



**THE INDUSTRIAL ANALYSIS SERVICE LTD.**

TEL:+81-48-924-7151 FAX:+81-48-928-3587 e-mail:ias@sangyobunseki.co.jp

2-11-7 Yatsuka Souka Saitama 340-0028 Japan

**TEST REPORT**

Request No. 0115638  
 Report No. ES200000003948-01  
 Date of issue: 25 August 2020

**To. NGK Electronics Devices, Inc.**

Address: 2701-1 Higashibun, Ohmine-cho, Mine-Shi, Yamaguchi. 759-2212, Japan

Name of sample: Au Plating (Au-non Tl)

Date of receipt of sample: 7 August 2020

Measurement days: 7 August 2020 ~ 25 August 2020

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	47	2.0	With reference to IEC62321-5(2013) ICP/MS
Cr6+	ppm	N.D.	1.0	With reference to IEC62321-7-1(2015) Boiling water extraction/UV-VIS
Hg	ppm	N.D.	2.0	With reference to IEC62321-4(2013)/AMD1(2017) ICP/MS
PBBs	ppm	N.D.	5.0	With reference to IEC62321-6(2015) GC/MS
PBDEs	ppm	N.D.	5.0	With reference to IEC62321-6(2015) GC/MS
Remainder of page intentionally left blank				

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

THE INDUSTRIAL ANALYSIS SERVICE LTD.

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.	5.0	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.	5.0	With reference to IEC62321-6(2015) GC/MS
Remainder of page intentionally left blank				
Note: The results shown in this test report refer only to the sample(s) tested.				

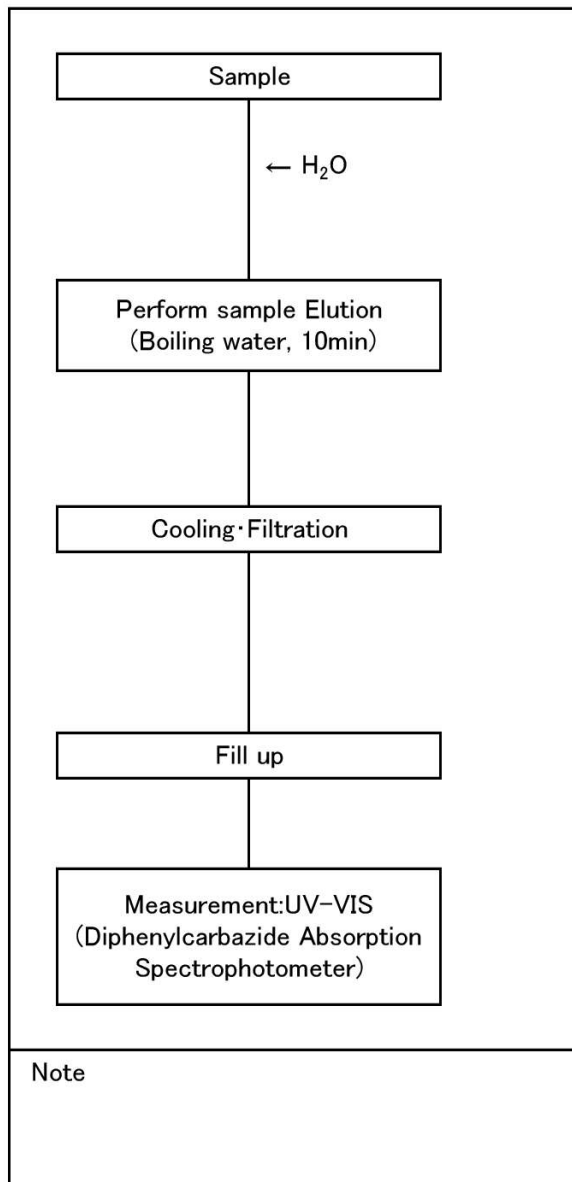
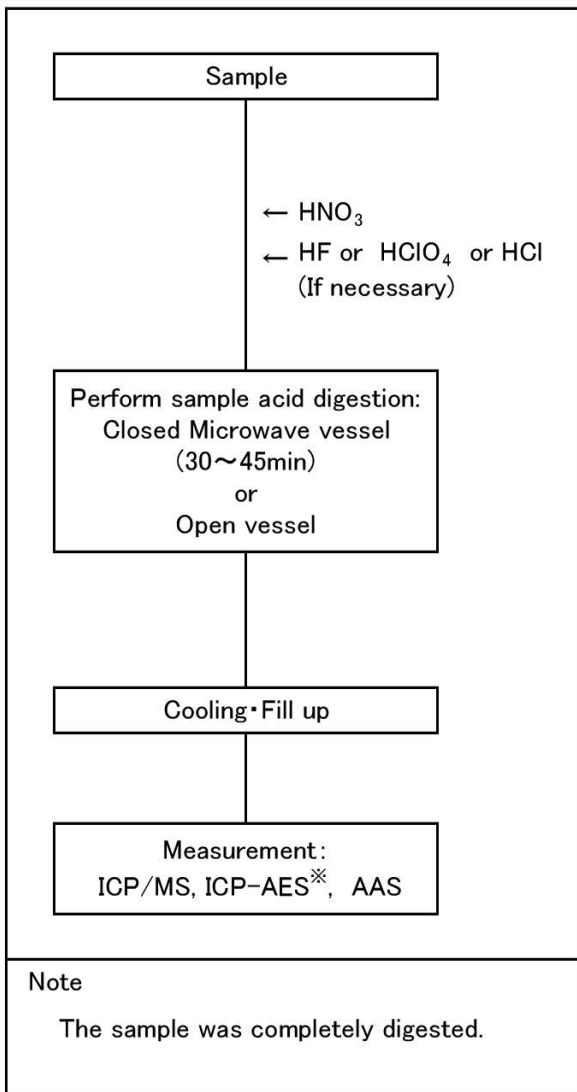
N.D.means the analysis result is less than fixed quality lower limit level calculated according to our established precision management condition.  
mg/kg=ppm

Flow chart

Report No.	: ES200000003948-01
Measurement days	: 7 August 2020 ~ 25 August 2020
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

UV-VIS : HITACHI High-Technologies U-2910

\*It is also called ICP-OES.

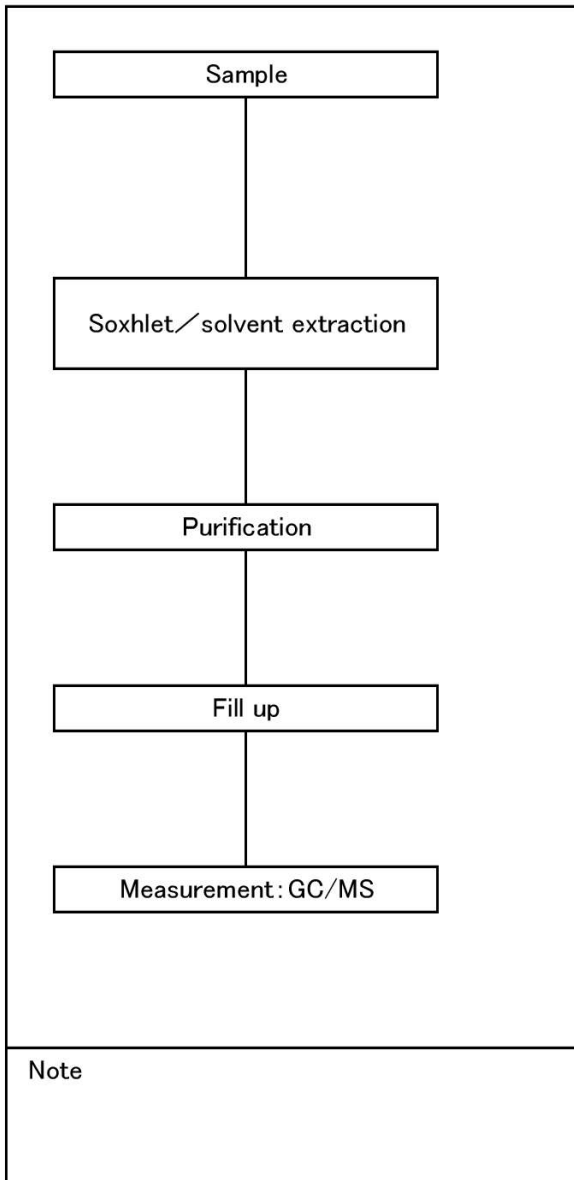
Flow chart

Report No. : ES200000003948-01

Measurement days : 7 August 2020 ~ 25 August 2020

Operator : Yuichi Kuboji

PBBs, PBDEs



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

Report No. ES200000003948-01

