IAS JAPAN

THE INDUSTRIAL ANALYSIS SERVICE LTD.

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TEST REPORT

Request No. 2476
Report No. EW210000000134-01
Date of issue: 8 October 2021

To. Senju Metal Industry Co.,Ltd.

Address: 1 MATSUYAMA MOHKA TOCHIGI 321-4346 JAPAN

Name of sample: SPARKLE BALL S #S-2062

Date of receipt of sample: 28 June 2021

Measurement days: 28 June 2021 ～ 8 October 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	%	36.41	-	JIS Z 3910
Cr6+	ppm	N.D.	1.0	With reference to IEC62321-7-1(2015) Boiling water extraction/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
F	ppm	N.D.	50	With reference to EN14582(2016) Furnace combustion/IC
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
I	ppm	N.D.	50	With reference to EN14582(2016) Furnace combustion/IC

Note: The results shown in this test report refer only to the sample(s)tested.
Quotation Report:EW210000000072-03(Cd,Pb,Cr6+,Hg)

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

THE INDUSTRIAL ANALYSIS SERVICE LTD.

吉田貴則

TAKANORI YOSHIDA

Report No. EW210000000134-01

Test Items	Unit	Test result	D.L.	Test Method
Be	ppm	N.D.	10	With reference to US EPA Method 3052 Microwave digestion/ICP/MS
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Note: The results shown in this test report refer only to the sample(s)tested.

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

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
Tetrabrobobiphenyl (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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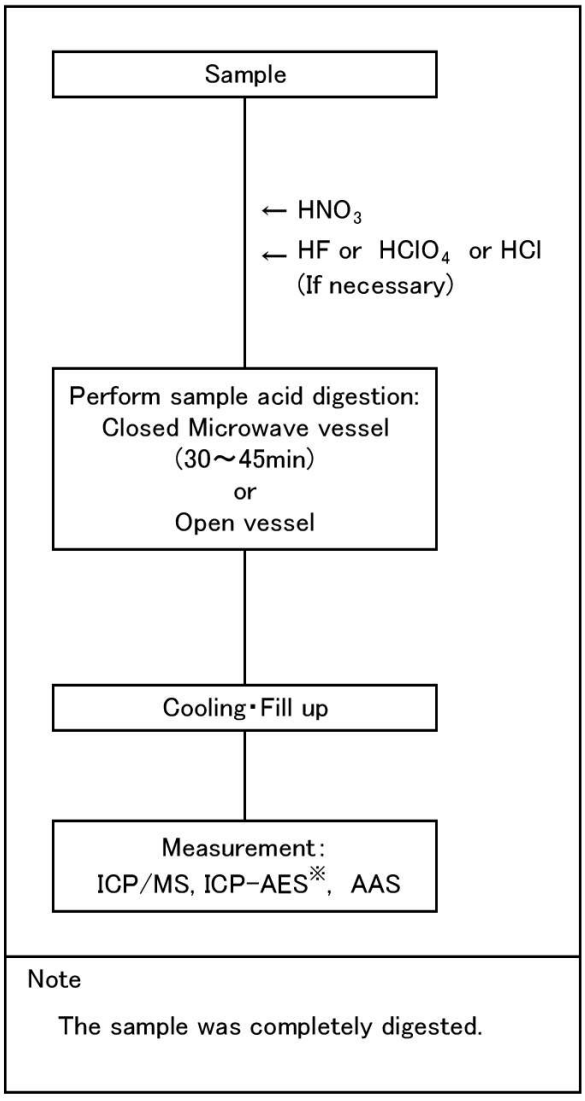
Note: The results shown in this test report refer only to the sample(s)tested.

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

Flow chart

Report No.	:	EW210000000134-01
Measurement days	:	28 June 2021 ～ 8 October 2021
Operator	:	Kensho Nakajima　　Masahiro Okada

Cd, Hg, Be



Note

The sample was completely digested.

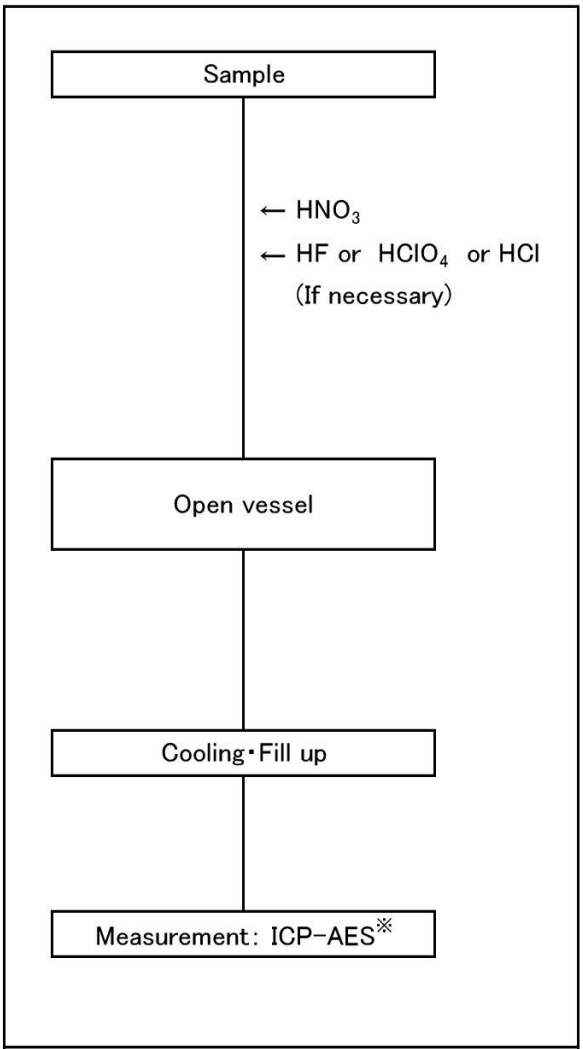
ICP/MS : Agilent Technologies 7700X

ICP-AES : Rigaku CIROS CCD

AAS : HIRANUMA MERCURY ANALYZER HG-200

※It is also called ICP-OES.

Pb



Note

The sample was completely digested.

Lead(Pb) is calculated by subtracting method.

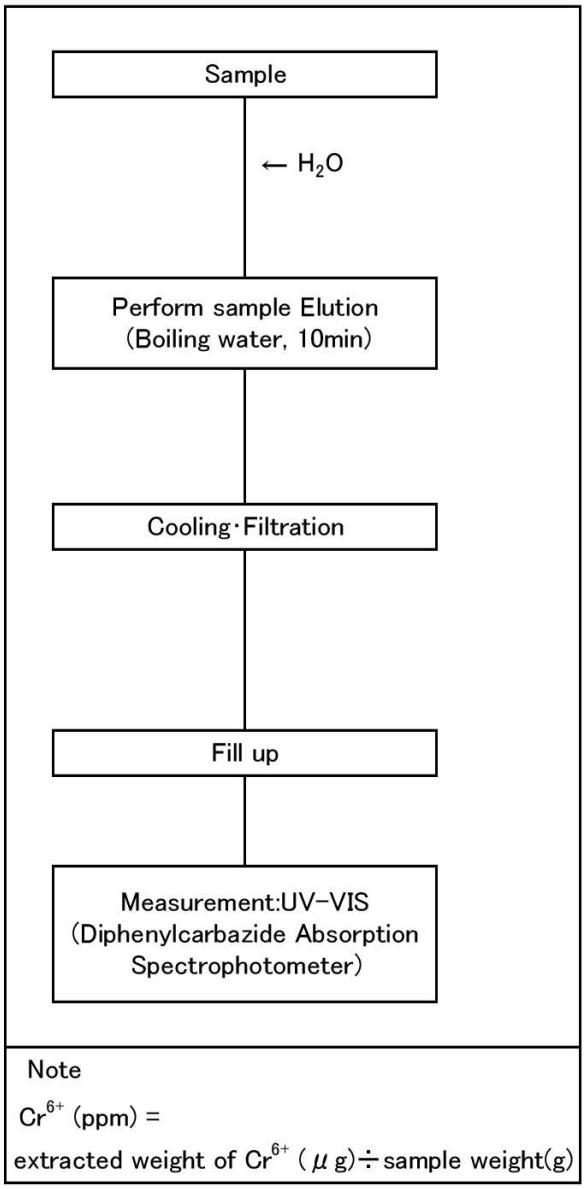
ICP-AES : Rigaku CIROS CCD

※It is also called ICP-OES.

Flow chart

Report No.	:	EW210000000134-01
Measurement days	:	28 June 2021 ～ 8 October 2021
Operator	:	Wataru Imaoka　Yuichi Kuboji

Cr6+



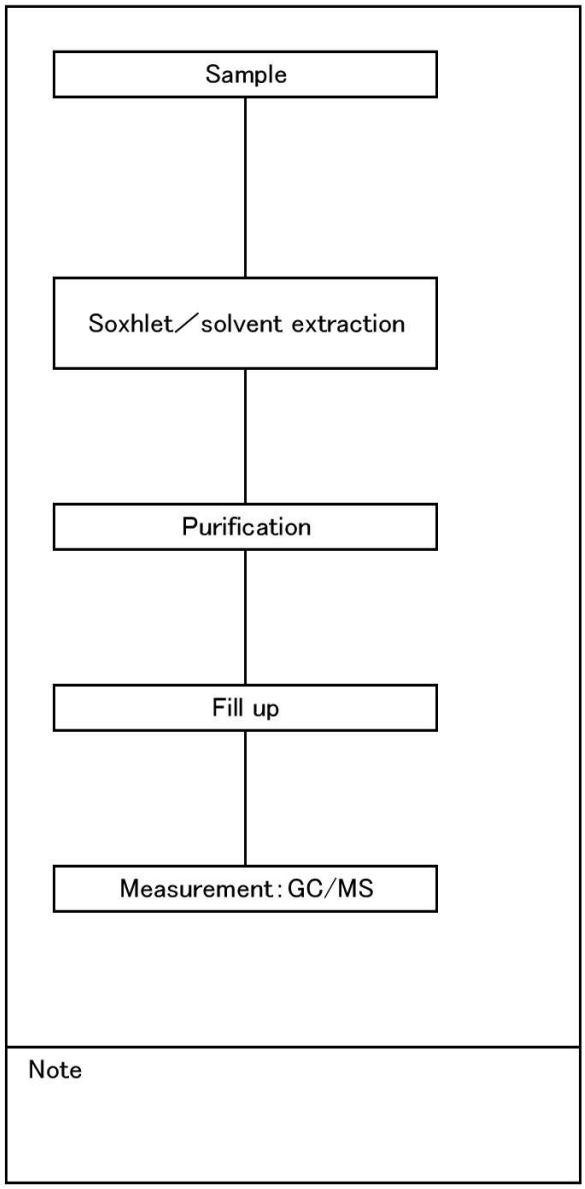
Note

Cr^{6+} (ppm) =

extracted weight of Cr^{6+} (μg)÷sample weight(g)

UV-VIS : HITACHI High-Technologies U-2910

PBBs, PBDEs



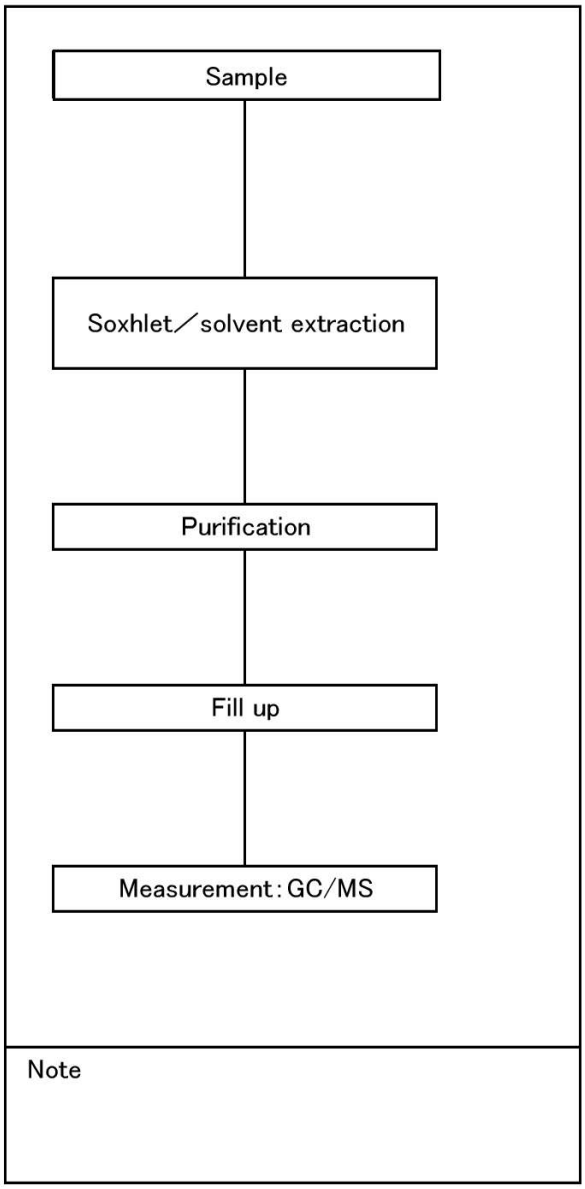
Note

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

Flow chart

Report No.	:	EW210000000134-01
Measurement days	:	28 June 2021 ～ 8 October 2021
Operator	:	Yuichi Kuboji　　Norio Watanabe

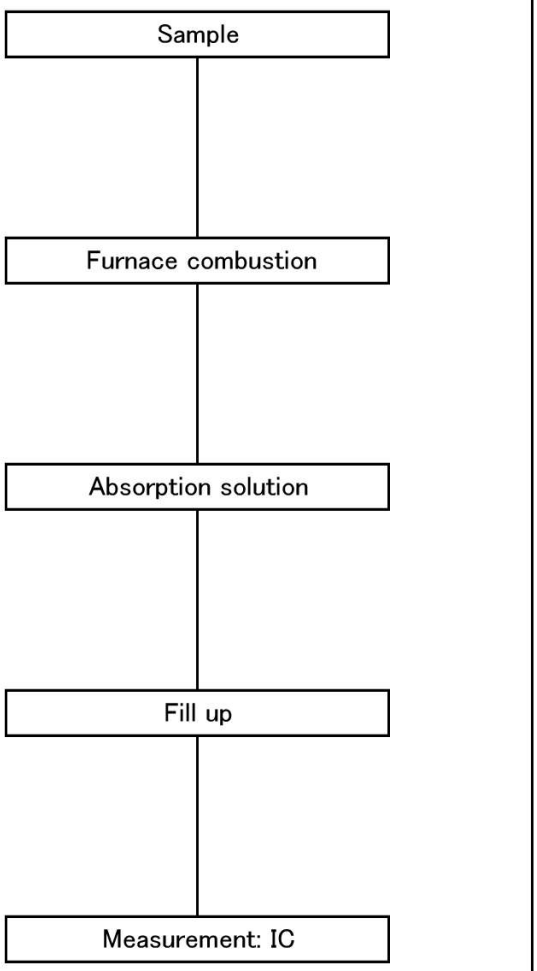
phthalates



Note

GC/MS　　: SHIMADZU GCMS-QP2020

F, Cl, Br, I



Note

IC　: DIONEX ICS-1100 RFIC