

## Test Report

No. SH8095485/CHEM

Date: Jul. 5, 2008

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UMICORE JUBO THIN FILM PRODUCTS (BEIJING) CO., LTD  
NO.5, XINGGUANG THE 4<sup>TH</sup> STREET, OPTO-MECHATRONICS INDUSTRIAL PARK (OIP), TONGZHOU  
PARK, ZHONGGUAN CUN SCIENCE PARK, TONGZHOU DISTRICT

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

Sample Name : ZrO<sub>2</sub>  
SGS Ref No. : 11131439-5  
Main Substance : ZrO<sub>2</sub>

Sample Receiving Date : Jul.02, 2008  
Testing Period : Jul.02 –05, 2008

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321/2<sup>nd</sup> CDV (111/95/CDV)  
Procedures for the Determination of Levels of Regulated Substances in  
Electrotechnical Products  
(1) Determination of Cadmium by ICP  
(2) Determination of Lead by ICP and AAS.  
(3) Determination of Mercury by ICP.  
(4) Determination of Hexavalent Chromium by Colorimetric Method.  
(5) Determination of PBBs and PBDEs by GC/MS.

Test Results : Please refer to next pages

Conclusion : Based on the performed tests on submitted samples, the result complies with the  
RoHS Directive 2002/95/EC and its subsequent amendments.

Signed for and on behalf of  
SGS-CSTC Chemical Laboratory



Ella Zhang  
Section Manager

Signed for and on behalf of  
SGS-CSTC Chemical Laboratory



Sandy Hao  
Lab Manager

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Test results by chemical method (Unit: mg/kg)

Test Item(s):	Method (refer to)	1	MDL	RoHS Limit
Cadmium(Cd)	(1)	ND	2	100
Lead (Pb)	(2)	ND	2	1000
Mercury (Hg)	(3)	ND	2	1000
Hexavalent Chromium (CrVI) by alkaline extraction	(4)	ND	2	1000
Sum of PBBs	(5)	ND	-	1000
Monobromobiphenyl		ND	5	-
Dibromobiphenyl		ND	5	-
Tribromobiphenyl		ND	5	-
Tetrabromobiphenyl		ND	5	-
Pentabromobiphenyl		ND	5	-
Hexabromobiphenyl		ND	5	-
Heptabromobiphenyl		ND	5	-
Octabromobiphenyl		ND	5	-
Nonabromobiphenyl		ND	5	-
Decabromobiphenyl		ND	5	-
Sum of PBDEs		ND	-	1000
Monobromodiphenyl ether		ND	5	-
Dibromodiphenyl ether		ND	5	-
Tribromodiphenyl ether		ND	5	-
Tetrabromodiphenyl ether		ND	5	-
Pentabromodiphenyl ether		ND	5	-
Hexabromodiphenyl ether		ND	5	-
Heptabromodiphenyl ether		ND	5	-
Octabromodiphenyl ether		ND	5	-
Nonabromodiphenyl ether	ND	5	-	
Decabromodiphenyl ether##	ND	5	-	

**Test Part Description:**

1. Black solid pellet

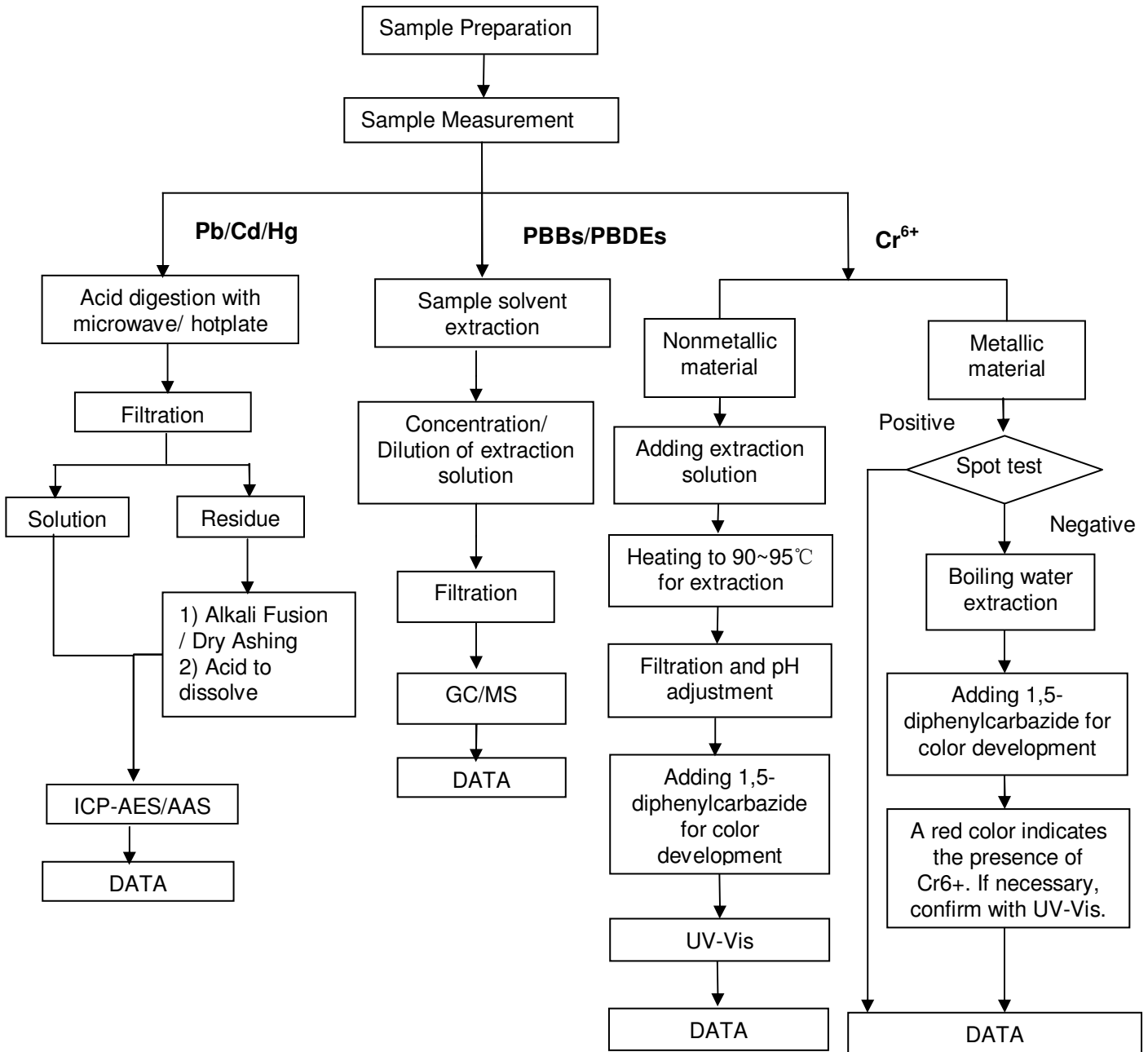
Note:

- (1) mg/kg = ppm
- (2) ND = Not Detected
- (3) MDL = Method Detection Limit
- (4) ## = The exemption of DecaBDE in polymeric application according 2005/717/EC was overruled by the European Court of Justice by its decision of 01.04.2008. Subsequently DecaBDE will be included in the sum of PBDE after 01.07.2008.
- (5) “-” = Not Regulated
- (6) The maximum permissible limit is quoted from the document 2005/618/EC amending RoHS directive 2002/95/EC

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**ATTACHMENTS**

- 1) Name of the person who made measurement: Cathy Cai/George Xu/Diane Wang
- 2) Name of the person in charge of measurement: Terry Wang/Tracy Yue



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Sample photo:



SGS authenticate the photo on original report only

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

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