



# Test Report No. F690101/LF-CTSAYAA20-69421

Issued Date : 2021. 01. 06

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## DSR CORP.

75, Chonamgongdan-gil Gwangyang-eup  
Gwangyang-si, Jeonnam  
Korea

The following sample(s) was/were submitted and identified by/on behalf of the client as:-

**SGS File No.** : AYAA20-69421  
**Product Name** : Stainless steel wire for spring 631J1(1.4568)  
**Item No./Part No.** : N/A  
**Client Reference Data** : WPC, HS, STS 631J1, SUS 631J1-WPC  
**Received Date** : 2020. 12. 29  
**Test Period** : 2020. 12. 29 to 2021. 01. 06  
**Report Comments** : By the applicant's request, item No.s/part No.s & client reference information are stated/added on report.  
**Test Results** : For further details, please refer to following page(s)

SGS Korea Co., Ltd.

Tommy Oh / Chemical Lab Mgr

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**Sample No.** : AYAA20-69421.001  
**Sample Description** : Stainless steel wire for spring 631J1(1.4568)  
**Item No./Part No.** : N/A  
**Materials** : Stainless Steel

## Heavy Metals

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5 : 2013, by ICP-OES	0.5	N.D.
Lead (Pb)	mg/kg	With reference to IEC 62321-5 : 2013, by ICP-OES	5	N.D.
Mercury (Hg)	mg/kg	With reference to IEC 62321-4 : 2013+A1 : 2017, by ICP-OES	2	N.D.
Hexavalent Chromium (Cr VI)*	µg/cm <sup>2</sup>	With reference to IEC 62321-7-1 : 2015, by UV-Vis	0.1	N.D.

## Flame Retardants-PBBs/PBDEs

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Dibromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Tribromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Tetrabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Pentabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Hexabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Heptabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Octabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Nonabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Decabromobiphenyl	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Dibromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Tribromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Tetrabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Pentabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Hexabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Heptabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Octabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Nonabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.
Decabromodiphenyl ether	mg/kg	With reference to IEC 62321-6 : 2015, by GC-MS	5	N.D.

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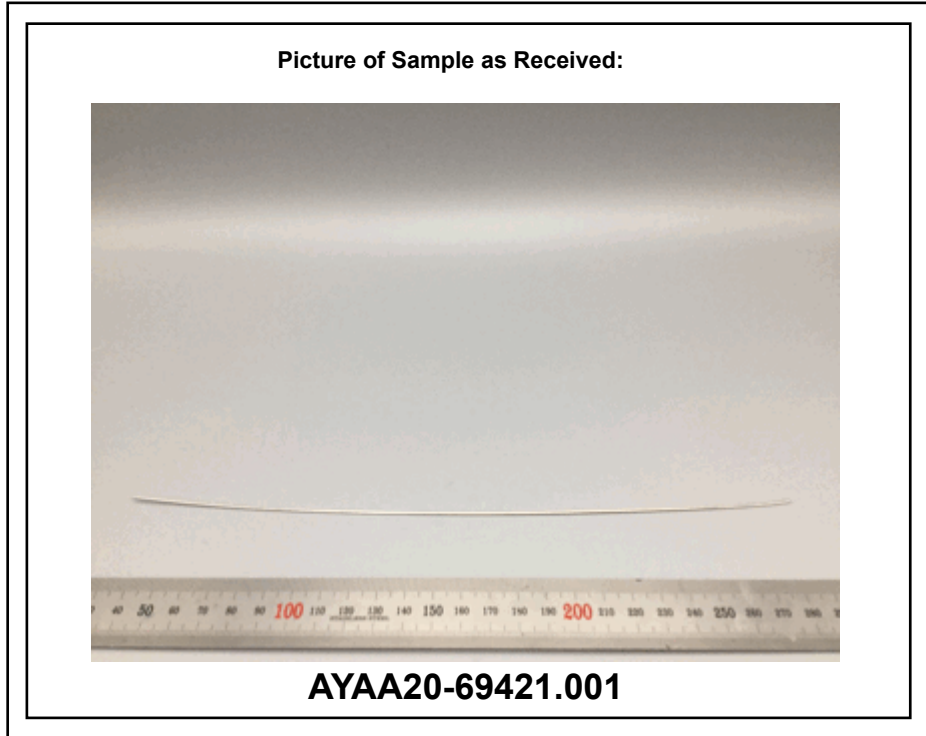
**Sample No.** : AYAA20-69421.001  
**Sample Description** : Stainless steel wire for spring 631J1(1.4568)  
**Item No./Part No.** : N/A  
**Materials** : Stainless Steel

## Phthalates

Test Items	Unit	Test Method	MDL	Results
Di-(2-ethylhexyl) phthalate (DEHP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.
Di-butyl phthalate (DBP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.
Benzyl butyl phthalate (BBP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.
Di-isobutyl phthalate (DIBP)	mg/kg	With reference to IEC 62321-8 : 2017, by GC-MS	50	N.D.

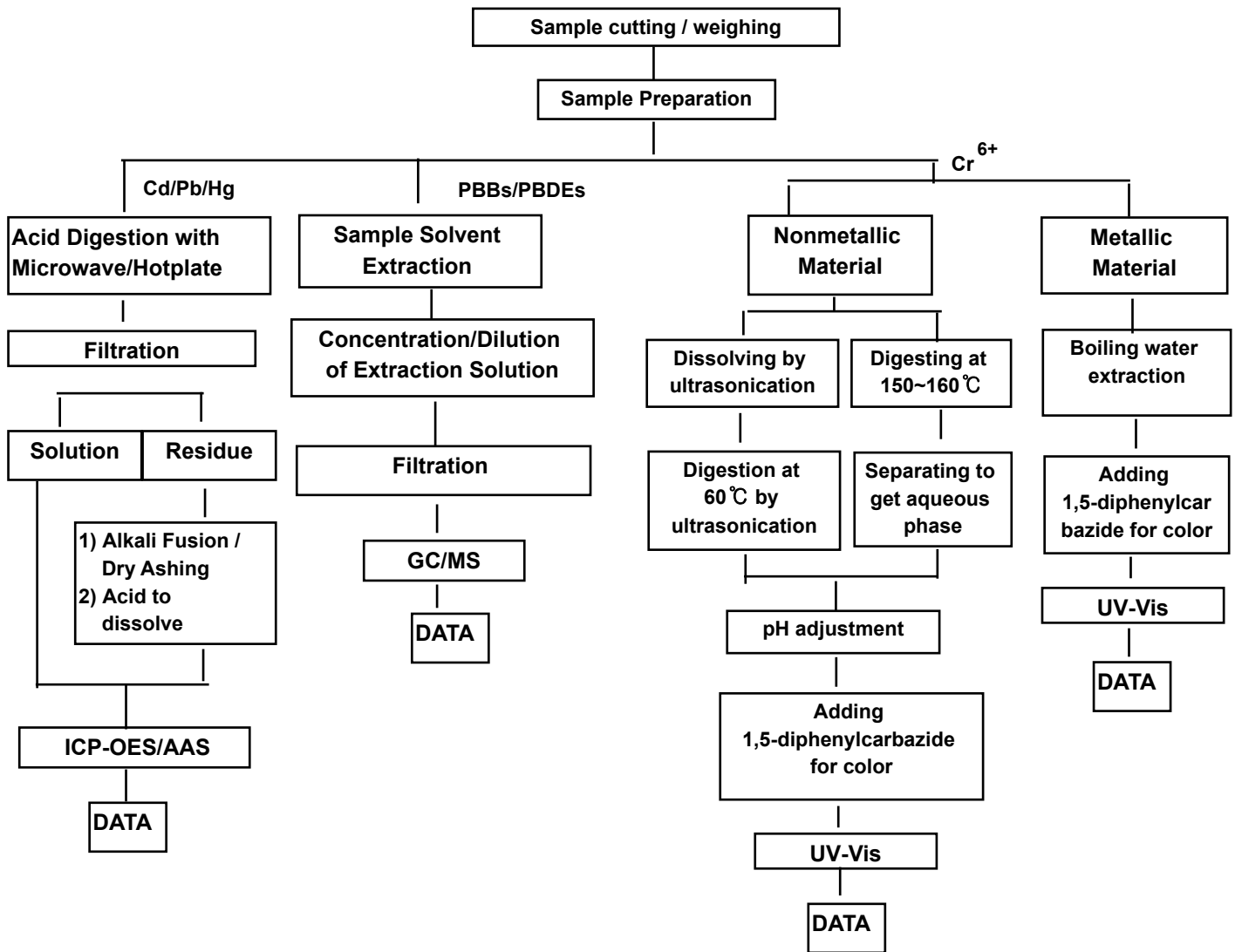
- NOTE: (1) N.D. = Not detected.(<MDL)  
(2) mg/kg = ppm, µg/kg = ppb, mg/L=ppm  
(3) MDL = Method Detection Limit  
(4) - = No regulation  
(5) Negative = Undetectable / Positive = Detectable  
(6) \*\* = Qualitative analysis (No Unit)  
(7) \* = a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 ug/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 ug/cm2). The coating is considered a non-CrVI based coating.  
c. The result between 0.10 ug/cm2 and 0.13 ug/cm2 is considered to be inconclusive - unavoidable coating variations may influence the determination.  
(8) The results shown in this test report refer only to the sample(s) tested unless otherwise stated.  
This test report is not related to Korea Laboratory Accreditation Scheme .

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**Testing Flow Chart for RoHS:Cd/Pb/Hg/Cr<sup>6+</sup> /PBBs&PBDEs Testing**

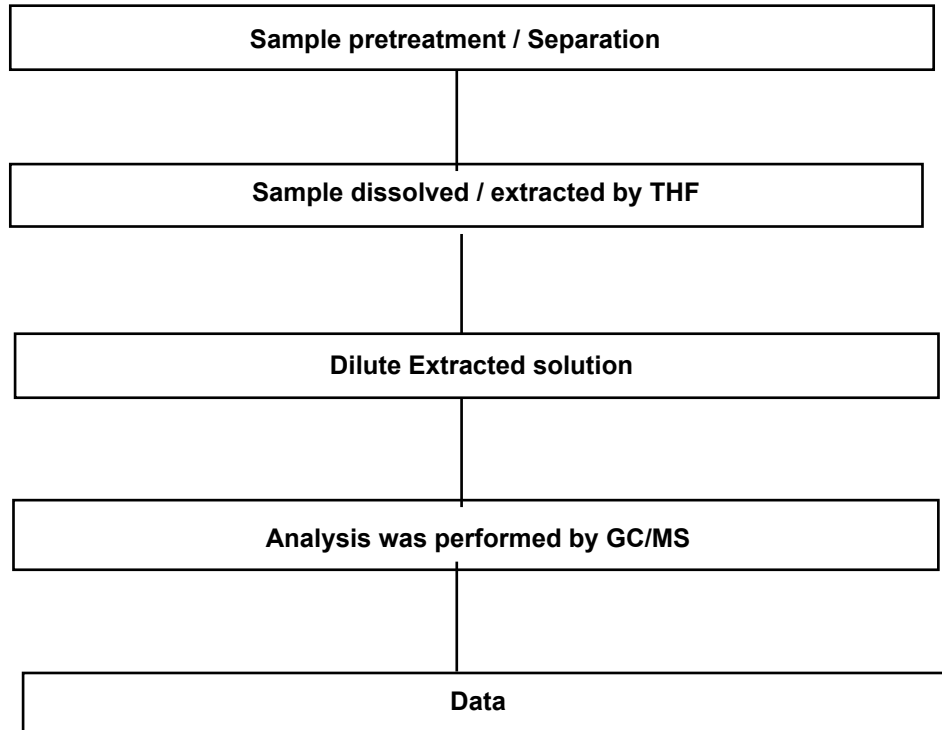


The samples were dissolved totally at the acid digestion step of the above flow chart for Cd,Pb,Hg  
 Section Chief : Timothy Jeon

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### Flow Chart for Phthalate Test



\*\*\* End of Report \*\*\*

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