

TEST REPORT

(시험성적서)

신청기관 (인) : 효성화학(주)
APPLICANT : HYOSUNG CHEMICAL CORPORATION

주소 (한글) : 서울특별시 서초구 반포대로 235
ADDRESS (ENGL.) : 235, Banpo-daero, Seocho-gu,
Seoul, Korea

발행면수 (PAGE) : 1 of 10
발행일자 (DATE) : 2023. 02. 08.

시험성적서 번호 (REPORT NO.) : RT23R-S0672-012-K1

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

제품명/형식 : POKETONE
(NAME/TYPE OF PRODUCT) (POKETONE)

시료고유번호 : RT23R-S0672-012
(SAMPLE ID NO.) (RT23R-S0672-012)

품번 : M330A, M630A, M730A, M930A, M410A, M710A, M640A, M330F, M630F, M730F, M930F, M410F,
(ITEM NO.) M710F, M640F, M330R, M630R, M730R, M930R, M410R, M710R, M640R, M330V, M630V, M730V,
M930V, M410V, M710V, M640V, M330F-S, M630F-S, M730F-S, M930F-S, M410F-S, M710F-S,
M640F-S, M330F-L, M630F-L, M730F-L, M930F-L, M410F-L, M710F-L, M640F-L

제품 생산자/공급자 : 효성화학(주)
(MANUFACTURER/VENDOR) (HYOSUNG CHEMICAL CORPORATION)

시료접수일자 : 2023. 02. 01.
(SAMPLE RECEIVED) (Feb. 01, 2023)

시험일자 : 2023. 02. 01. ~ 2023. 02. 08.
(TESTING DATE) (Feb. 01, 2023 ~ Feb. 08, 2023)

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

시험결과 : 이 시험성적서의 다음 페이지 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 refer only to the object tested.)
2. 이 시험성적서는 승인없이 복사 사용을 금함.
(This report shall not be reproduced except in full without the written approval of the testing laboratory.)
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)



장준용/기술책임자
(Jade Jang / Lab. Technical Manager)

박병옥/소장
(Bo Park / Lab. General Manager)



Authenticity check

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시료고유번호 (SAMPLE ID NO.) : RT23R-S0672-012

시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

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 : 2013/AMD1 : 2017, by acid digestion and determined by ICP-OES	2	N.D.
6가 크롬 (Hexavalent Chromium, Cr ⁶⁺)	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.
폴리브롬화비페닐 (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.
폴리브롬화디페닐에테르 (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 : Jooyeon Lee, Chano Kim, Hayan Park

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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시험성적서 번호 (REPORT NO.) : RT23R-S0672-012-K1

시료고유번호 (SAMPLE ID NO.) : RT23R-S0672-012

시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

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.
안티몬 (Antimony, Sb)	mg/kg	With reference to US EPA 3052, by acid digestion and determined by ICP-OES	2	N.D.
헥사브로모시클로도데칸 (Hexabromocyclododecane, HBCDD)	mg/kg	With reference to IEC 62321-9 : 2021, by solvent extraction and determined by LC/MS and GC/MS	10	N.D.

Tested by : Chano Kim, Jooyeon Lee, Hayan Park

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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시험성적서 번호 (REPORT NO.) : RT23R-S0672-012-K1

시료고유번호 (SAMPLE ID NO.) : RT23R-S0672-012

시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

시험항목 (TEST ITEM)	CAS번호 (CAS NO.)	단위 (UNIT)	분석방법 (TEST METHOD)	검출한계 (MDL)	시험결과 (RESULT)
디부틸프탈레이트 (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.
디에틸헥실프탈레이트 (Di-(2-ethylhexyl) phthalate, DEHP)	117-81-7	mg/kg		50	N.D.
디엔옥틸프탈레이트 (Di-n-octyl phthalate, DNOP)	117-84-0	mg/kg		50	N.D.
디이소노닐프탈레이트 (Diisononyl phthalate, DINP)	28553-12-0 68515-48-0	mg/kg		100	N.D.
디이소데실프탈레이트 (Diisodecyl phthalate, DIDP)	26761-40-0 68515-49-1	mg/kg		100	N.D.
벤질부틸프탈레이트 (Benzyl butyl phthalate, BBP)	85-68-7	mg/kg		50	N.D.
디이소부틸프탈레이트 (Diisobutyl phthalate, DIBP)	84-69-5	mg/kg		50	N.D.
디엔헥실프탈레이트 (Di-n-hexyl phthalate, DNHP)	84-75-3	mg/kg		50	N.D.

Tested by : Hayan Park

Notes : mg/kg = ppm = parts per million (함량 표시 : 백만분의 일)
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MDL = Method detection limit (검출한계)

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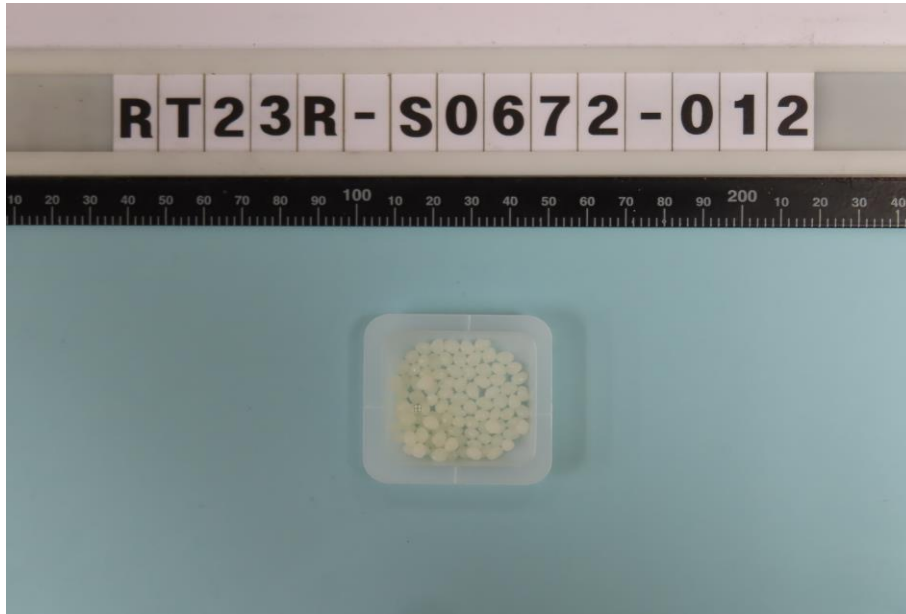
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시료고유번호 (SAMPLE ID NO.) : RT23R-S0672-012

시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

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



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(시험 성적서)

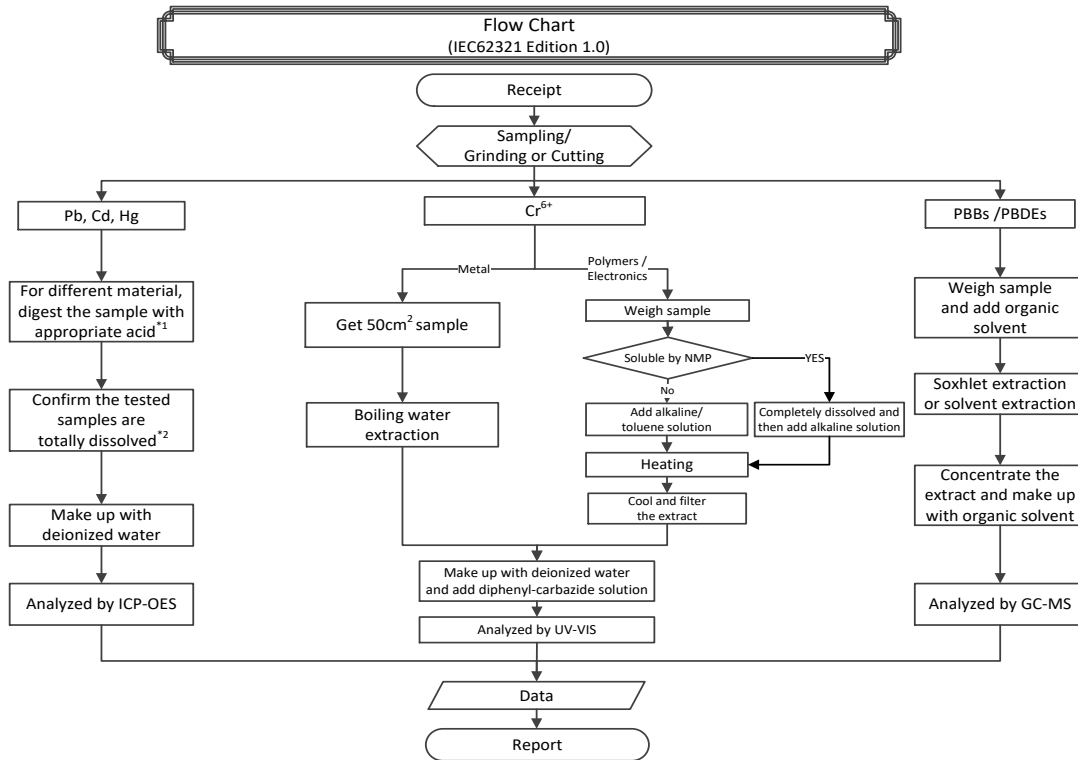
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시료고유번호 (SAMPLE ID NO.) : RT23R-S0672-012

시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)



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

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

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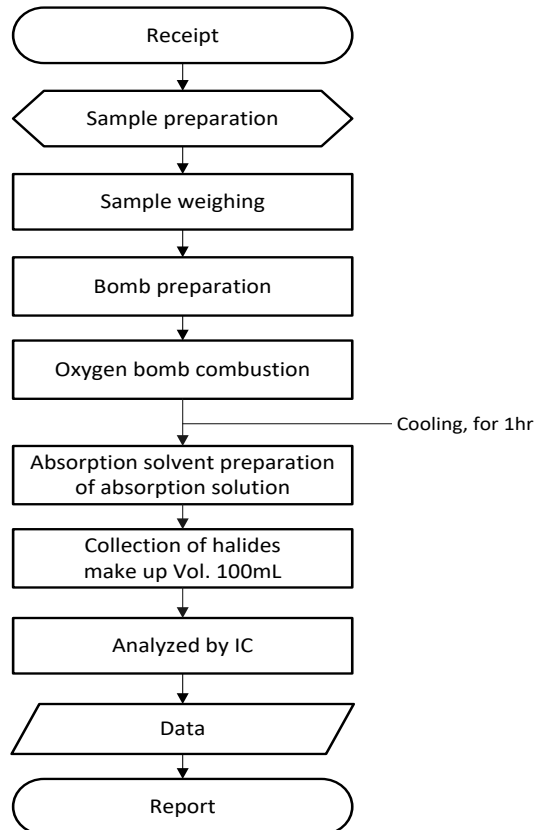
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시료고유번호 (SAMPLE ID NO.) : RT23R-S0672-012

시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

Flow Chart (EN14582)



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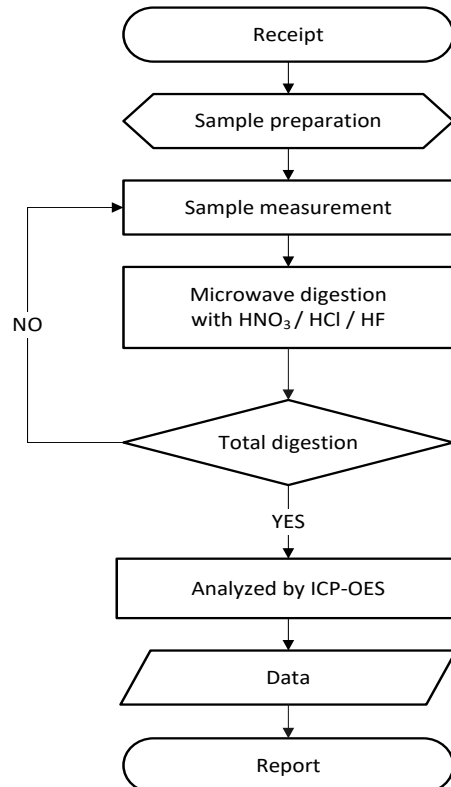
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시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

Flow Chart (Metal Testing)



** 비고 : 이 샘플은 위의 흐름도에 따른 전처리 방법에 의해 완전용해 되었음.
(The samples were dissolved totally by pre-conditioning method according to above flow chart.)

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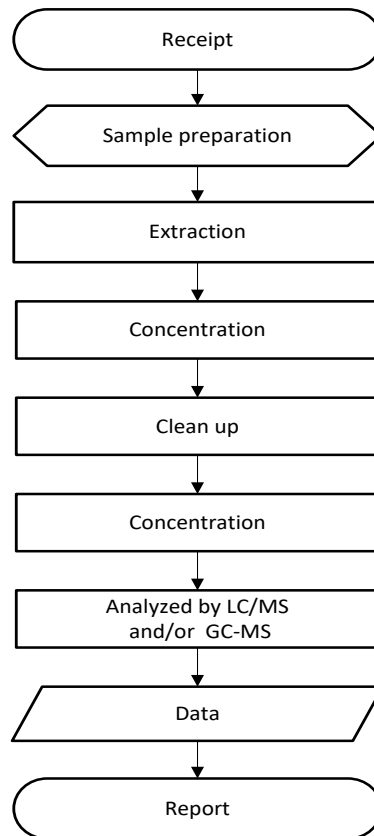
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Flow Chart (HBCDD)



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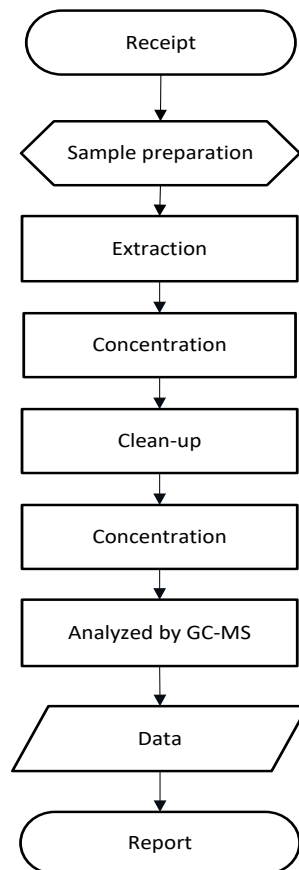
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시료명 (SAMPLE DESCRIPTION) : POKETONE
(POKETONE)

Flow Chart (Phthalates)



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

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