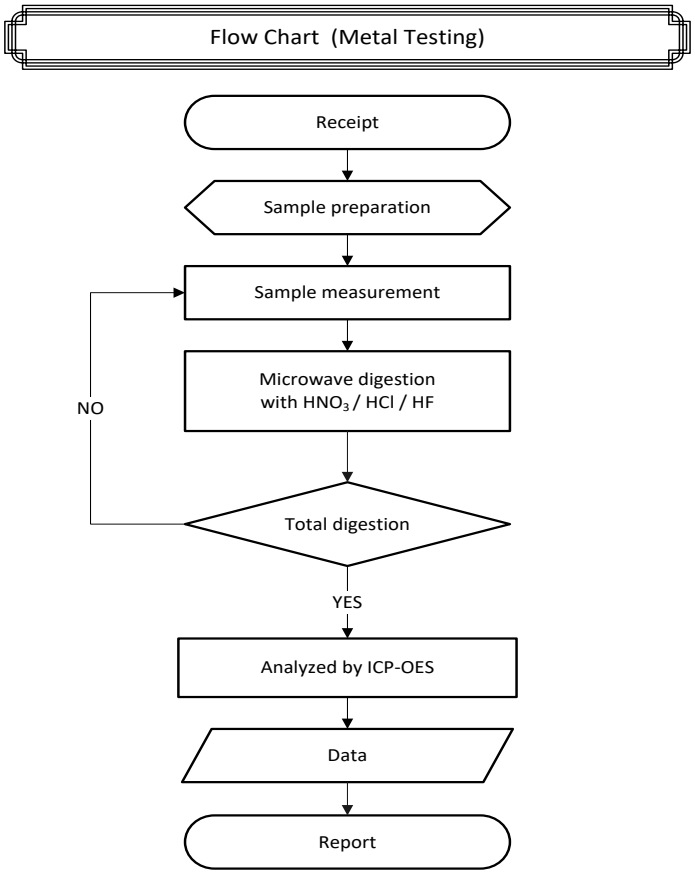

** Remarks : The samples were dissolved totally by pre-conditioning method according to above flow chart.

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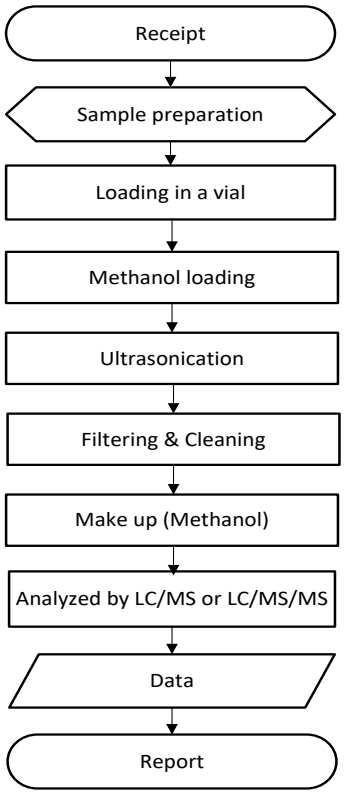
Flow Chart (PFOS, PFOA)



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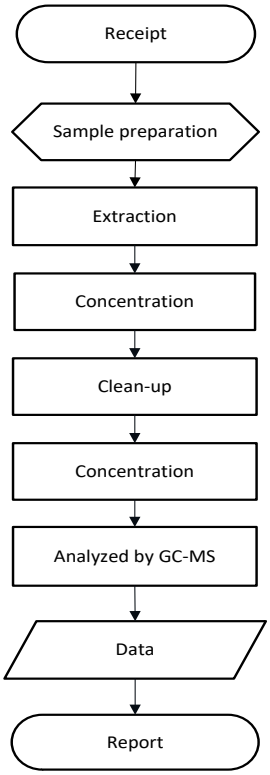
SAMPLE ID NO. : RT24R-S2055-001
SAMPLE DESCRIPTION : Au plating

Flow Chart (Phthalates)



***** End of Report *****

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