TEST REPORT
(测试报告件)

申请公司(APPLICANT) : SAMSUNG ELECTRO-MECHANICS

公司住所(ADDRESS) : 150, Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, Korea

报告号(REPORT NO.) : RT23R-S6381-082-C1 日期(DATE) : 2023 年 10 月 30 日

样品描述(SAMPLE DESCRIPTION) :

样品名称 (NAME/TYPE OF PRODUCT)	: POWER INDUCTOR CIGW TYPE
样品编号 (SAMPLE ID NO.)	: RT23R-S6381-082
生产商/贸易商 (MANUFACTURER/VENDOR)	: SAMSUNG ELECTRO-MECHANICS
样品收到日期 (SAMPLE RECEIVED)	: 2023年 10月10日
测试进行日期 (TESTING DATE)	: 2023年 10月10日至 2023年 10月30日
测试方法 (TEST METHOD(S))	: 参考续页. : Please see the following page(s).
测试结果 (TEST RESULT(S))	: 参考续页. : Please see the following page(s).

注1：检测结果只是针对来样所做的测试.
(Note 1 : The test results presented in this report relate only to the object tested.)

注2：未经测试实验室书面允许，报告不能被部分复制.
(Note 2 : This report shall not be reproduced except in full without the written approval of the testing laboratory.)

测试 (Approved by) :

Jade Jang / 测试负责人

批准 (Authorized by) :

Bo Park / 实验室经理

Authenticity check

Intertek Testing Services Korea Ltd.
Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0025 Web Site : intertek.co.kr
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样品名称(SAMPLE DESCRIPTION) : POWER INDUCTOR CIGW TYPE

测试项目 (TEST ITEM)	单位 (UNIT)	测试方法 (TEST METHOD)	报告限量值 (MDL)	结果 (RESULT)
镉 (Cadmium, Cd)	mg/kg	参照 IEC 62321-5 Edition 1.0 : 2013, 用 ICP-OES 进行的分析	0.5	N.D.
铅 (Lead, Pb)	mg/kg		5	N.D.
汞 (Mercury, Hg)	mg/kg	参照 IEC 62321-4 : 2013/AMD1 : 2017, 用 ICP-OES 进行的分析	2	N.D.
六价铬 (Hexavalent Chromium, Cr^{6+})	mg/kg	参照 IEC 62321-7-2 Edition 1.0 : 2017, by alkaline/toluene digestion 用 UV-VIS Spectrophotometer 进行的分析	8	N.D.
多溴联苯 (Polybrominated Biphenyl, PBBs)				
一溴联苯 (Monobromobiphenyl)	mg/kg	参照 IEC 62321-6 Edition 1.0 : 2015, 用 GC/MS 进行的分析	5	N.D.
二溴联苯 (Dibromobiphenyl)	mg/kg		5	N.D.
三溴联苯 (Tribromobiphenyl)	mg/kg		5	N.D.
四溴联苯 (Tetrabromobiphenyl)	mg/kg		5	N.D.
五溴联苯 (Pentabromobiphenyl)	mg/kg		5	N.D.
六溴联苯 (Hexabromobiphenyl)	mg/kg		5	N.D.
七溴联苯 (Heptabromobiphenyl)	mg/kg		5	N.D.
八溴联苯 (Octabromobiphenyl)	mg/kg		5	N.D.
九溴联苯 (Nonabromobiphenyl)	mg/kg		5	N.D.
十溴联苯 (Decabromobiphenyl)	mg/kg		5	N.D.
多溴联苯醚 (Polybrominated Diphenyl Ether, PBDEs)				
一溴联苯醚 (Monobromodiphenyl ether)	mg/kg	参照 IEC 62321-6 Edition 1.0 : 2015, 用 GC/MS 进行的分析	5	N.D.
二溴联苯醚 (Dibromodiphenyl ether)	mg/kg		5	N.D.
三溴联苯醚 (Tribromodiphenyl ether)	mg/kg		5	N.D.
四溴联苯醚 (Tetrabromodiphenyl ether)	mg/kg		5	N.D.
五溴联苯醚 (Pentabromodiphenyl ether)	mg/kg		5	N.D.
六溴联苯醚 (Hexabromodiphenyl ether)	mg/kg		5	N.D.
七溴联苯醚 (Heptabromodiphenyl ether)	mg/kg		5	N.D.
八溴联苯醚 (Octabromodiphenyl ether)	mg/kg		5	N.D.
九溴联苯醚 (Nonabromodiphenyl ether)	mg/kg		5	N.D.
十溴联苯醚 (Decabromodiphenyl ether)	mg/kg		5	N.D.

Tested by : Jooyeon Lee, Chano Kim, Hayan Park

注释 (Notes) : mg/kg = ppm = 百万分之一 (parts per million)
< = 小于 (Less than)
N.D.= 未检出 (Not detected (<MDL))
MDL = 报告限量值 (Method detection limit)

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样品名称(SAMPLE DESCRIPTION) : POWER INDUCTOR CIGW TYPE

测试项目 (TEST ITEM)	单位 (UNIT)	测试方法 (TEST METHOD)	报告限量值 (MDL)	结果 (RESULT)
溴 (Bromine, Br)	mg/kg	参考 EN 14582, IC 测试定量	30	N.D.
氯 (Chlorine, Cl)	mg/kg	参考 EN 14582, IC 测试定量	30	N.D.
砷 (Arsenic, As)	mg/kg	参考 US EPA 3052, 酸消化法处理样品, ICP-OES 测试定量	2	N.D.
铍 (Beryllium, Be)	mg/kg	参考 US EPA 3052, 酸消化法处理样品, ICP-OES 测试定量	2	N.D.
锑 (Antimony, Sb)	mg/kg	参考 US EPA 3052, 酸消化法处理样品 , ICP-OES 测试定量	2	N.D.
聚氯乙烯 (Polyvinyl chloride, PVC)	-	参考 KS K 0210-1, FT-IR 测试定量	N.A.	Negative

Tested by : Chano Kim, Jooyeon Lee

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N.A. = 不适用 (Not applicable)

Negative = Undetectable

Positive = Detectable

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测试项目 (TEST ITEM)	单位 (UNIT)	测试方法 (TEST METHOD)	报告限量值 (MDL)	结果 (RESULT)
六溴环十二烷 (Hexabromocyclododecane, HBCDD)	mg/kg	参考 IEC 62321-9 : 2021, 溶剂萃取法, LC/MS 和 GC/MS 测试定量	10	N.D.
SCCP (Short-chain chlorinated paraffin)	mg/kg	参考 US EPA 3540C, 溶剂萃取法, LC/MS/MS 和/或 GC/ECD 测试定量	100	N.D.
PCBs (Polychlorinated biphenyls)	mg/kg	参考 US EPA 3540C/8082, 溶剂萃取法, GC/MS 测试定量	5	N.D.
PCTs (Polychlorinated terphenyls)	mg/kg	参考 US EPA 3540C, 溶剂萃取法, GC/MS 测试定量	5	N.D.
PCNs (Polychlorinated naphthalenes)	mg/kg	参考 US EPA 3540C, 溶剂萃取法, GC/MS 测试定量	5	N.D.
PCP (Pentachlorophenol)	mg/kg	参考 ISO 17070, GC/MS 测试定量	5	N.D.
PFOA (Perfluorooctanoic acid)	mg/kg	参考 US EPA 3550C/8321B, 超声萃取法, LC/MS 或 LC/MS/MS 测试定量	0.025	N.D.
PFOS (Perfluorooctane sulfonate)	mg/kg	参考 US EPA 3550C/8321B, 超声萃取法, LC/MS 或 LC/MS/MS 测试定量	0.1	N.D.

Tested by : Hayan Park

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测试项目 (TEST ITEM)	CAS 数 (CAS NO.)	单位 (UNIT)	测试方法 (TEST METHOD)	报告限量值 (MDL)	结果 (RESULT)
邻苯二甲酸酯 (Phthalates)					
邻苯二甲酸二丁酯 (Di-n-butyl Phthalate, DBP)	84-74-2	mg/kg	参考 IEC 62321-8 Edition 1.0 : 2017, 溶剂萃取法, 气相色谱/质谱联用仪 测试定量	50	N.D.
邻苯二甲酸二(2-乙基已基)酯 (Di(2-ethyl hexyl) phthalate, DEHP)	117-81-7	mg/kg		50	N.D.
邻苯二甲酸二辛酯 (Di-n-octyl phthalate, DNOP)	117-84-0	mg/kg		50	N.D.
邻苯二甲酸二异壬酯 (Diisononyl phthalate, DINP)	28553-12-0 68515-48-0	mg/kg		100	N.D.
邻苯二甲酸二异葵酯 (Diisodecyl phthalate, DIDP)	26761-40-0 68515-49-1	mg/kg		100	N.D.
邻苯二甲酸丁酯苯甲酯 (Benzyl butyl phthalate, BBP)	85-68-7	mg/kg		50	N.D.
邻苯二甲酸二异丁酯 (Diisobutyl phthalate, DIBP)	84-69-5	mg/kg		50	N.D.
酞酸二甲酯 (Dimethyl phthalate, DMP)	131-11-3	mg/kg		50	N.D.
酞酸二乙酯 (Diethyl phthalate, DEP)	84-66-2	mg/kg		50	N.D.
邻苯二甲酸二戊酯 (Di-n-pentyl phthalate, DPP)	131-18-0	mg/kg		50	N.D.
邻苯二甲酸二己酯 (Di-n-hexyl phthalate, DNHP)	84-75-3	mg/kg		50	N.D.
邻苯二甲酸二 C6-8 支鏈烷基酯(富 C7) (1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich, DIHP)	71888-89-6	mg/kg		50	N.D.

Tested by : Hayan Park

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测试项目 (TEST ITEM)	CAS 数 (CAS NO.)	单位 (UNIT)	测试方法 (TEST METHOD)	报告限量值 (MDL)	结果 (RESULT)
1,2-鄰苯二酸二(C7-11 支鏈與直鏈)烷酯 (1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters, DHNUP)	68515-42-4	mg/kg	参考 IEC 62321-8 Edition 1.0 : 2017, 溶剂萃取法, 气相色谱/质谱联用仪 测试定量	50	N.D.
鄰苯二甲酸二甲氧乙酯 (Di(2-methoxyethyl) phthalate, DMEP)	117-82-8	mg/kg		50	N.D.
鄰苯二甲酸二異戊酯 (Diisopentylphthalate, DIPP)	605-50-5	mg/kg		50	N.D.
邻苯二甲酸正戊基异戊基酯 (N-pentyl-isopentylphthalate, NPIP)	776297-69-9	mg/kg		50	N.D.
邻苯二甲酸二环己酯 (Dicyclohexyl phthalate, DCHP)	84-61-7	mg/kg		50	N.D.
邻苯二甲酸二(2-丙基庚基)酯 (Dipropylheptyl phthalate, DPHP)	53306-54-0	mg/kg		50	N.D.

Tested by : Hayan Park

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* 样品相片; -

(View of sample as received;-)



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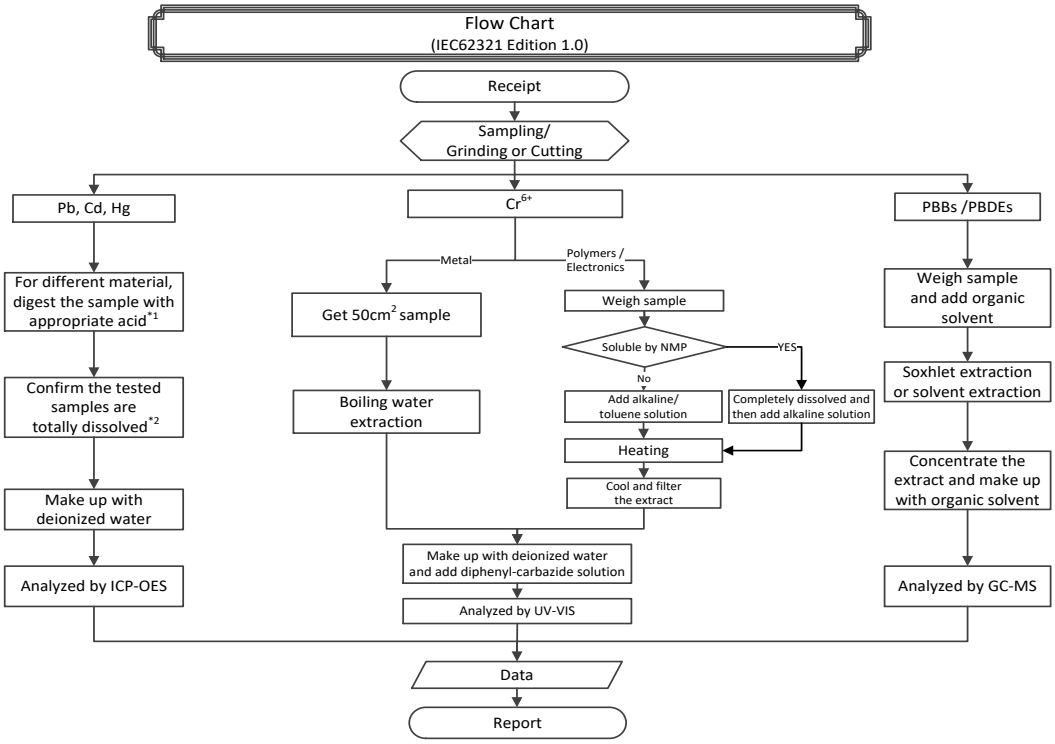
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Remarks :

*1 : List of appropriate acid :

Material	Acid added for digestion
Polymers	HNO_3, HCl, HF, H_2O_2, $H3BO_3$
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

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

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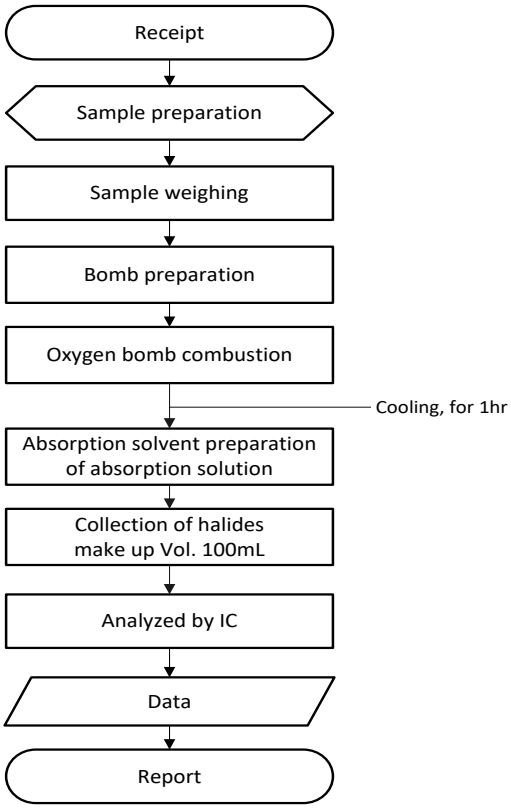
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Flow Chart (EN14582)



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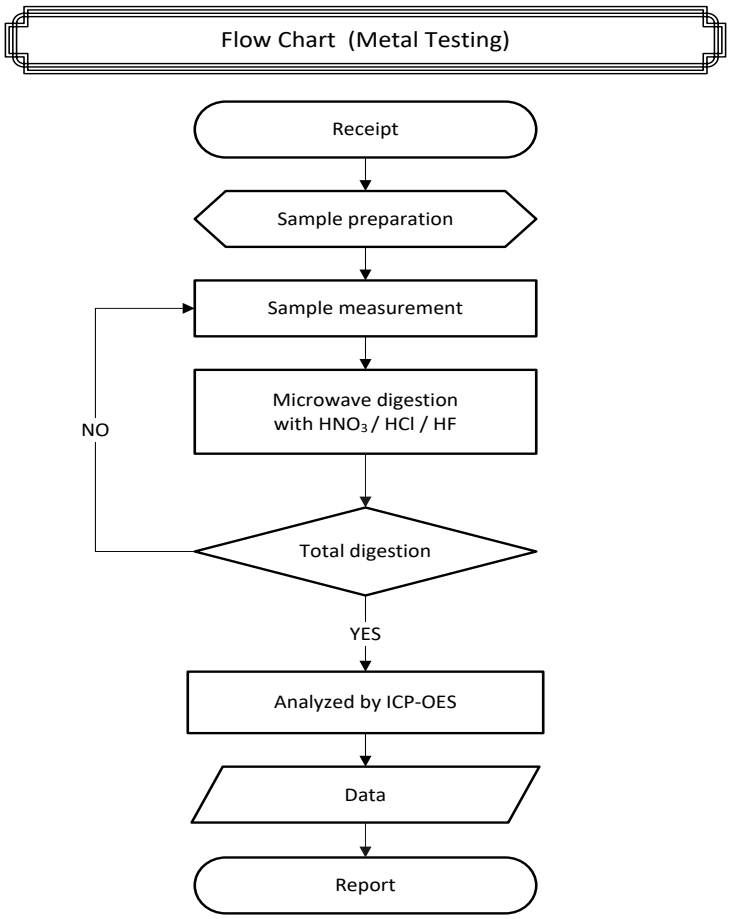
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** Remarks : The samples were dissolved totally by pre-conditioning method according to above flow chart.

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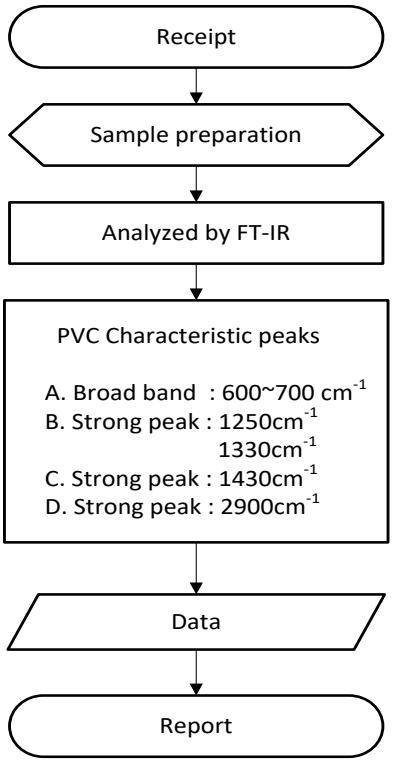
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Flow Chart (PVC)



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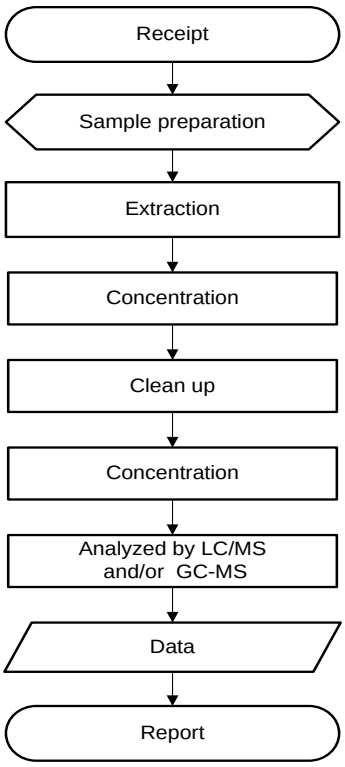
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Flow Chart (HBCDD)



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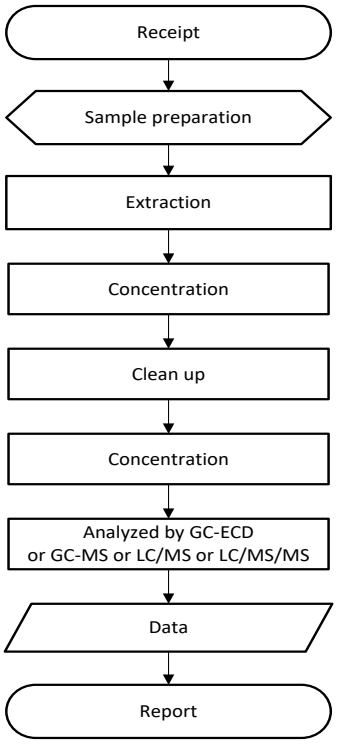
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Flow Chart (EPA 3540C)



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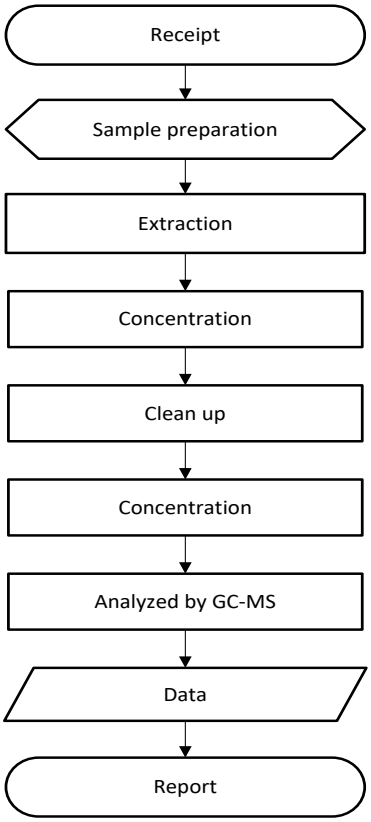
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Flow Chart (PCB, PCT, PCN)



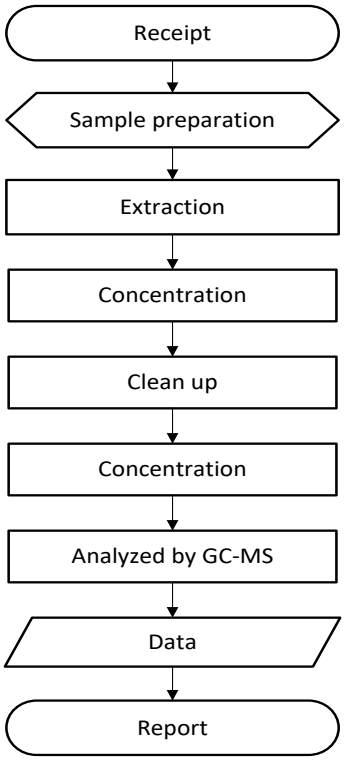
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样品编号(SAMPLE ID NO.) : RT23R-S6381-082
样品名称(SAMPLE DESCRIPTION) : POWER INDUCTOR CIGW TYPE

Flow Chart (PCP)



Intertek Testing Services Korea Ltd.
Seoul Office: Tel : 02-6090-9500 Fax : 02-3409-0025 Web Site : intertek.co.kr
Seoul Lab. Address : 7, Achasan-ro 5-gil, Seongdong-gu, Seoul, 04793 Korea

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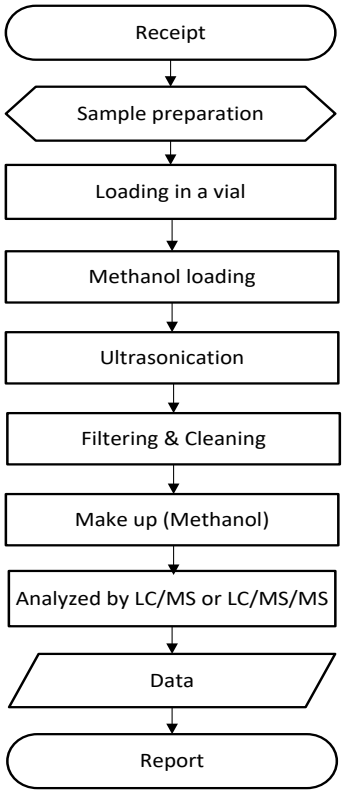
TEST REPORT
(测试报告件)

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Flow Chart (PFOS, PFOA)



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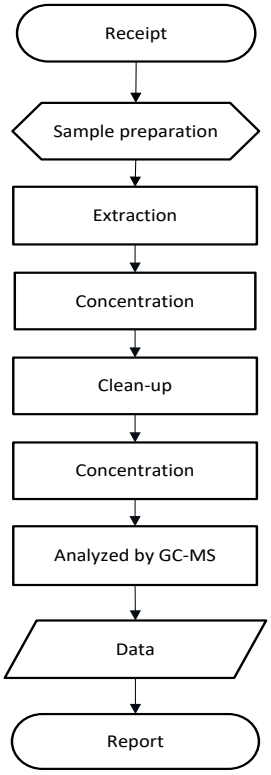
TEST REPORT
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样品名称(SAMPLE DESCRIPTION) : POWER INDUCTOR CIGW TYPE

Flow Chart (Phthalates)



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