

No.: ETR23700005 Date: 12-Jul-2023

LT METAL CO., LTD.

117, NAMDONG-DAERO, NAMDONG-GU, INCHEON, KOREA

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

Sample Submitted By : LT METAL CO., LTD.

Sample Name : PD COATED COPPER WIRE(HS-RF)

SGS File No. : AYAA23-26586

\_\_\_\_\_\_

Sample Receiving Date

03-Jul-2023

Testing Period

03-Jul-2023 to 12-Jul-2023

**Test Requested** 

(1) As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine DBP, BBP, DEHP, DIBP contents in the

submitted sample(s).

(2) Please refer to next pages for the other item(s).

**Test Results** 

Please refer to following pages.

Conclusion

(1) Based on the performed tests on submitted sample(s), the test results of DBP, BBP,

DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending

Annex II to Directive 2011/65/EU.

Troy Chang / Department Malager Signed for and on behalf of SGS TAIWAN LTD.
Chemical Laboratory - Taipei



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PIN CODE: FA6R184I



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#### **Test Part Description**

No.1 : SILVER COLORED WIRE

#### Test Result(s)

Test Item(s)	Method	Unit	MDL	Result No.1	Limit
Beryllium (Be) (CAS No.: 7440-41-7)	With reference to US EPA 3050B: 1996, analysis was performed by ICP-OES.	mg/kg	2	n.d.	-
Cobalt (Co) (CAS No.: 7440-48-4)	With reference to US EPA 3050B: 1996, analysis was performed by ICP-OES.	mg/kg	2	n.d.	-
Dibutyl phthalate (DBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Butyl benzyl phthalate (BBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Di-(2-ethylhexyl) phthalate (DEHP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Diisodecyl phthalate (DIDP) (CAS No.: 26761-40-0, 68515-49-1)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Diisononyl phthalate (DINP) (CAS No.: 28553-12-0, 68515-48-0)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Di-n-octyl phthalate (DNOP) (CAS No.: 117-84-0)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Diisobutyl phthalate (DIBP)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	1000
Di-ethyl phthalate (DEP) (CAS No.: 84-66-2)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Dimethyl phthalate (DMP) (CAS No.: 131-11-3)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Di-n-pentyl phthalate (DNPP) (CAS No.: 131-18-0)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Di-n-hexyl phthalate (DNHP) (CAS No.: 84-75-3)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
Bis(2-methoxyethyl) phthalate (DMEP) (CAS No.: 117-82-8)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-
bis(4-Methyl-2-pentyl) phthalate (BMPP) (CAS No.: 146-50-9)	With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.	mg/kg	50	n.d.	-



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Test Item(s)	Method	Unit	MDL	Result	Limit
				No.1	
Diisopentyl phthalate (DIPP) (CAS	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
No.: 605-50-5)	analysis was performed by GC/MS.				
1 ·	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
11-branched and linear alkyl esters	analysis was performed by GC/MS.				
(DHNUP) (CAS No.: 68515-42-4)					
1,2-Benzenedicarboxylic acid, di-C6-	With reference to IEC 62321-8: 2017,	mg/kg	50	n.d.	-
8-branched alkyl esters, C7-rich	analysis was performed by GC/MS.				
(DIHP) (CAS No.: 71888-89-6)					

#### Note:

- 1. mg/kg = ppm; 0.1wt% = 0.1% = 1000ppm
- 2. MDL = Method Detection Limit
- 3. n.d. = Not Detected (Less than MDL)
- 4. "-" = Not Regulated
- 5. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.

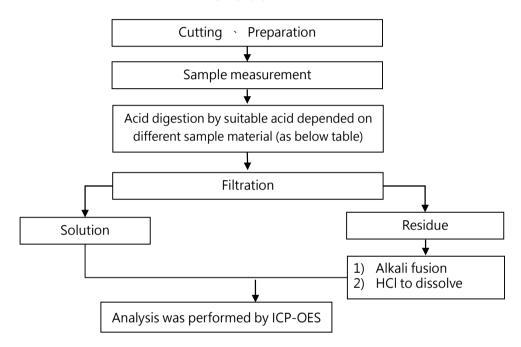


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#### Flow chart of digestion for the elements analysis performed by ICP-OES

These samples were dissolved totally by pre-conditioning method according to below flow chart.



Steel, copper, aluminum, solder	Aqua regia, HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub>		
Glass	HNO <sub>3</sub> /HF		
Gold, platinum, palladium, ceramic	Aqua regia		
Silver	HNO <sub>3</sub>		
Plastic	H <sub>2</sub> SO <sub>4</sub> , H <sub>2</sub> O <sub>2</sub> , HNO <sub>3</sub> , HCl		
Others	Added appropriate reagent to total digestion		

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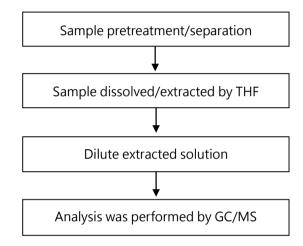


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#### Analytical flow chart - Phthalate

【Test method: IEC 62321-8】





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\* The tested sample / part is marked by an arrow if it's shown on the photo. \*

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\*\* End of Report \*\*