



# TEST REPORT

## (시험성적서)

신청기관 (인) : 나노테크  
Applicant : Nanotech Co., Ltd.  
주소 (한글) : 경상북도 구미시 공단동 149-3번지  
Address (Engl.) : #149-3, Gongdan-dong, Gumi-si,  
Gyeongsangbuk-do, Korea

발행면수 (Page) : 1 of 5  
발행일자 (Date) : 2012. 12. 07.

시험성적서 번호 (Report No.) : RT12R-U2247-K

시료 명세 : 시료에 대한 상세한 정보는 아래와 같음  
(Sample Description) (The following submitted sample(s) said to be)  
제품명/형식 : CLEANER  
(Name/Type of Product) (CLEANER)  
시료고유번호 : RT12R-U2247  
(Sample ID No.) (RT12R-U2247)  
품번 : NTC-095  
(Item No.) (NTC-095)  
제품 생산자/공급자 : 나노테크  
(Manufacturer/Vender) (Nanotech Co., Ltd.)  
시료접수일자 : 2012. 12. 03.  
(Sample received) (Dec. 03, 2012)  
시험일자 : 2012. 12. 03. ~ 2012. 12. 07.  
(Testing Date) (Dec. 03, 2012 ~ Dec. 07, 2012)  
시험유형 : RoHS 화학분석  
(Test Type) (RoHS wet chemical analysis)  
시험방법 : 이 시험성적서의 다음 페이지 첨부  
(Test Method) (Please see the following page)  
시험결과 : 이 시험성적서의 다음페이지에 첨부  
(Test Result) (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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3. 이 시험성적서의 품번은 고객의 요청 및 보증서에 의거하여 명기함.  
(The item no. is assigned by client and indicated according to their requirement and guarantee letter.)

승인자 (Approved by)

권한자 (Authorized by)

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

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

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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](http://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



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## (시험성적서)

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 발행일자 (Date) : 2012. 12. 07.

시험성적서 번호 (Report No.) : RT12R-U2247-K

시료고유번호 (Sample ID No.) : RT12R-U2247  
 시료명 (Sample Description) : CLEANER  
 (CLEANER)

시험항목 (Test Item)	단위 (Unit)	분석방법 (Test Method)	검출한계 (MDL)	시험결과 (Result)
카드뮴 (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.
납 (Lead, Pb)	mg/kg		5	N.D.
수은 (Mercury, Hg)	mg/kg		2	N.D.
6가 크롬 (Hexavalent Chromium, Cr <sup>6+</sup> ) (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.
폴리브로모화비페닐 (Polybrominated Biphenyls, PBBs)				
모노브로모비페닐 (MonoBB)	mg/kg	With reference to IEC 62321 Edition 1.0 : 2008, 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 Edition 1.0 : 2008, 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 : YK Cho, HJ Kim, MB Song

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.) : RT12R-U2247-K

시료고유번호 (Sample ID No.) : RT12R-U2247  
시료명 (Sample Description) : CLEANER  
(CLEANER)

시험항목 (Test Item)	단위 (Unit)	분석방법 (Test Method)	검출한계 (MDL)	시험결과 (Result)
브롬 (Bromine, Br)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	N.D.
염소 (Chlorine, Cl)	mg/kg	With reference to EN 14582, by oxygen combustion with bomb and determined by IC	30	N.D.

Tested by : YK Cho

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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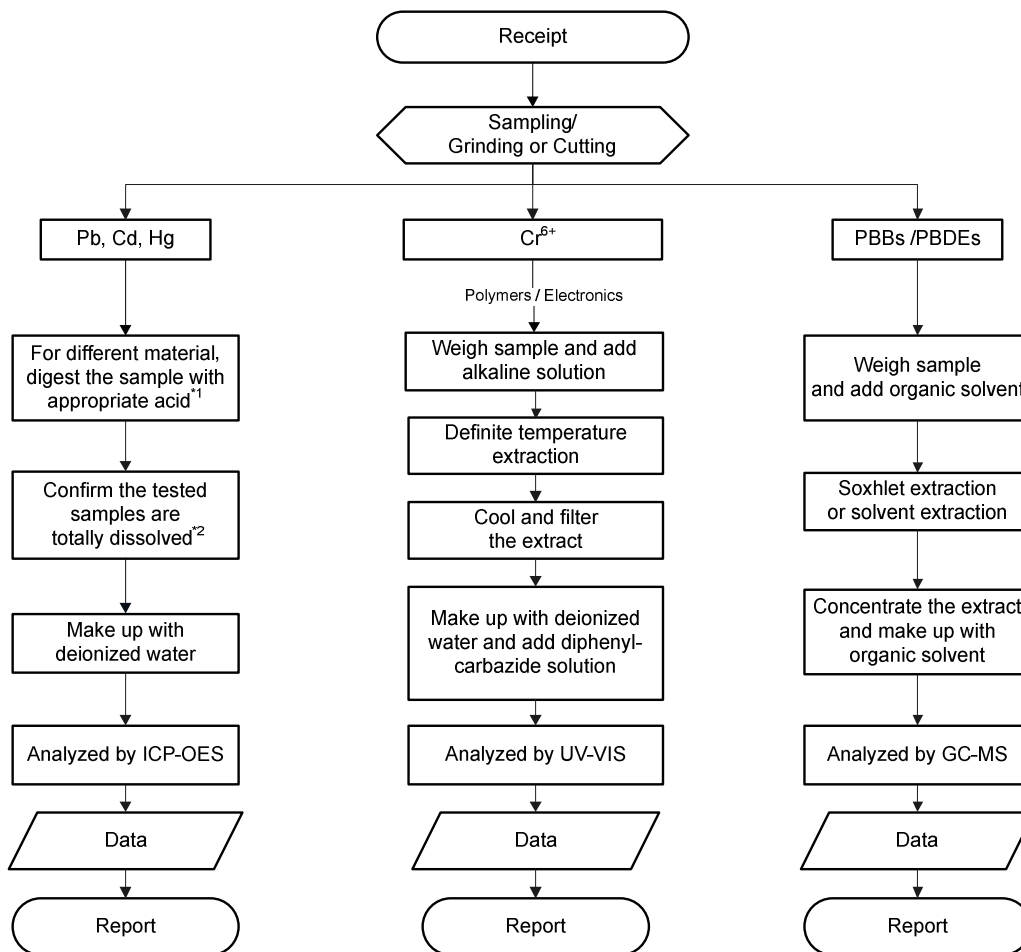
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 시료명 (Sample Description) : CLEANER  
 (CLEANER)

Flow Chart  
 (IEC 62321 Edition 1.0 : 2008)



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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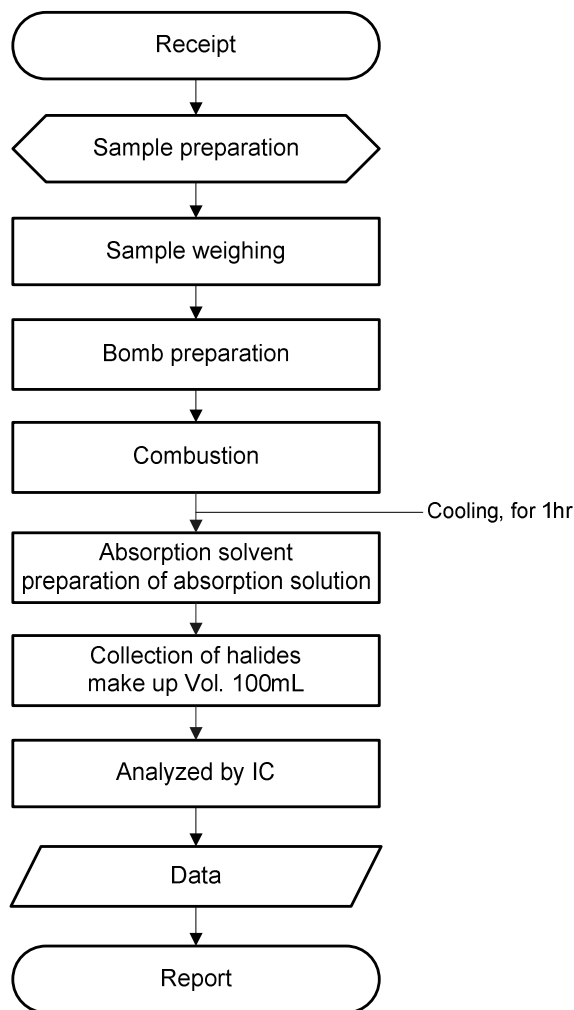
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시료고유번호 (Sample ID No.) : RT12R-U2247

시료명 (Sample Description) : CLEANER  
(CLEANER)

### Flow Chart (Halogen)



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

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