

Job Ref. C&P/2021-06-24-004

#### NGK GLOBETRONICS TECHNOLOGY SDN BHD

PLOT 2, PHASE 4, FREE INDUSTRIAL ZONE, BAYAN LEPAS, 11900 PENANG, MALAYSIA

The following sample(s) was/were submitted and identified by applicant as:

SAMPLE DESCRIPTION : WHITE RESIN TECHSEAL 8230

SAMPLE RECEIVED : 24-June-2021

TESTING PERIOD : 24-June-2021 to 30-June-2021

TEST REQUESTED : Selected test(s) as requested by customer

TEST METHOD : -PLEASE REFER TO NEXT PAGE(S)TEST RESULTS : -PLEASE REFER TO NEXT PAGE(S)-

SIGNED FOR AND ON BEHALF OF SGS (MALAYSIA) SDN BED

CHEE TUCK CHOOM
SECTION HEAD
IKM NO. M/3983/6401/12/14

Test Report Form No.: SGS/TR/CP/001, Ver: 2.0, Effective Date: 15/03/2021

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Job Ref. C&P/2021-06-24-004

**TEST RESULTS:** 

**Test Part Description** 

Sample Description: -PLEASE REFER TO PAGE 1-

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Parameter(s):	Unit	Test Method	Result	MDL	Limit
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.	N.D.	2	Max 100
Lead (Pb)	mg/kg	With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.	N.D.	2	Max 1000
Mercury (Hg)	mg/kg	With reference to IEC 62321-4:2013+A1:2017, determination of Mercury by ICP-OES.	N.D.	2	Max 1000
Hexavalent Chromium (CrVI)	mg/kg	With reference to IEC 62321-7-2:2017, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.	N.D.	8	Max 1000
Sum of PBBs	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	Max 1000
Monobromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Dibromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Tribromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Pentabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Hexabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Heptabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Octabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Nonabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Decabromobiphenyl	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-

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SGS

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10871-T

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Job Ref. C&P/2021-06-24-004

**TEST RESULTS:** 

**Test Part Description** 

Sample Description: -PLEASE REFER TO PAGE 1-

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Parameter(s):	Unit	Test Method	Result	MDL	Limit
Sum of PBDEs	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	Max 1000
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	5	-

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CHEE TUCK CHOON 10871-T SECTION HEAD

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**TEST RESULTS:** 

**Test Part Description** 

Sample Description: -PLEASE REFER TO PAGE 1-

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Parameter(s):	Unit	Test Method	Result	MDL	Limit
Dibutyl phthalate (DBP) (CAS No. 84-74-2)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	50	Max 1000
Benzyl butyl phthalate (BBP) (CAS No. 85-68-7)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	50	Max 1000
Di(2-ethylhexyl) phthalate (DEHP) (CAS No. 117-81-7)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	50	Max 1000
Diisobutyl phthalate (DIBP) (CAS No. 84-69-5)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	50	Max 1000

Note: (a) mg/kg = ppm; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) - = Not regulated

(e) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.

(f) IEC 62321 series is equivalent to EN 62321 series. https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP\_ORG\_ID,FSP\_LANG\_ID:1258637,25

(g)The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

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SECTION HEAD
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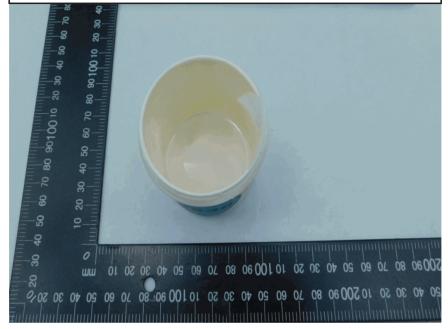
No. CPSA/210665059-CA66844 **TEST REPORT:** REPORTED DATE: 30-June-2021

Job Ref. C&P/2021-06-24-004

**Test Part Description:** 

Sample Description: -PLEASE REFER TO PAGE 1-

## NGK GLOBETRONICS TECHNOLOGY SDN BHD CA66844



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SGS (MALAYSIA) SDN BED M CHEE TUCK CHOOM SECTION HEAD IKM NO. M/3983/6401/12/14

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No. CPSA/210665059-CA66844 **TEST REPORT:** REPORTED DATE: 30-June-2021

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### 1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321-52013

Sample Receiving and Registration

Sample Preparation

Weigh sample (0.2-0.5g) into digestion vessel

Acid digestion (Microwave)

"Totally Dissolved"

Filtration

Analyses by ICP

## 2. DETERMINATION OF LEAD CONTENT BY IEC 62321-52013

Sample Receiving and Registration

Sample Preparation

Weigh sample (0.2-0.5g) into digestion vessel

Acid digestion(Microwave)

"TotallyDissolved"

Filtration

Analyses by ICP

#### 3. DETERMINATION OF MERCURY CONTENT BY IEC 62321-42013/AMD12017

Sample Receiving and Registration

Sample Preparation

Weigh sample (0.1-0.5g) into digestion vessel

Acid digestion(Microwave)

"TotallyDissolved"

Filtration

Analyses by ICP

## 4a. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321-7-22017 (Other Materials)

Sample Preparation

Digestionat 150~160°C

Separating to Obtain Aqueous Phase

pH Adjustment

Add Diphenyl-Carbazide for Color Development

Analyses by UV-Spectrophotometer (540 nm)

## 4b. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321-7-22017 (Soluble Polymers)

Sample Preparation

Add Digestion Solution

Ultrasonicate Sample

pH Adjustment

Add Diphenyl-Carbazide for Colour Development

Analyses by UV-Spectrophotometer (540 nm)

## 5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321-62015

Sample Preparation

Weigh sample (0.5-4.0g) into extraction thimble

Soxhlet Extraction with Toluene

Filter through 0.45 um membrane filter

Analyses by GC-MS (with appropriate dilution)

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**TEST REPORT:** 

No. CPSA/210665059-CA66844 Job Ref. C&P/2021-06-24-004

# DETERMINATION OF PHTHALATES WITH GC-MS BY IEC 62321-8:2017

Sample Cutting / Preparation

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Sample Measurement

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Solvent Extraction

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Concentrate / Dilute extracted solution

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GC-MS analysis

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DATA

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\*\*\* End of test report \*\*\*

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