TEST REPORT

Applicant : IL-KWANG ELECTRONIC MATERIALS CO., LTD.
Address : #725-9, Wonsi-dong, Danwon-gu,
Ansan-si, Geonggi-do, Korea

Report No. RT09R-S0011-002-E Date: Jan. 12, 2009

Sample Description	: The following submitted sample(s) said to be:-
Name/Type of Product	: TPCS
Sample ID No.	: RT09R-S0011-002
Manufacturer/Vender	: IL-KWANG ELECTRONIC MATERIALS CO., LTD.
Sample received	: Jan. 06, 2009
Testing Date	: Jan. 06, 2009 ~ Jan. 12, 2009
Testing Laboratory	: Intertek Testing Center
Testing Environment	: Temperature : (22 ~ 26) °C Relative Humidity: (55 ~ 65) %
Test Type	: RoHS wet chemical analysis
Test Method(s)	: Please see the following page(s).
Test Result(s)	: Please see the following page(s).

* Note 1 : The test results presented in this report relate only to the object tested.

* Note 2 : This report shall not be reproduced except in full without the written approval of the testing laboratory.

Approved by,

Jade Jang / Lab. Technical Manager

Authorized by,

Bo Park / Lab. General Manager

Intertek Testing Center

Seoul Office : Tel : 02-2109-1250 Fax : 02-2109-1259 Gumi Office : Tel : 054-462-7647 Fax : 054-462-7657 Web Site : www.intertek.co.kr
Seoul Lab. : #709, 7Fl, Ace Techno Tower V, 197-22, Guro-3Dong, Guro-Gu, Seoul 152-766 Korea Tel : 02-2109-1260 Fax : 02-2109-1258
Ulsan Lab. : #340-2, Yongam-Ri, Chongryang-Myun, Ulju-Gun, Ulsan 689-865 Korea Tel : 052-257-6754 Fax : 052-276-6792

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TEST REPORT

Report No. RT09R-S0011-002-E Date: Jan. 12, 2009

Sample ID No. : RT09R-S0011-002
Sample Description : TPCS

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	With reference to IEC 62321-111/116/FDIS, by acid digestion and determined by ICP-OES	0.5	N.D.
Lead (Pb)	mg/kg		5	N.D.
Mercury (Hg)	mg/kg		2	N.D.
Hexavalent Chromium (Cr^{6+}) (For metal)	-	With reference to IEC 62321-111/116/FDIS, by Spot test	Threshold of 1ug/kg	Negative
Hexavalent Chromium (Cr^{6+}) (For metal)	-	With reference to IEC 62321-111/116/FDIS, by boiling water extraction and determined by UV-VIS Spectrophotometer	Threshold of 0.02 ug/kg with 50cm^2	Negative

Tested by : Nikkie Lee, HR Kim

Notes : mg/kg = ppm = parts per million
< = Less than
N.D. = Not detected (<MDL)
MDL = Method detection limit

Remarks

1. Since the applicant could not provide the surface area of submitted sample, the result of Cr (VI) (or Cr^{6+}) will be for reference only. The Cr (VI) content test is to be conducted on pieces.

2. Definition on results of spot test
   a. Negative = Absence of Cr (VI) coating
   b. Positive = Presence of Cr (VI) coating
   * The test sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.

3. Definition on result of Boiling-water-extraction
   a. Negative = Absence of Cr (VI) coating
   b. Positive = Presence of Cr (VI) coating
   * The detection concentration in boiling-water-extraction solution is equal to or greater than 0.02 mg/kg with 50 cm^2 sample surface area.
   * A positive result indicates the presense of Cr (VI) coating. It is the Cr (VI) concentration detected in the boiling-water-extreaction solution and should not be interpreted as the Cr (VI) concentration in the coating layer of the sample.

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Report No. RT09R-S0011-002-E Date: Jan. 12, 2009

Sample ID No. : RT09R-S0011-002

Sample Description : TPCS

Test Items	Unit	Test Method	MDL	Results
Polybrominated Biphenyl (PBBs)				
Monobromobiphenyl	mg/kg	With reference to IEC 62321-111/116/FDIS, by solvent extraction and determined by GC/MS	5	N.D.
Dibromobiphenyl	mg/kg		5	N.D.
Tribromobiphenyl	mg/kg		5	N.D.
Tetrabromobiphenyl	mg/kg		5	N.D.
Pentabromobiphenyl	mg/kg		5	N.D.
Hexabromobiphenyl	mg/kg		5	N.D.
Heptabromobiphenyl	mg/kg		5	N.D.
Octabromobiphenyl	mg/kg		5	N.D.
Nonabromobiphenyl	mg/kg		5	N.D.
Decabromobiphenyl	mg/kg		5	N.D.
Polybrominated Diphenyl Ether (PBDEs)				
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321-111/116/FDIS, by solvent extraction and determined by GC/MS	5	N.D.
Dibromodiphenyl ether	mg/kg		5	N.D.
Tribromodiphenyl ether	mg/kg		5	N.D.
Tetrabromodiphenyl ether	mg/kg		5	N.D.
Pentabromodiphenyl ether	mg/kg		5	N.D.
Hexabromodiphenyl ether	mg/kg		5	N.D.
Heptabromodiphenyl ether	mg/kg		5	N.D.
Octabromodiphenyl ether	mg/kg		5	N.D.
Nonabromodiphenyl ether	mg/kg		5	N.D.
Decabromodiphenyl ether	mg/kg		5	N.D.

Tested by : Ellen Jung

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Report No. RT09R-S0011-002-E

Date: Jan. 12, 2009

Sample ID No. : RT09R-S0011-002

Sample Description : TPCS

Test Items	Unit	Test Method	MDL	Results
Bromine (Br)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	N.D.
Chlorine (Cl)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	N.D.
Lead hydrogen arsenate (as Pb and As)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	5	N.D.
Diarsenic pentaoxide (as As)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Diarsenic trioxide (as As)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Triethyl arsenate (as As)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Cobalt dichloride (as Co)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Sodium dichromate, dihydrate (as Na and Cr^{6+})	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
Hexabromocyclododecane (HBCDD)	mg/kg	With reference to US EPA 3540C, by solvent extraction and determined by GC/MS	5	N.D.
Short-chain chlorinated paraffin (SCCP)	mg/kg	With reference to US EPA 3540C, by solvent extraction and determined by GC/MS	10	N.D.
Tributyltin-Oxide (TBTO)	mg/kg	With reference to DIN 38407-13, by solvent extraction and determined by GC/MS	5	N.D.
Musk xylene	mg/kg	With reference to US EPA 3540C, by solvent extraction and determined by GC/MS	1	N.D.
Anthracene	mg/kg	With reference to US EPA 8100, by solvent extraction and determined by GC/MS	1	N.D.
4,4'-Diaminodiphenylmethane	mg/kg	With reference to EN14362 and determined by GC/MS	5	N.D.

Tested by : Nikkie Lee, Ellen Jung

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Report No. RT09R-S0011-002-E

Date: Jan. 12, 2009

Sample ID No. : RT09R-S0011-002

Sample Description : TPCS

Test Items	Unit	Test Method	MDL	Results
Dibutyl phthalate (DBP)	mg/kg	With reference to US EPA 8061A, by solvent extraction and determined by GC/MS	50	N.D.
Di(2-ethylhexyl) phthalate (DEHP)	mg/kg	With reference to US EPA 8061A, by solvent extraction and determined by GC/MS	50	N.D.
Benzyl butyl phthalate (BBP)	mg/kg	With reference to US EPA 8061A, by solvent extraction and determined by GC/MS	50	N.D.

Tested by : Ellen Jung

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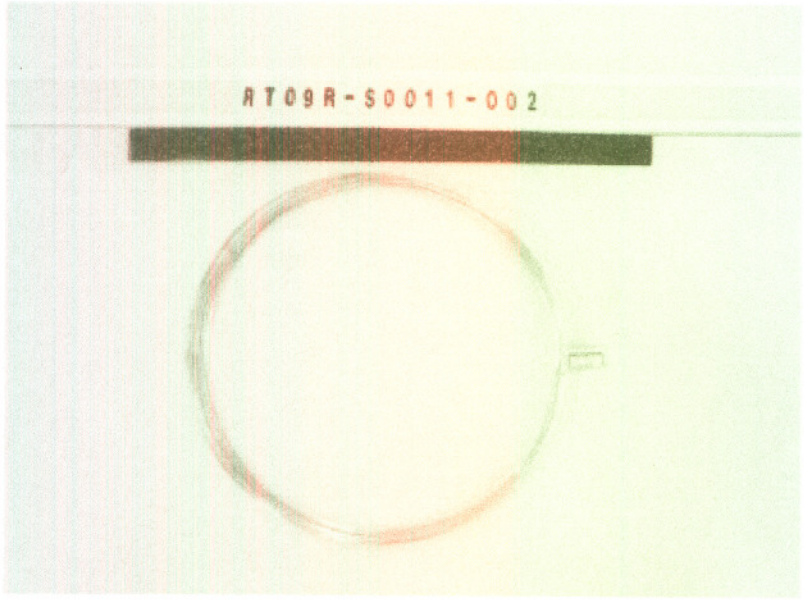
* View of sample as received,-



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