

**HYUNDAI SPECIAL STEEL**

151 Daesong-ro, Nam-gu  
Pohang-si, Gyeongbuk  
Korea



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

**SGS File No.** : AYGU24-00175  
**Product Name** : SWCH22A  
**Item No./Part No.** : N/A  
**Received Date** : 2024. 01. 02  
**Test Period** : 2024. 01. 02 to 2024. 01. 10  
**Test Results** : For further details, please refer to following page(s)

**SGS Korea Co., Ltd.**  
**/ Busan Branch**



**Taehee Kang / Technical Manager**

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**Sample No.** : AYGU24-00175.001  
**Sample Description** : SWCH22A  
**Item No./Part No.** : N/A  
**Materials** : N/A

**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.

**Flame Retardants**

Test Items	Unit	Test Method	MDL	Results

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# Test Report No. F690101/LF-CTSAYGU24-00175

Issued Date : 2024. 01. 10

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Sample No. : AYGU24-00175.001  
 Sample Description : SWCH22A  
 Item No./Part No. : N/A  
 Materials : N/A

## Flame Retardants

Test Items	Unit	Test Method	MDL	Results
Hexabromocyclododecane (HBCDD, HBCD)	mg/kg	With reference to EPA 3540C : 1996, EPA 3550C : 2007 by GC-MS	5	N.D.

- NOTE: (1) N.D. = Not detected.(<MDL)  
 (2) mg/kg = ppm  
 (3) µg/kg = ppb  
 (4) MDL = Method Detection Limit  
 (5) - = No regulation  
 (6) Negative = Undetectable / Positive = Detectable  
 (7) \*\* = Qualitative analysis (No Unit)  
 (8) \* = 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.

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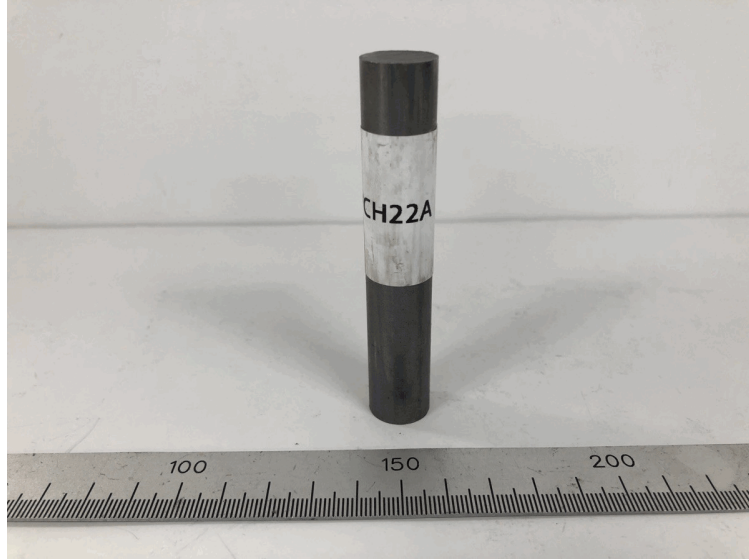
MQP-708-001-F12 (01)

SGS Korea Co.,Ltd.

50, Sinsan-ro 29beon-gil, Saha-gu, Busan, Korea 49432  
t +82 (0)51 795 7300 f +82 (0)51 795 7310 <http://www.sgs.com>

Member of the SGS Group (Société Générale de Surveillance)

**Picture of Sample as Received:**



**AYGU24-00175.001**

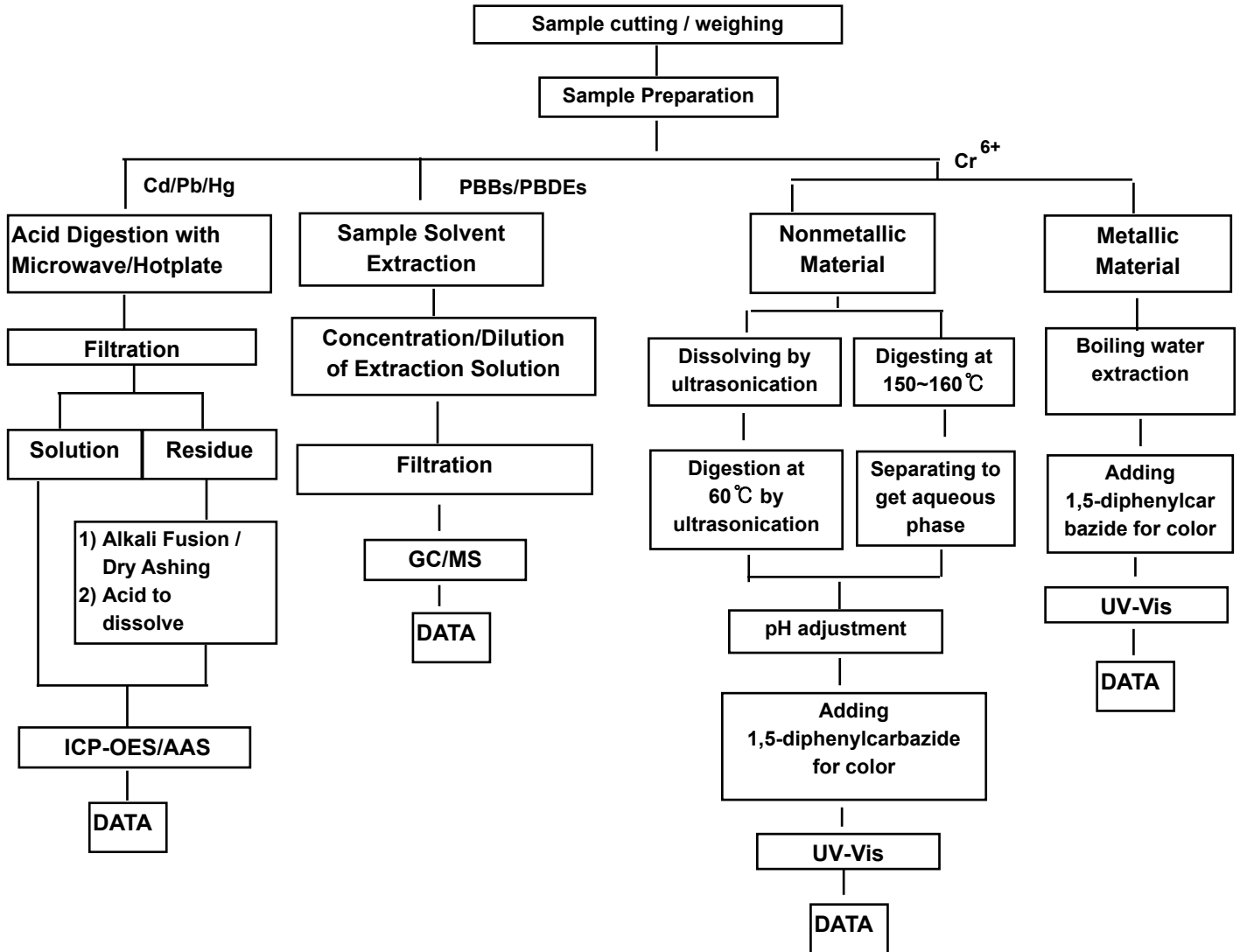
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SGS Korea Co.,Ltd.

50, Sinsan-ro 29beon-gil, Saha-gu, Busan, Korea 49432  
t +82 (0)51 795 7300 f +82 (0)51 795 7310 <http://www.sgsgroup.kr>

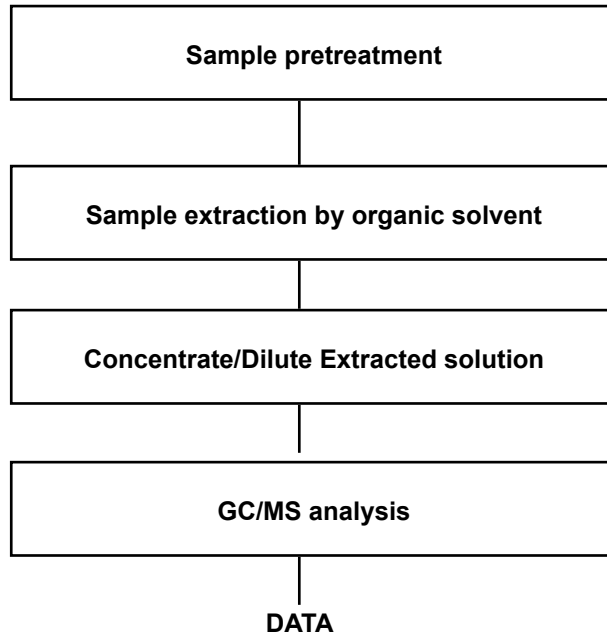
Testing Flow Chart for RoHS: Cd/Pb/Hg/Cr<sup>6+</sup> /PBBs&PBDEs Testing



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

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### Testing Flow Chart for HBCD



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

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