

## TEST REPORT

(시험 성적서)

신청기관 (인) : 금호석유화학  
APPLICANT : Kumho Petrochemical

주소 (한글) : 울산광역시 남구 처용로 260-257  
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Ulsan 44785, Korea

발행면수 (PAGE) : 1 of 5

발행일자 (DATE) : 2018. 01. 22.

시험성적서 번호 (REPORT NO.) : RT18R-U0099-001-K

시료 명세 (SAMPLE DESCRIPTION) : 시료에 대한 상세한 정보는 아래와 같음  
(The following submitted sample(s) said to be)

제품명/형식 (NAME/TYPE OF PRODUCT) : HI 425  
(HI 425)

재질 (NAME OF MATERIAL) : HIPS  
(HIPS)

시료고유번호 (SAMPLE ID NO.) : RT18R-U0099-001  
(RT18R-U0099-001)

제품 생산자/공급자 (MANUFACTURER/VENDOR) : 금호석유화학  
(Kumho Petrochemical)

시료접수일자 (SAMPLE RECEIVED) : 2018. 01. 16.  
(Jan. 16, 2018)

시험일자 (TESTING DATE) : 2018. 01. 16. ~ 2018. 01. 22.  
(Jan. 16, 2018 ~ Jan. 22, 2018)

시험방법 (TEST METHOD) : 이 시험성적서의 다음 페이지 첨부  
(Please see the following page)

시험결과 (TEST RESULT) : 이 시험성적서의 다음 페이지 첨부  
(Please see the following page)

- 비고 (Notes): 1. 이 시험성적서는 제시된 시료 및 시료명으로 시험한 결과로서 유사 대상시료에 적용할 수 없음.  
(The test results presented in this report relate only to the object tested.)  
2. 이 시험성적서는 승인없이 복사 사용을 금함.  
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승인자 (Approved by)



이응용 / 기술책임자  
(E.Y. Lee / Lab. Technical Manager)

권한자 (Authorized by)



유환우 / 소장  
(H.W. Yoo / Lab. General Manager)



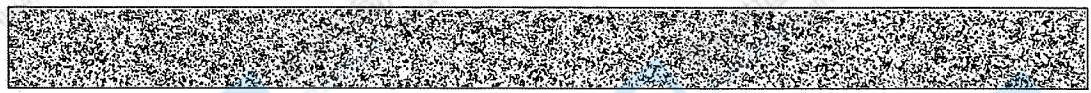
Authenticity check

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### (시험 성적서)

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시험성적서 번호 (REPORT NO.) : RT18R-U0099-001-K

발행일자 (DATE) : 2018. 01. 22.

시료고유번호 (SAMPLE ID NO.) : RT18R-U0099-001

시료명 (SAMPLE DESCRIPTION) : HI 425  
(HI 425)

시험항목 (TEST ITEM)	단위 (UNIT)	분석방법 (TEST METHOD)	검출한계 (MDL)	시험결과 (RESULT)
카드뮴 (Cadmium, Cd)	mg/kg	With reference to IEC 62321-5 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES	0.5	N.D.
납 (Lead, Pb)	mg/kg		5	N.D.
수은 (Mercury, Hg)	mg/kg	With reference to IEC 62321-4 Edition 1.0 : 2013, by acid digestion and determined by ICP-OES	2	N.D.
6가 크롬 (Hexavalent Chromium, Cr <sup>6+</sup> ) (For non-metal)	mg/kg	With reference to IEC 62321-7-2 Edition 1.0 : 2017, by alkaline/toluene digestion and determined by UV-VIS Spectrophotometer	8	N.D.
폴리브로모화비페닐 (Polybrominated Biphenyls, PBBs)				
모노브로모비페닐 (MonoBB)	mg/kg	With reference to IEC 62321-6 Edition 1.0 : 2015, by solvent extraction and determined by GC/MS	5	N.D.
다이브로모비페닐 (DiBB)	mg/kg		5	N.D.
트라이브로모비페닐 (TriBB)	mg/kg		5	N.D.
테트라브로모비페닐 (TertaBB)	mg/kg		5	N.D.
펜타브로모비페닐 (PentaBB)	mg/kg		5	N.D.
헥사브로모비페닐 (HexaBB)	mg/kg		5	N.D.
헵타브로모비페닐 (HeptaBB)	mg/kg		5	N.D.
옥타브로모비페닐 (OctaBB)	mg/kg		5	N.D.
노나브로모비페닐 (NonaBB)	mg/kg		5	N.D.
데카브로모비페닐 (DecaBB)	mg/kg		5	N.D.
폴리브로모화디페닐에테르 (Polybrominated Diphenyl Ethers, PBDEs)				
모노브로모디페닐에테르 (MonoBDE)	mg/kg	With reference to IEC 62321-6 Edition 1.0 : 2015, by solvent extraction and determined by GC/MS	5	N.D.
다이브로모디페닐에테르 (DiBDE)	mg/kg		5	N.D.
트라이브로모디페닐에테르 (TriBDE)	mg/kg		5	N.D.
테트라브로모디페닐에테르 (TetraBDE)	mg/kg		5	N.D.
펜타브로모디페닐에테르 (PentaBDE)	mg/kg		5	N.D.
헥사브로모디페닐에테르 (HexaBDE)	mg/kg		5	N.D.
헵타브로모디페닐에테르 (HeptaBDE)	mg/kg		5	N.D.
옥타브로모디페닐에테르 (OctaBDE)	mg/kg		5	N.D.
노나브로모디페닐에테르 (NonaBDE)	mg/kg		5	N.D.
데카브로모디페닐에테르 (DecaBDE)	mg/kg		5	N.D.

Tested by : JH Jin, BJ Ha, KH Kim

Notes : mg/kg = ppm = parts per million (함량 표시 : 백만분의 일)  
 < = Less than (결과 값 이하)  
 N.D. = Not detected (< MDL, 미검출 - 검출한계 이하)  
 MDL = Method detection limit (검출한계)

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## TEST REPORT (시험 성적서)

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시험성적서 번호 (REPORT NO.) : RT18R-U0099-001-K

시료고유번호 (SAMPLE ID NO.) : RT18R-U0099-001

시료명 (SAMPLE DESCRIPTION) : HI 425  
(HI 425)

시험항목 (TEST ITEM)	CAS번호 (CAS NO.)	단위 (UNIT)	분석방법 (TEST METHOD)	검출한계 (MDL)	시험결과 (RESULT)
프탈레이트 (Phthalates)					
Dibutyl phthalate (DBP)	84-74-2	mg/kg	With reference to IEC 62321-8 Edition 1.0 : 2017, by solvent extraction and determined by GC/MS	50	N.D.
Di(2-ethylhexyl) phthalate (DEHP)	117-81-7	mg/kg		50	N.D.
Benzyl butyl phthalate (BBP)	85-68-7	mg/kg		50	N.D.
Diisobutyl phthalate (DIBP)	84-69-5	mg/kg		50	N.D.

Tested by : JH Jin

Notes : mg/kg = ppm = parts per million (함량 표시 : 백만분의 일)

< = Less than (결과 값 이하)

N.D. = Not detected (< MDL, 미검출 - 검출한계 이하)

MDL = Method detection limit (검출한계)

\* 시료 접수 시 시료 상태 :  
(View of sample as received)



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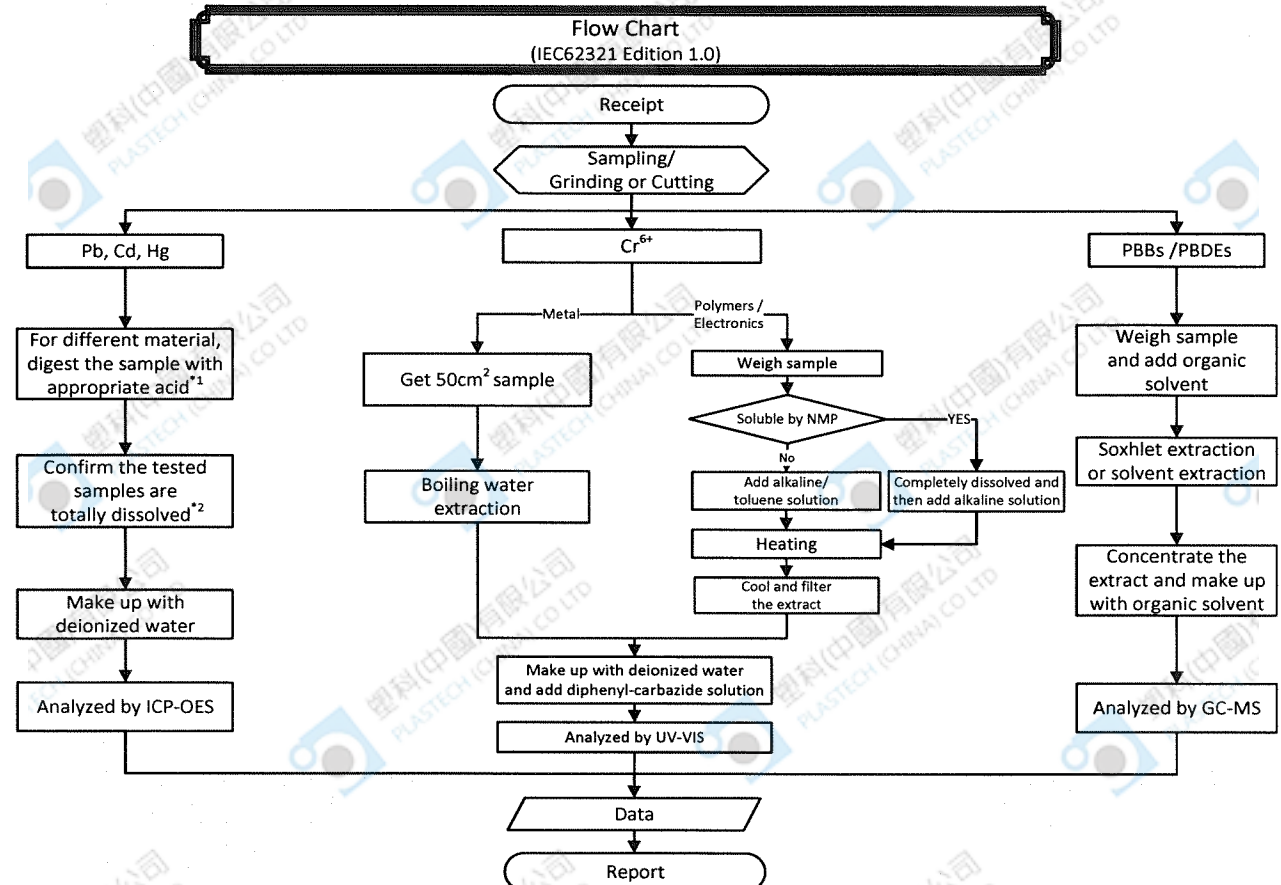
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**Remarks :**

\*1 : List of appropriate acid :

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

\*2 : The samples were dissolved totally by pre-conditioning method according to above flow chart.

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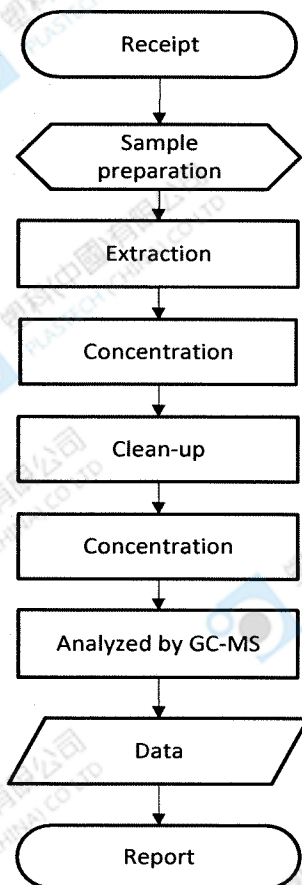
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## Flow Chart (Phthalates)



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

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