



TEST REPORT

Applicant : Kumho Petrochemical
Address : #45-25, Seongam-dong, Nam-gu,
Ulsan, 680-140 Korea

Page: 1 of 4

Report No. RT10R-U1385-003-E

Date: Jul. 09, 2010

Sample Description : The following submitted sample(s) said to be:-

Name/Type of Product : PPG 4701
Name of Material : PPG
Sample ID No. : RT10R-U1385-003
Manufacturer/Vender : Kumho Petrochemical

Sample received : Jul. 06, 2010
Testing Date : Jul. 06, 2010 ~ Jul. 09, 2010
Testing Environment : Temperature : (24 ± 2) °C, Humidity : (60 ± 5) % R.H.

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,

E.Y.Lee / Lab. Technical Manager

Authorized by,

H.W.Yoo / Lab. General Manager

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0026 Daegu Office : Tel : 053-600-8647 Fax : 053-600-8645 Web Site : www.Intertek.co.kr
Seoul Lab. Address : 1/F, A-ju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulju-Gun, Ulsan 689-865 Korea



TEST REPORT

Page: 2 of 4
Date: Jul. 09, 2010

Report No. RT10R-U1385-003-E

Sample ID No. : RT10R-U1385-003

Sample Description : PPG 4701

Test Item	Unit	Test Method	MDL	Result
Cadmium (Cd)	mg/kg	With reference to IEC 62321 Edition 1.0:2008, 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 non-metal)	mg/kg	With reference to IEC 62321 Edition 1.0:2008, by alkaline digestion and determined by UV-VIS Spectrophotometer	1	N.D.
Polybrominated Biphenyl (PBBs)				
Monobromobiphenyl	mg/kg	With reference to IEC 62321 Edition 1.0:2008, 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 Edition 1.0:2008, 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 : YK Cho, HS Kim, WH Park

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

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0026 Daegu Office : Tel : 053-600-8647 Fax : 053-600-8645 Web Site : www.Intertek.co.kr
Seoul Lab. Address : 1/F, A-ju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsan-Gun, Ulsan 689-865 Korea



TEST REPORT

Report No. RT10R-U1385-003-E

Page: 3 of 4

Date: Jul. 09, 2010

Sample ID No. : RT10R-U1385-003

Sample Description : PPG 4701

* View of sample as received;-



This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.

Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0026 Daegu Office : Tel : 053-600-8647 Fax : 053-600-8645 Web Site : www.Intertek.co.kr

Seoul Lab. Address : 1/F, A-ju Digital Tower, #284-56, Seongsu 2-ga, Seongdong-Gu, Seoul, 133-833 Korea

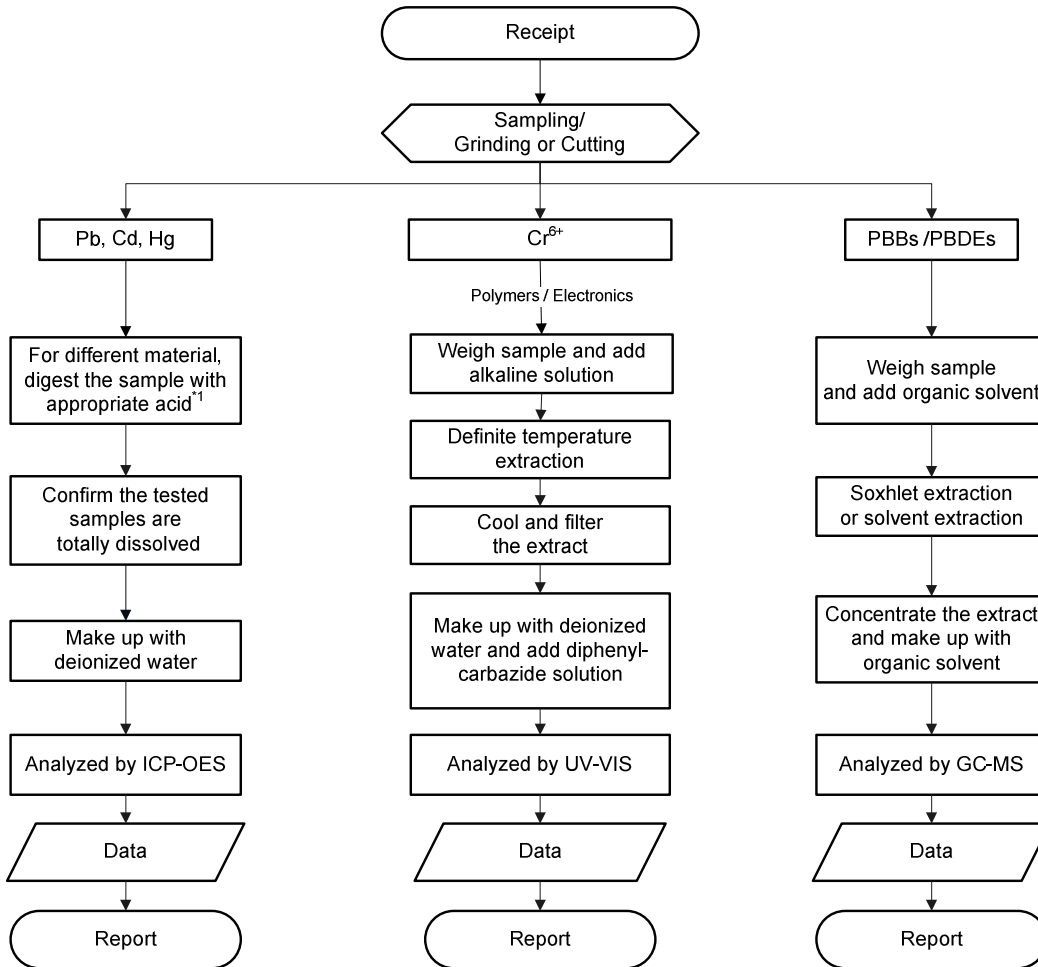
Ulsan Lab. Address : #340-2, Yongam-Ri, Chongryang-Myun, Ulsu-Gun, Ulsan 689-865 Korea



TEST REPORT

Report No. RT10R-U1385-003-E
Sample ID No. : RT10R-U1385-003
Sample Description : PPG 4701

Flow Chart
(IEC 62321 Edition 1.0 : 2008)



Remarks :

*1 : List of appropriate acid :

Material	Acid added for digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

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

This Test Report is issued by the Company subject to its Terms and Conditions of Business printed overleaf. Attention is drawn to the limitations of liability, indemnification and jurisdictional issues defined therein. This Test Report shall not be reproduced, except in full, without prior written consent of the Company.

Intertek Testing Services Korea Ltd.