



THE INDUSTRIAL ANALYSIS SERVICE LTD.

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TEST REPORT

Request No. -
Report No. ES210000001226-01
Date of issue: 2 April 2021

Name of sample: Crystal/lot.2201221/Si02

Date of receipt of sample: 18 March 2021

Measurement days: 18 March 2021 ~ 2 April 2021

The following is the report on the requested test of the sample

Test Items	Unit	Test result	D.L.	Test Method
Cd	ppm	N.D.	2.0	With reference to IEC62321-5(2013) ICP/MS
Pb	ppm	N.D.	5.0	With reference to IEC62321-5(2013) ICP/MS
Cr6+	ppm	N.D.	8 ※1	With reference to IEC62321-7-2(2017) UV-VIS
Hg	ppm	N.D.	5.0	With reference to IEC62321-4(2013)/AMD1(2017) ICP/MS
PBBs	ppm	N.D.	10	With reference to IEC62321-6(2015) GC/MS
PBDEs	ppm	N.D.	10	With reference to IEC62321-6(2015) GC/MS
Bis(2-ethylhexyl) phthalate (DEHP)	ppm	N.D.	50	With reference to IEC62321-8(2017) GC/MS
Butylbenzyl phthalate (BBP)	ppm	N.D.	50	With reference to IEC62321-8(2017) GC/MS
Dibutyl phthalate (DBP)	ppm	N.D.	50	With reference to IEC62321-8(2017) GC/MS
Diisobutyl phthalate (DIBP)	ppm	N.D.	50	With reference to IEC62321-8(2017) GC/MS
Cl	ppm	N.D.	50	With reference to EN14582(2016) Furnace combustion/IC
Br	ppm	N.D.	50	With reference to EN14582(2016) Furnace combustion/IC
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Note: The results shown in this test report refer only to the sample(s) tested.
※1 For Cr6+ the method detection limit.

N.D.means the analysis result is less than fixed quality lower limit level calculated according to our established precision management condition.
mg/kg=ppm

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TAKANORI YOSHIDA

Test Items	Unit	Test result	D.L.	Test Method
Monobromobiphenyl (MonoBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Dibromobiphenyl (DiBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Tribromobiphenyl (TriBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Tetrabromobiphenyl (TetraBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Pentabromobiphenyl (PentaBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Hexabromobiphenyl (HexaBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Heptabromobiphenyl (HeptaBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Octabromobiphenyl (OctaBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Nonabromobiphenyl (NonaBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Decabromobiphenyl (DecaBB)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
SUM PBBs	ppm	N.D.	10	With reference to IEC62321-6(2015) GC/MS
Monobromodiphenylether (MonoBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Dibromodiphenylether (DiBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Tribromodiphenylether (TriBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Tetrabromodiphenylether (TetraBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Pentabromodiphenylether (PentaBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Hexabromodiphenylether (HexaBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Heptabromodiphenylether (HeptaBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Octabromodiphenylether (OctaBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Nonabromodiphenylether (NonaBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
Decabromodiphenylether (DecaBDE)	ppm	N.D.	-	With reference to IEC62321-6(2015) GC/MS
SUM PBDEs	ppm	N.D.	10	With reference to IEC62321-6(2015) GC/MS
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Note: The results shown in this test report refer only to the sample(s) tested.

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mg/kg=ppm

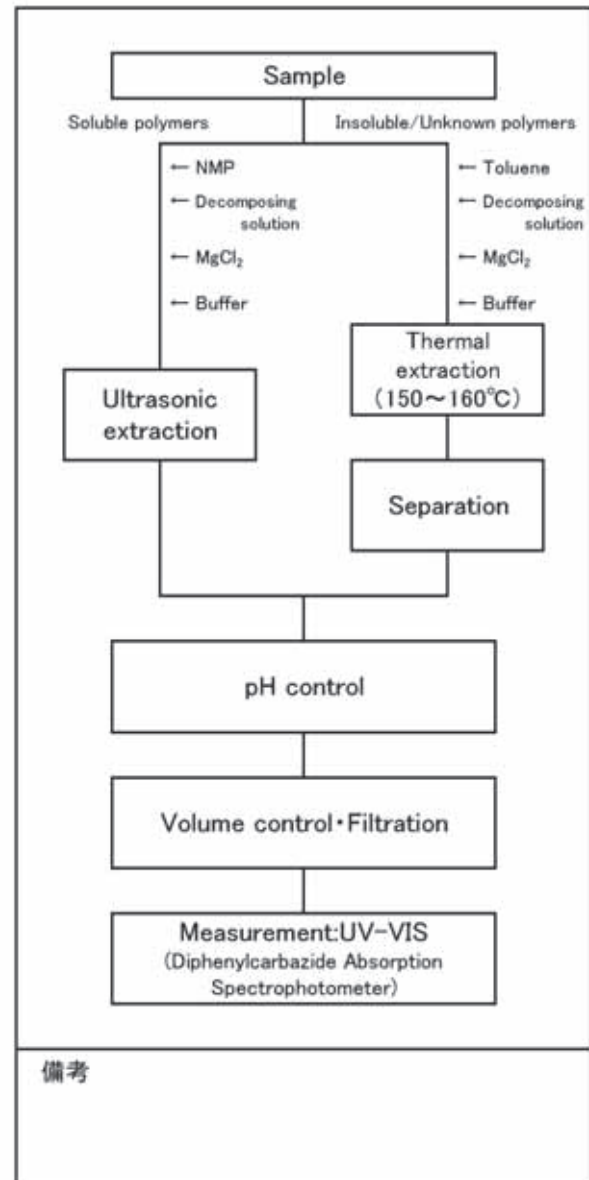
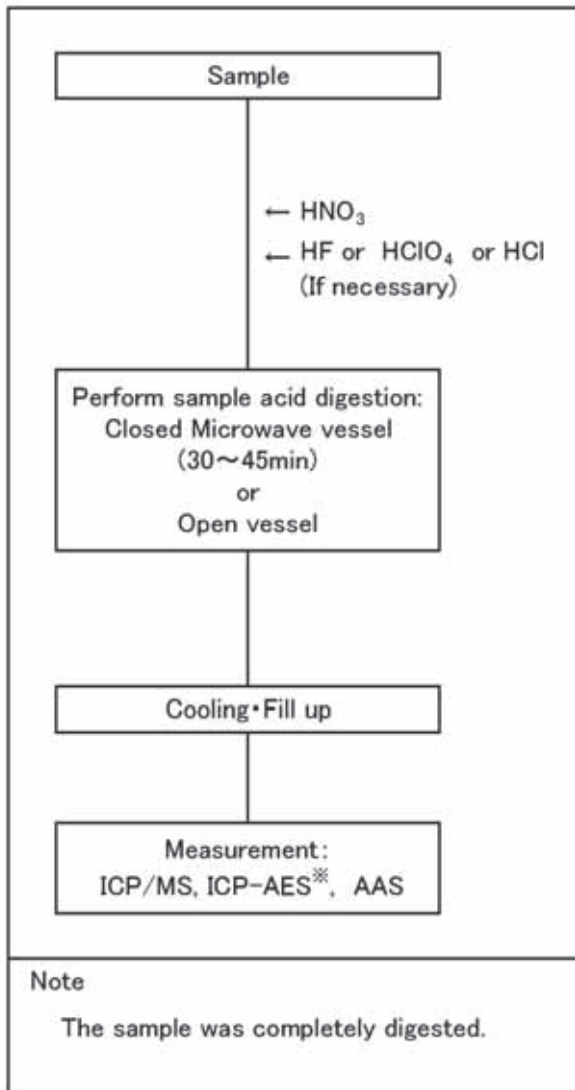


Flow chart

Report No.	: ES210000001226-01
Measurement days	: 18 March 2021 ~ 2 April 2021
Operator	: Kensho Nakajima Wataru Imaoka

Cd, Pb, Hg

Cr6+



ICP/MS : Agilent Technologies 7700X

ICP-AES : Rigaku CIROS CCD

AAS : HIRANUMA MERCURY ANALYZER HG-200

*It is also called ICP-OES.

UV-VIS : HITACHI High-Technologies U-2910

Flow chart

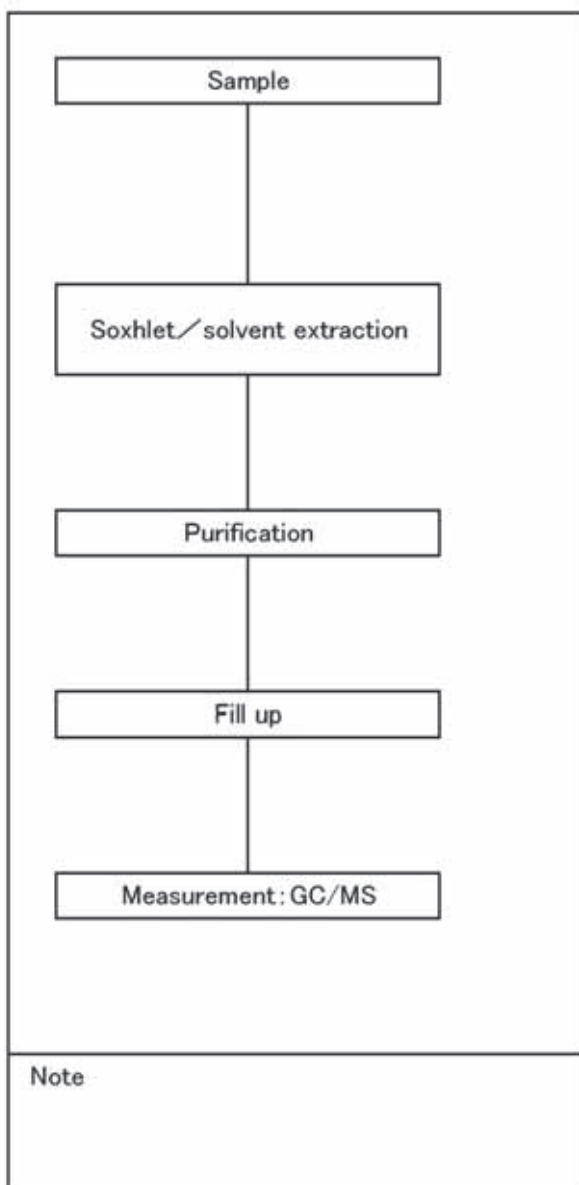
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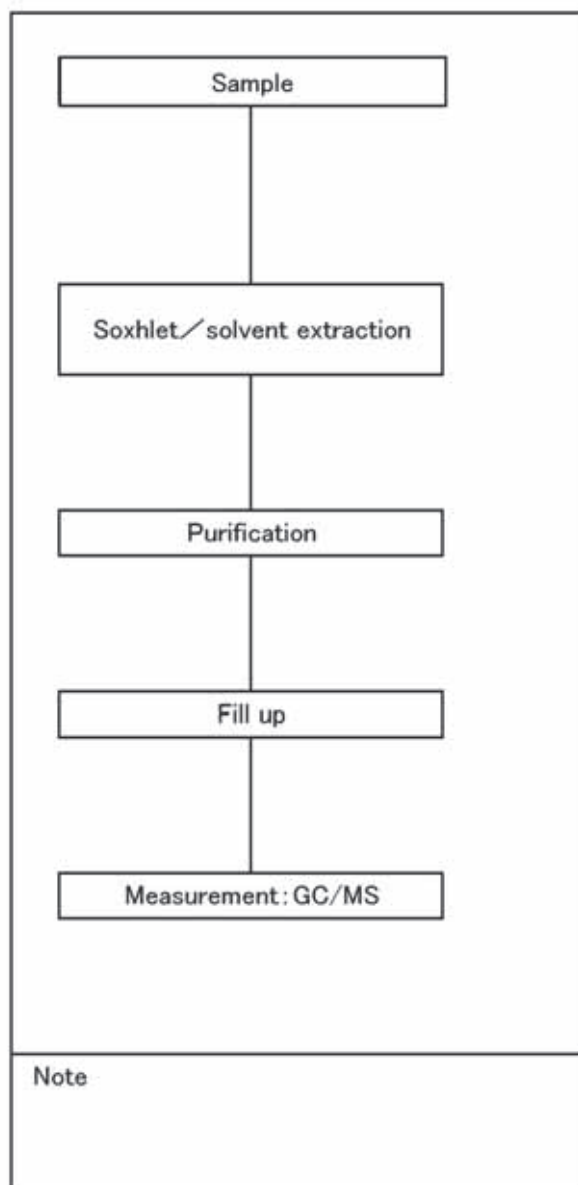
Operator : Yuichi Kuboji

PBBs, PBDEs

phthalates



GC/MS: Agilent Technologies GC 7890B MS 5977A



GC/MS : SHIMADZU GCMS-QP2020

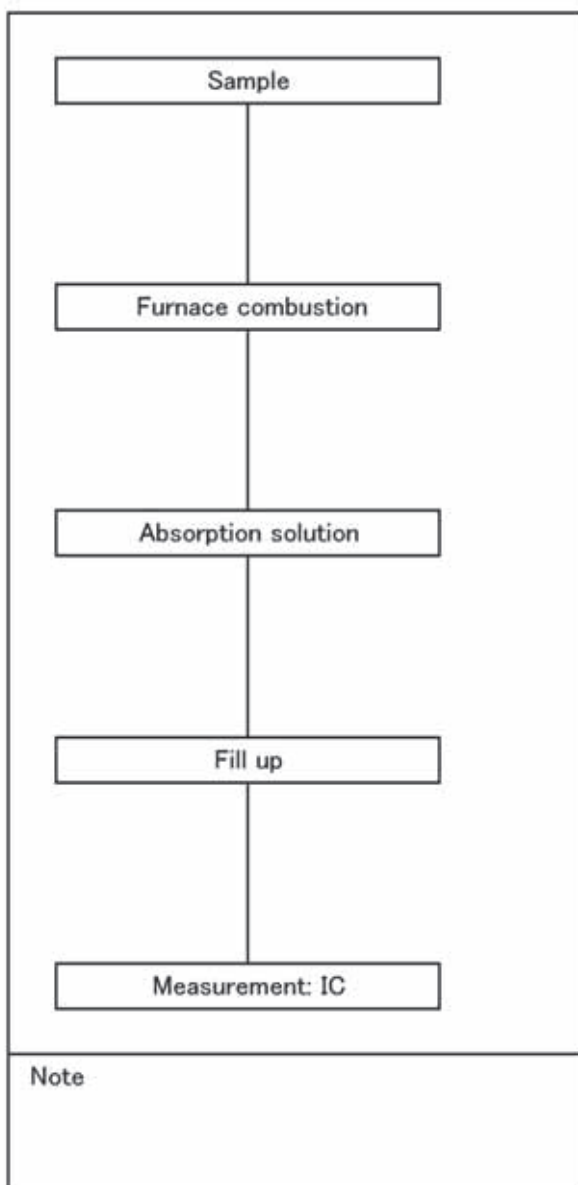
Flow chart

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Measurement days : 18 March 2021 ~ 2 April 2021

Operator : Norio Watanabe

Cl, Br



IC : DIONEX ICS-1100 RFIC

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