TEST REPORT: No. CPSA/240841140-CB58866 **REPORTED DATE:** 20 Aug 2024

TANAKA ELECTRONICS (MALAYSIA) SDN. BHD.

PLOT 11, PHASE IV, BAYAN LEPAS FIZ,
11900, PENANG, MALAYSIA.

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

SAMPLE DESCRIPTION	:	GLD
JOB REF.	:	C&P/2024-08-07-009
SAMPLE RECEIVED	:	07 Aug 2024
TESTING PERIOD	:	07 Aug 2024 to 20 Aug 2024

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)-
REMARKS	:	1) This report supersedes report no.: CPSA/240841002-CB58866

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

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TAY SIAM PINE
TECHNICAL MANAGER
IKM No. M/3452/6047/11/12

CHECK REPORT
GBA1HCBD

TEST REPORT: No. CPSA/240841140-CB58866 **REPORTED DATE:** 20 Aug 2024

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
Lead (Pb)	mg/kg	With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.	N.D.	2	Max 1000
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.	N.D.	2	Max 100
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)	µg/cm²	With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.	N.D.	0.10	-
Hexavalent Chromium (CrVI)	mg/kg	With reference to JIS H 8625, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.	N.D.	2	Max 1000
Sum of PBBs	mg/kg	With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.	N.D.	-	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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TEST REPORT: No. CPSA/240841140-CB58866 **REPORTED DATE:** 20 Aug 2024

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.	-	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	-

Note : (a) mg/kg = ppm ; ug/kg = ppb (0.01 mg/kg = 10 ug/kg); 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
(g) a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm². The sample coating is considered to contain CrVI.
b. The sample is negative for CrVI if CrVI is N.D. (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating.
c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.
For corrosion protection coatings on metals: Information on storage conditions and production date of the tested sample is unavailable and thus results of Cr(VI) represent status of the sample at the time of testing.

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TEST REPORT: No. CPSA/240841140-CB58866 **REPORTED DATE:** 20 Aug 2024

TEST RESULTS:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Optional: RoHS Directive 2011/65/EU, priority substances

Test Parameter(s):	Unit	Test Method	Result	MDL
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD) (CAS No.: 25637-99-4, 3194-55-6(134237-51-7, 134237-50-6, 134237-52-8))	mg/kg	In-house method, SGS-TM-RSTS-O-012, with reference to IEC 62321-6:2015. Analysis was performed by GCMS	N.D.	5

Note : (a) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC: Hexabromocyclododecane (HBCDD), Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.
(b) N.D. = Not Detected

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TEST REPORT: No. CPSA/240841140-CB58866 **REPORTED DATE:** 20 Aug 2024

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
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
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
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 ; ug/kg = ppb (0.01 mg/kg = 10 ug/kg); 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
(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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TEST RESULTS:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Parameter(s):	Unit	Test Method	Result	MDL
Dimethyl Fumarate (CAS No.:624-49-7)	mg/kg	With reference to US EPA 3550C method. Analysis was performed by GC/MS.	N.D.	0.1
Polychlorinated biphenyls(PCB)	mg/kg	In-house method SGS-TM-RSTS-O-015 with reference to EPA 3550C. Analysis was performed by GC-MS and/or GC-ECD	N.D.	0.5
Polychlorinated naphthalene(PCN)	mg/kg	In-house method SGS-TM-RSTS-O-015 with reference to EPA 3550C. Analysis was performed by GC-MS and/or GC-ECD	N.D.	5
Polychlorinated terphenyls(PCT)	mg/kg	In-house method SGS-TM-RSTS-O-015 with reference to EPA 3550C. Analysis was performed by GC-MS and/or GC-ECD	N.D.	5
Alkanes,C10-13,chloro(SCCP) (CAS No. :85535-84-8	mg/kg	With reference to EPA 3550C. Analysis was performed by GC-ECD	N.D.	100
Polyvinylchloride (PVC)	-	Analysis was performed by FTIR and FLAME Test	NEGATIVE	-
Antimony (Sb)	mg/kg	With reference to EPA Method 3052, and performed by ICP-OES.	N.D.	2
Beryllium (Be)	mg/kg	With reference to EPA Method 3052, and performed by ICP-OES.	N.D.	2
Magnesium (Mg)	mg/kg	With reference to EPA Method 3052, and performed by ICP-OES.	N.D.	20
Arsenic (As)	mg/kg	With reference to EPA Method 3052, and performed by ICP-OES.	N.D.	2
Phosphorus, P	mg/kg	With reference to EPA3052,performed by ICP-OES	N.D.	20
Perfluorooctanoic acid (PFOA)	%	With reference to US EPA 3550C:2007. Analysis was performed by HPLC-MS	N.D.	0.001
Perfluorooctanesulfonic acid (PFOS)	%	With reference to US EPA 3550C:2007. Analysis was performed by HPLC-MS	N.D.	0.001

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Halogen	-	-	-	-
Halogen-Fluorine (F)	mg/kg	With reference to BS EN 14582:2016, analysis performed by IC method for Fluorine content.	N.D.	50
Halogen-Chlorine (Cl)	mg/kg	With reference to BS EN 14582:2016, analysis performed by IC method for Chlorine content.	N.D.	50
Halogen-Bromine (Br)	mg/kg	With reference to BS EN 14582:2016, analysis performed by IC method for Bromine content.	N.D.	50
Halogen-Iodine (I)	mg/kg	With reference to BS EN 14582:2016, analysis performed by IC method for Iodine content.	N.D.	50

Note : (a) mg/kg = ppm ; ug/kg = ppb (0.01 mg/kg = 10 ug/kg); 0.1wt% = 1000ppm
(b) N.D. = Not Detected
(c) MDL = Method Detection Limit
(d) Negative = Undetectable / Positive = Detectable

TEST RESULTS:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Parameter(s):	Unit	Test Method	Result	MDL
Phthalates	-	-	-	-
Di-n-octyl phthalate (DNOP) (CAS No. 117-84-0)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	50
Di-isononyl phthalate (DINP) (CAS No.: 2855-3-12-0;68515-48-0)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	100
Di-n-hexyl phthalate (DnHP/DHEXP) (CAS No. 84-75-3)	mg/kg	In-house SGS-TM-RSTS-O-003 with reference to IEC 62321-8:2017. Analysis was performed by GC-MS.	N.D.	50
Bis (2-methoxyethyl) phthalate (DMEP) (CAS No.:117-82-8)	mg/kg	In-house SGS-TM-RSTS-O-003 with reference to IEC 62321-8:2017. Analysis was performed by GC-MS.	N.D.	50
Di-isodecyl phthalate (DIDP) (CAS No.: 2676-1-40-0,68515-49-1)	mg/kg	With reference to IEC 62321-8:2017, determination of phthalates by GC-MS.	N.D.	100

Note : (a) mg/kg = ppm ; ug/kg = ppb (0.01 mg/kg = 10 ug/kg); 0.1wt% = 1000ppm
(b) N.D. = Not Detected
(c) MDL = Method Detection Limit

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Test Part Description :

Sample Description: -PLEASE REFER TO PAGE 1-

TANAKA ELECTRONICS (MALAYSIA) SDN. BHD.
CB58866

SGS authenticate the photo on original report only

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1. DETERMINATION OF CADMIUM CONTENT BY IEC 62321-5 2013

Sample Receiving and Registration
↓
Sample Preparation
↓
Weigh sample (0.2-0.5g) into digestion vessel
↓
Acid digestion (Hotplate)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

2. DETERMINATION OF LEAD CONTENT BY IEC 62321-5 2013

Sample Receiving and Registration
↓
Sample Preparation
↓
Weigh sample (0.2-0.5g) into digestion vessel
↓
Acid digestion (Hotplate)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

3. DETERMINATION OF MERCURY CONTENT BY IEC 62321-4 2013/AMD1 2017

Sample Receiving and Registration
↓
Sample Preparation
↓
Weigh sample (0.1-0.5g) into digestion vessel
↓
Acid digestion (Hotplate)
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

4. DETERMINATION OF HEXAVALENT CHROMIUM BY IEC 62321-7-1 2015

Sample Receiving and Registration
↓
Sample Preparation
↓
Boiling-water-extraction
↓
Analyses by UV- Spectrophotometer
↓
Test Report

5. DETERMINATION OF PBB/PBDE WITH GC-MS BY IEC 62321-6 2015

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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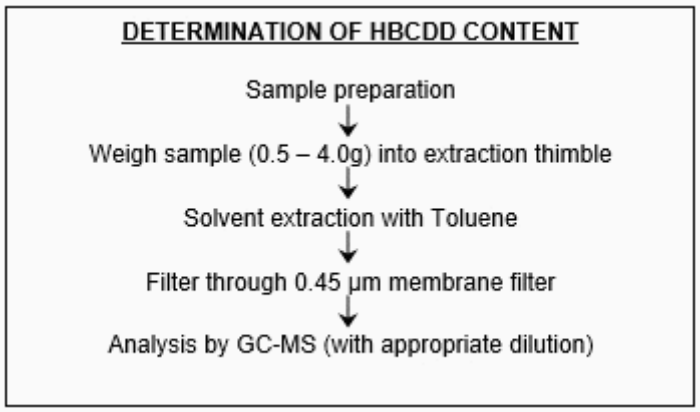

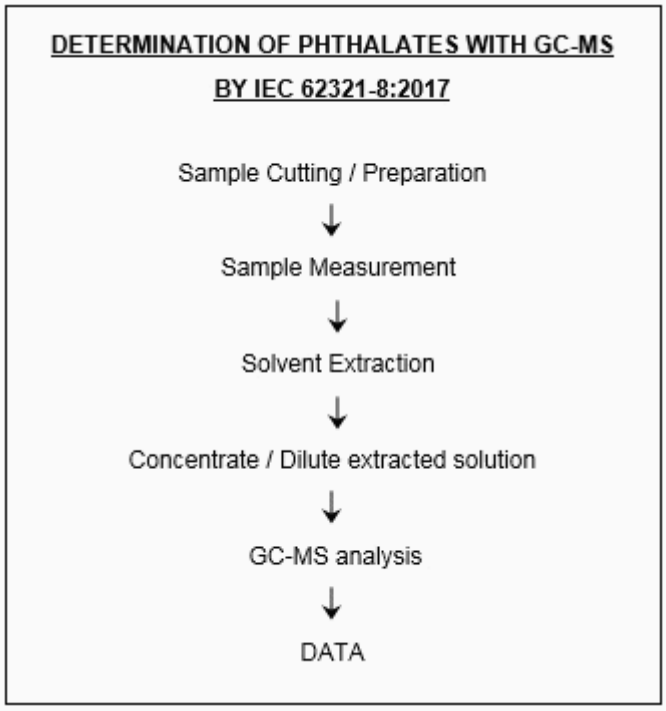

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MICROWAVE ASSISTED ACID DIGESTION OF SILICEOUS AND ORGANICALLY BASED METRICES BY US EPA 3052

Sample Preparation
↓
Weight sample (0.2-0.5g) into digestion vessel
↓
Acid digestion
↓
"Totally Dissolved"
↓
Filtration
↓
Analyses by ICP

PVC DETECTION WITH FTIR

Sample preparation
(apply ATR for analysis)
↓
FT-IR Scanning
↓
Report

DETERMINATION OF HALOGEN CONTENT

Sample pre-treatment
↓
Weighting and putting sample in cell
↓
Combustion / Absorption
↓
Dilution to fixed volume
↓
Analyses by IC

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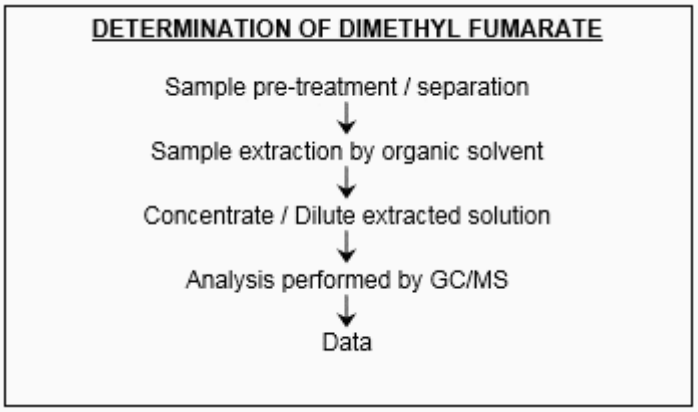

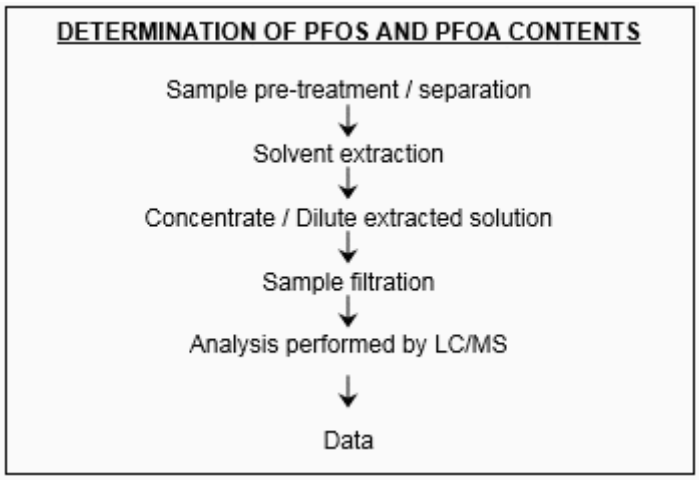

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*** End of test report ***