TEST REPORT: No. CPSA/210460640-CA62243
Job Ref. C&P/2021-04-13-011

REPORTED DATE: 21-April-2021

AMLEX TECHNOLOGY SDN BHD

NO.13B, LORONG PERINDUSTRIAN BUKIT
MINYAK 7, KAWASAN PERINDUSTRIAN BUKIT
MINYAK, 14100 BUKIT MERTAJAM,
PULAU PINANG.

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

SAMPLE DESCRIPTION	:	STAMPED COPPER (C194, A194, K65)
SAMPLE RECEIVED	:	13-April-2021
TESTING PERIOD	:	13-April-2021 to 20-April-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 BHD

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

SGS (Malaysia) Sdn Bhd. (Company No. 10871-T)
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TEST REPORT: No. CPSA/210460640-CA62243 **REPORTED DATE:** 21-April-2021

Job Ref. C&P/2021-04-13-011

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.	2	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)	µg/cm²	With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.	N.D.	0.10	-
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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TEST REPORT: No. CPSA/210460640-CA62243 **REPORTED DATE:** 21-April-2021

Job Ref. C&P/2021-04-13-011

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	-

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.
https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:1258637,25
(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/210460640-CA62243 **REPORTED DATE:** 21-April-2021
Job Ref. C&P/2021-04-13-011

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)(CAS No.: 3194-55-6,25637-99-4	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/210460640-CA62243 **REPORTED DATE:** 21-April-2021

Job Ref. C&P/2021-04-13-011

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 ; 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.
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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TEST REPORT: No. CPSA/210460640-CA62243 **REPORTED DATE:** 21-April-2021

Job Ref. C&P/2021-04-13-011

TEST RESULTS BY CHEMICAL METHOD:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Parameter(s):	Unit	Test Method	Result	MDL
Beryllium (Be)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES.	N.D.	2
Antimony (Sb)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES.	N.D.	2
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

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TEST REPORT: No. CPSA/210460640-CA62243 **REPORTED DATE:** 21-April-2021

Job Ref. C&P/2021-04-13-011

TEST RESULTS BY CHEMICAL METHOD:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Parameter(s):	Unit	Test Method	Result	MDL
Phthalates	-	-	-	-
Dibutyl phthalate (DBP) (CAS No. 84-74-2)	mg/kg	With reference to EN14372:2004, determination of phthalates by GC-MS.	N.D.	30
Di(2-ethylhexyl) phthalate (DEHP) (CAS No. 117-81-7)	mg/kg	With reference to EN14372:2004, determination of phthalates by GC-MS.	N.D.	30
Di-n-octyl phthalate (DNOP) (CAS No. 117-84-0)	mg/kg	With reference to EN14372:2004, determination of phthalates by GC-MS.	N.D.	30
Di-isononyl phthalate (DINP) (CAS No.:	mg/kg	With reference to EN14372:2004, determination of phthalates by GC-MS.	N.D.	100
Di-isodecyl phthalate (DIDP) (CAS No.:	mg/kg	With reference to EN14372:2004, determination of phthalates by GC-MS.	N.D.	100
Benzyl butyl phthalate (BBP) (CAS No. 85-68-7)	mg/kg	With reference to EN14372:2004, determination of phthalates by GC-MS.	N.D.	30

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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SGS (MALAYSIA) SDN BHD

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

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TEST REPORT: No. CPSA/210460640-CA62243 **REPORTED DATE:** 21-April-2021
Job Ref. C&P/2021-04-13-011

TEST RESULTS:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Method: With reference to CEN/TS 15968:2010. Analysis was performed by LC-MS

Test Parameter(s):	Result (%)	Max. Limit (µg/m²) (Textile/Coated material)	Max.Limit(%) (Plastic)	Max. Limit(%) (Substances/ in mixtures)
Perfluorooctanesulfonic acid (PFOS)	N.D.	1	0.1	0.001
Perfluorooctanoic acid (PFOA) (CAS No. 335-67-1)	N.D.	/	/	/
Conclusion	PASS			

Note: (a) N.D. = Not Detected

(b) Detection limit = 1 µg/m² for Textile / Coated Material
= 0.001% for Plastic, substances or mixtures

(c) Recommended requirement with reference to Commission Regulation (EU) 2019/1021 on Persistent Organic Pollutant.

(d) PFOS refers to Perfluorooctanesulfonic acid and its derivatives including Perfluorooctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

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TEST REPORT: No. CPSA/210460640-CA62243 **REPORTED DATE:** 21-April-2021

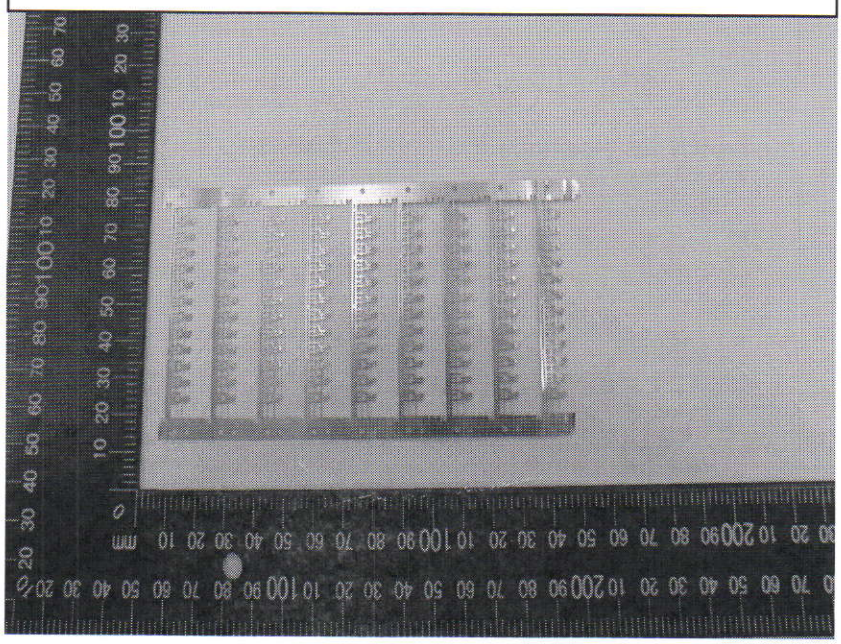
Job Ref. C&P/2021-04-13-011

Test Part Description :

Sample Description: -PLEASE REFER TO PAGE 1-

AMLEX TECHNOLOGY SDN BHD

CA62243



SGS authenticate the photo on original report only

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SGS (MALAYSIA) SDN BHD

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

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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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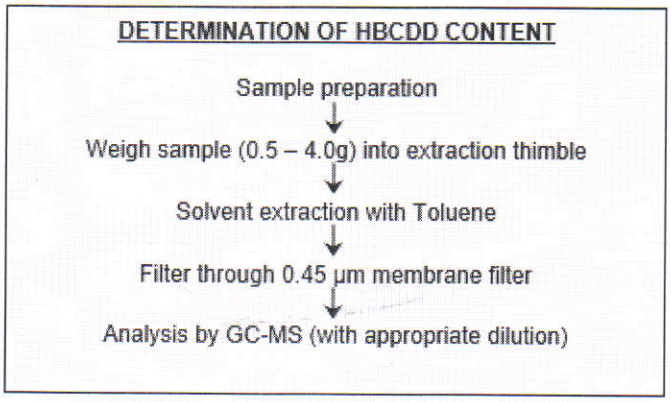

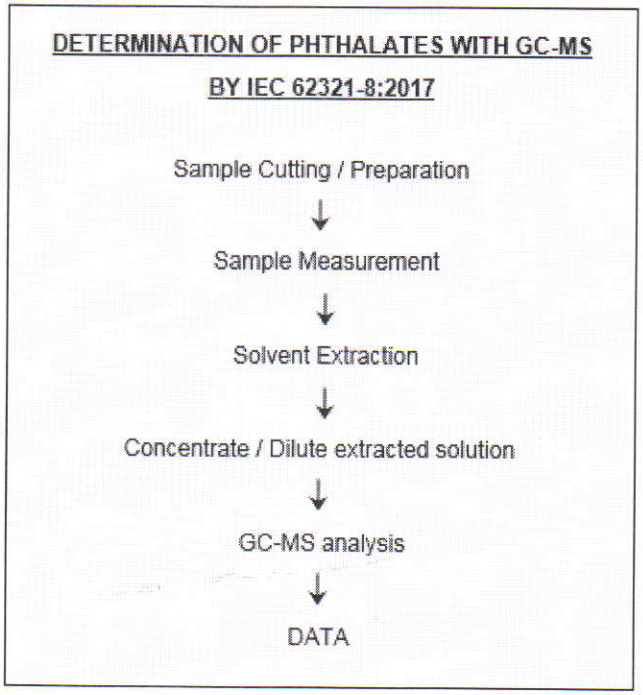

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MICROWAVE ASSISTED ACID DIGESTION OF ORGANICALLY BASED METRICES BY US EPA 3051A

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

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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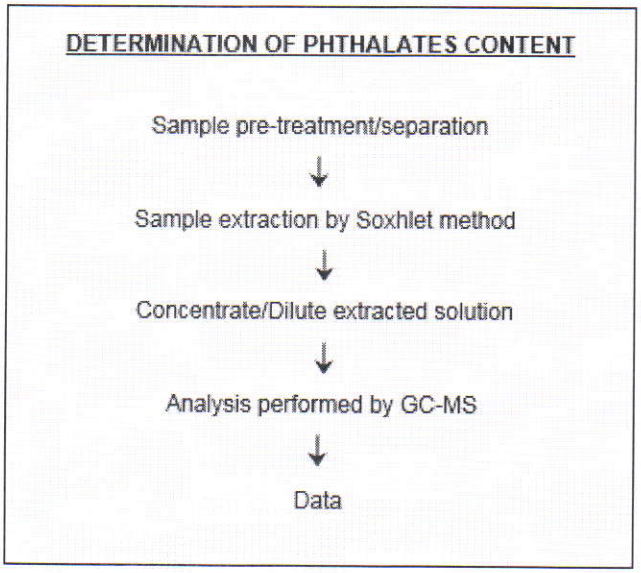

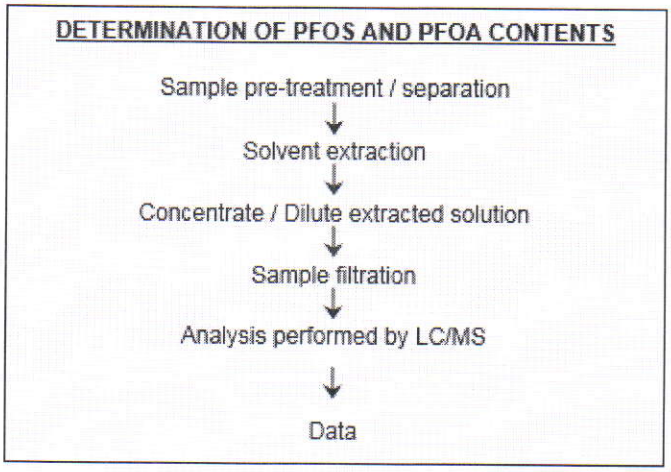

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*** End of test report ***

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TEST REPORT: No. CRSSA/210154738-CA55425 **REPORTED DATE:** 22-January-2021

Job Ref. CRS/2021-01-14-018

AMLEX TECHNOLOGY SDN BHD

NO.13B, LORONG PERINDUSTRIAN BUKIT
MINYAK 7, KAWASAN PERINDUSTRIAN BUKIT
MINYAK, 14100 BUKIT MERTAJAM,
PULAU PINANG.

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

SAMPLE DESCRIPTION	:	Ag PLATING
SAMPLE RECEIVED	:	14-January-2021
TESTING PERIOD	:	14-January-2021 to 19-January-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
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TEST REPORT: No. CRSSA/210154738-CA55425 **REPORTED DATE:** 22-January-2021

Job Ref. CRS/2021-01-14-018

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)	$\mu g/cm^2$	With reference to IEC 62321-7-1:2015, determination of Hexavalent Chromium by Colorimetric Method using UV-Vis.	N.D.	0.10	-
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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TEST REPORT: No. CRSSA/210154738-CA55425 **REPORTED DATE:** 22-January-2021

Job Ref. CRS/2021-01-14-018

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	-

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) 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. CRSSA/210154738-CA55425 **REPORTED DATE:** 22-January-2021
Job Ref. CRS/2021-01-14-018

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)(CAS No.: 3194-55-6,25637-99-4	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. CRSSA/210154738-CA55425 **REPORTED DATE:** 22-January-2021

Job Ref. CRS/2021-01-14-018

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 ; 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) On 4 June 2015, Commission Directive (EU) 2015/863 was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the RoHS Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.
(f)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.
(g)The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.
(h)The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

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TEST REPORT: No. CRSSA/210154738-CA55425 **REPORTED DATE:** 22-January-2021

Job Ref. CRS/2021-01-14-018

TEST RESULTS BY CHEMICAL METHOD:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Parameter(s):	Unit	Test Method	Result	MDL
Beryllium (Be)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES.	N.D.	2
Antimony (Sb)	mg/kg	With reference to EPA Method 3051A, and performed by ICP-OES.	N.D.	2
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

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TEST RESULTS:

Test Part Description

Sample Description: -PLEASE REFER TO PAGE 1-

Test Method: With reference to CEN/TS 15968:2010. Analysis was performed by LC-MS

Test Parameter(s):	Result (%)	Max. Limit (µg/m²) (Textile/Coated material)	Max.Limit(%) (Plastic)	Max. Limit(%) (Substances/ in mixtures)
Perfluorooctanesulfonic acid (PFOS)	N.D.	1	0.1	0.001
Perfluorooctanoic acid (PFOA) (CAS No. 335-67-1)	N.D.	/	/	/
Conclusion	PASS			

Note: (a) N.D. = Not Detected

(b) Detection limit = 1 µg/m² for Textile / Coated Material
= 0.001% for Plastic, substances or mixtures

(c) Recommended requirement with reference to Commission Regulation (EU) 2019/1021 on Persistent Organic Pollutant.

(d) PFOS refers to Perfluorooctanesulfonic acid and its derivatives including Perfluoroctanesulfonic acid, Perfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamide, N-Ethylperfluoroctane sulfonamide, N-Methylperfluoroctane sulfonamidoethanol and N-Ethylperfluoroctane sulfonamidoethanol.

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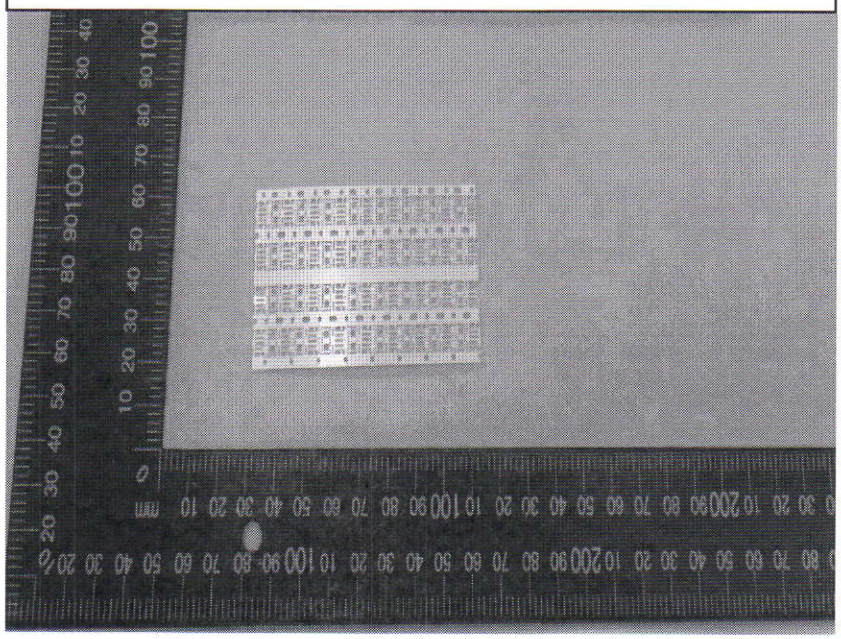
Test Part Description :

Sample Description: -PLEASE REFER TO PAGE 1-

AMLEX TECHNOLOGY SDN BHD

CA55425



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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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DETERMINATION OF HBCDD CONTENT

Sample preparation
↓
Weigh sample (0.5 – 4.0g) into extraction thimble
↓
Solvent extraction with Toluene
↓
Filter through 0.45 µm membrane filter
↓
Analysis by GC-MS (with appropriate dilution)

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

Sample Cutting / Preparation
↓
Sample Measurement
↓
Solvent Extraction
↓
Concentrate / Dilute extracted solution
↓
GC-MS analysis
↓
DATA

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MICROWAVE ASSISTED ACID DIGESTION OF ORGANICALLY BASED METRICES BY US EPA 3051A

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

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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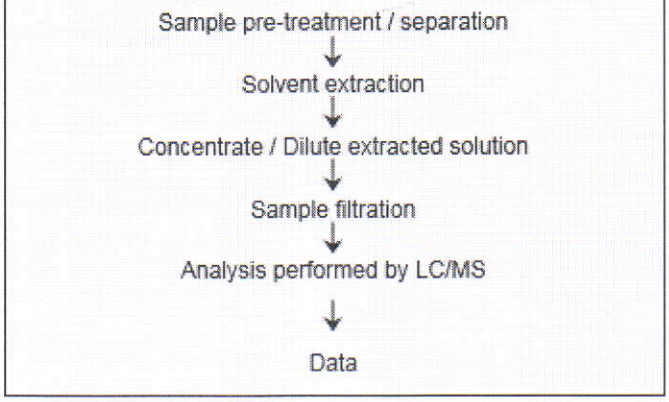
DETERMINATION OF PFOS AND PFOA CONTENTS



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*** End of test report ***

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