



测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 1 页,共 10 页 Page 1 of 10

委托单位 Applicant: 立隆电子(惠州)有限公司/立隆电子(苏州)有限公司/立隆电子工业股份有限公司
Lelon Electronics(Huizhou)Co.,Ltd./Lelon Electronics(Suzhou)Co.,Ltd/Lelon Electronics Corp.

委托单位提供样品信息如下 The following sample(s) was/were submitted and identified on behalf of the client as:

样品名称 Sample Name: 超级电容器 super capacitor
样品型号 Sample Model: 扣式 Coin type
样品来源 Sample Source: 送样 Send Sample

样品接收日期 Sample Received Date: 2023-04-28
样品测试日期 Test Period: 2023-04-28~2023-05-06

测试要求 Test Requested: RoHS 2011/65/EU 及修订指令(EU)2015/863 附录 II 的要求
RoHS Directive 2011/65/EU & (EU)2015/863 Annex II

- 测试依据 Test Methods:
- (1) IEC 62321-5 Edition 1.0:2013 的方法, 用原子吸收光谱仪测定铅的含量
IEC 62321-5 Edition 1.0:2013 method, Lead Analysis is performed by AAS
 - (2) IEC 62321-5 Edition 1.0:2013 的方法, 用原子吸收光谱仪测定镉的含量
IEC 62321-5 Edition 1.0:2013 method, Cadmium Analysis is performed by AAS
 - (3) IEC 62321-4:2013+AMD1:2017 CSV 的方法, 用电感耦合等离子体发射光谱仪测定汞的含量
IEC 62321-4:2013+AMD1:2017 CSV method, Mercury Analysis is performed by ICP-OES
 - (4) IEC 62321-7-1 Edition 1.0:2015 的方法, 用紫外-可见分光光度计测定六价铬的含量
IEC62321-7-1 Edition 1.0:2015 method, Hexavalent Chromium analysis is performed by UV-Vis
IEC 62321-7-2 Edition 1.0:2017 的方法, 用紫外-可见分光光度计测定六价铬的含量
IEC62321-7-2 Edition 1.0:2017 method, Hexavalent Chromium analysis is performed by UV-Vis
 - (5) IEC 62321-6 Edition 1.0:2015 的方法, 用气相色谱质谱联用仪测定多溴联苯和多溴二苯醚的含量
IEC 62321-6 Edition 1.0:2015 method, PBBs and PBDEs Analysis is performed by GC-MS
 - (6) IEC 62321-8 Edition 1.0:2017 的方法, 用气相色谱质谱联用仪测定邻苯二甲酸酯类的含量
IEC 62321-8 Edition 1.0:2017 method, Phthalate analysis is performed by GC-MS

测试结果 Test Result: 请参见下页 Please refer to next page(s)

编制 (Edited by):

慈双双

审核 (Checked by):

张天宇

批准 (Approved by):

慈双双

签发日期 (Issued Date):

2023-05-19



张耀强

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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 2 页,共 10 页 Page 2 of 10

测试结果 Test Result (单位 Unit: mg/kg)

样品编号及名称 Sample No.&Name: B2985257D3 超级电容器 Super Capacitor

零件清单:

样品编号 Sample Number	零件名称 Part Name
1	电极 electrode
2	壳 case
3	盖 cap
3-1	金属 metal
3-2	非金属 non-metal
4	引脚 terminal
5	套管 sleeve
6	连接座 connector
7	隔膜 separator
8	电解液 electrolyte

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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 3 页,共 10 页 Page 3 of 10
测试结果 Test Result (单位 Unit: mg/kg)

测试项目 Test Item		方法检出限 MDL	样品编号和测试结果 Sample Number&Test Result					RoHS 限量 RoHS Limit
			1	2	3-1	3-2	4	
铅 Lead (Pb)		1	N.D.	N.D.	N.D.	N.D.	N.D.	1000
镉 Cadmium (Cd)		1	N.D.	N.D.	N.D.	N.D.	N.D.	100
汞 Mercury (Hg)		1	N.D.	N.D.	N.D.	N.D.	N.D.	1000
六价铬 Hexavalent Chromium (Cr ⁶⁺)	非金属 NON-META	8	N.D.	/	/	N.D.	/	1000
	金属 METAL	参见备注(4) See Note (4)	/	阴性 Negative	阴性 Negative	/	阴性 Negative	—
多溴联苯之和 Sum of PBBs		—	N.D.	/	/	N.D.	/	1000
一溴联苯 Bromobiphenyl		5	N.D.	/	/	N.D.	/	—
二溴联苯 Dibromobiphenyl		5	N.D.	/	/	N.D.	/	—
三溴联苯 Tribromobiphenyl		5	N.D.	/	/	N.D.	/	—
四溴联苯 Tetrabromobiphenyl		5	N.D.	/	/	N.D.	/	—
五溴联苯 Pentabromobiphenyl		5	N.D.	/	/	N.D.	/	—
六溴联苯 Hexabromobiphenyl		5	N.D.	/	/	N.D.	/	—
七溴联苯 Heptabromobiphenyl		5	N.D.	/	/	N.D.	/	—
八溴联苯 Octabromobiphenyl		5	N.D.	/	/	N.D.	/	—
九溴联苯 Nonabromobiphenyl		5	N.D.	/	/	N.D.	/	—
十溴联苯 Decabromobiphenyl		5	N.D.	/	/	N.D.	/	—
多溴二苯醚之和 Sum of PBDEs		—	N.D.	/	/	N.D.	/	1000
一溴二苯醚 Bromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
二溴二苯醚 Dibromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
三溴二苯醚 Tribromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
四溴二苯醚 Tetrabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
五溴二苯醚 Pentabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
六溴二苯醚 Hexabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
七溴二苯醚 Heptabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
八溴二苯醚 Octabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
九溴二苯醚 Nonabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—
十溴二苯醚 Decabromodiphenyl ether		5	N.D.	/	/	N.D.	/	—

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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 4 页, 共 10 页 Page 4 of 10
测试结果 Test Result (单位 Unit: mg/kg)

测试项目 Test Item	方法检出限 MDL	样品编号和测试结果 Sample Number&Test Result				RoHS 限量 RoHS Limit	
		5	6	7	8		
铅 Lead (Pb)	1	N.D.	N.D.	N.D.	N.D.	1000	
镉 Cadmium (Cd)	1	N.D.	N.D.	N.D.	N.D.	100	
汞 Mercury (Hg)	1	N.D.	N.D.	N.D.	N.D.	1000	
六价铬 Hexavalent Chromium (Cr ⁶⁺)	非金属 NON-META	8	N.D.	/	N.D.	N.D.	1000
	金属 METAL	参见备注(4) See Note (4)	/	阴性 Negative	/	/	—
多溴联苯之和 Sum of PBBs	—	N.D.	/	N.D.	N.D.	1000	
一溴联苯 Bromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
二溴联苯 Dibromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
三溴联苯 Tribromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
四溴联苯 Tetrabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
五溴联苯 Pentabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
六溴联苯 Hexabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
七溴联苯 Heptabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
八溴联苯 Octabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
九溴联苯 Nonabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
十溴联苯 Decabromobiphenyl	5	N.D.	/	N.D.	N.D.	—	
多溴二苯醚之和 Sum of PBDEs	—	N.D.	/	N.D.	N.D.	1000	
一溴二苯醚 Bromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
二溴二苯醚 Dibromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
三溴二苯醚 Tribromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
四溴二苯醚 Tetrabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
五溴二苯醚 Pentabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
六溴二苯醚 Hexabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
七溴二苯醚 Heptabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
八溴二苯醚 Octabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
九溴二苯醚 Nonabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	
十溴二苯醚 Decabromodiphenyl ether	5	N.D.	/	N.D.	N.D.	—	

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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 5 页,共 10 页 Page 5 of 10

测试结果 Test Result (单位 Unit: mg/kg)

测试项目 Test Item	CAS 号 CAS Number	方法检出限 MDL	样品编号和测试结果 Sample Number&Test Result					RoHS 限量 RoHS Limit
			1	2	3-1	3-2	4	
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	117-81-7	30	N.D.	/	/	N.D.	/	1000
邻苯二甲酸二丁酯 (DBP)	84-74-2	30	N.D.	/	/	N.D.	/	1000
邻苯二甲酸苝基丁酯 (BBP)	85-68-7	30	N.D.	/	/	N.D.	/	1000
邻苯二甲酸二异丁酯 (DIBP)	84-69-5	30	N.D.	/	/	N.D.	/	1000

测试项目 Test Item	CAS 号 CAS Number	方法检出限 MDL	样品编号和测试结果 Sample Number&Test Result				RoHS 限量 RoHS Limit
			5	6	7	8	
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	117-81-7	30	N.D.	/	N.D.	N.D.	1000
邻苯二甲酸二丁酯 (DBP)	84-74-2	30	N.D.	/	N.D.	N.D.	1000
邻苯二甲酸苝基丁酯 (BBP)	85-68-7	30	N.D.	/	N.D.	N.D.	1000
邻苯二甲酸二异丁酯 (DIBP)	84-69-5	30	N.D.	/	N.D.	N.D.	1000

备注 Note:

- (1) mg/kg = ppm
- (2) “—”= 未规定 Does not stipulate
- (3) 最大允许极限值引用 RoHS 2011/65/EU 及修订指令(EU)2015/863 附录 II 的要求
The most allowable limit value reference to RoHS Directive 2011/65/EU & (EU)2015/863 Annex II
- (4) 沸水萃取测试:
Boiling water extraction test:
<0.10 µg/cm² 以阴性表示, 即镀层中不存在六价铬
<0.10 µg/cm² expressed as “negative” results, indicates without hexavalent chromium in the plating
0.10 µg/cm² ~0.13µg/cm² 无法判定镀层中是否存在六价铬, 需进一步确定。
0.10 µg/cm²~0.13 µg/cm² expressed as “not confirmative”, indicates that it can not be confirmative for the presence of hexavalent chromium in the plating, further test is needed.
>0.13 µg/cm² 以阳性表示, 即镀层中存在六价铬。
>0.13 µg/cm² expressed as “positive”, indicates that hexavalent chromium is detected in the plating.
- (5) 未检出 (<方法检出限) N.D.=Not Detected (<MDL)
- (6) 根据委托单位声明, 引用数据的样品材质相同, PONY 不负责该信息的真实性, 此报告中的测试数据或结果引自于对应报告编号 B2985237D3 的测试数据或结果。
According to the statement of the applicant, the sample material of the quoted data is the same, PONY is not responsible for the authenticity of this information, the test data or results in this report are from the test data or results of the corresponding report No.B2985237D3.
- (7) 此报告替代编号 BRCWBOTB2985257D3 (2023-05-06 签发) 测试报告, 原编号 BRCWBOTB2985257D3 测试报告作废, 不具有任何法律效力, 以此报告为准。 2023-05-19
This test report is to replace the test report No. BRCWBOTB2985257D3 (Issued by 2023-05-06) The No. BRCWBOTB2985257D3 test report is invalid and of no legal effect. All related information should be referred to the new test report.2023-05-19

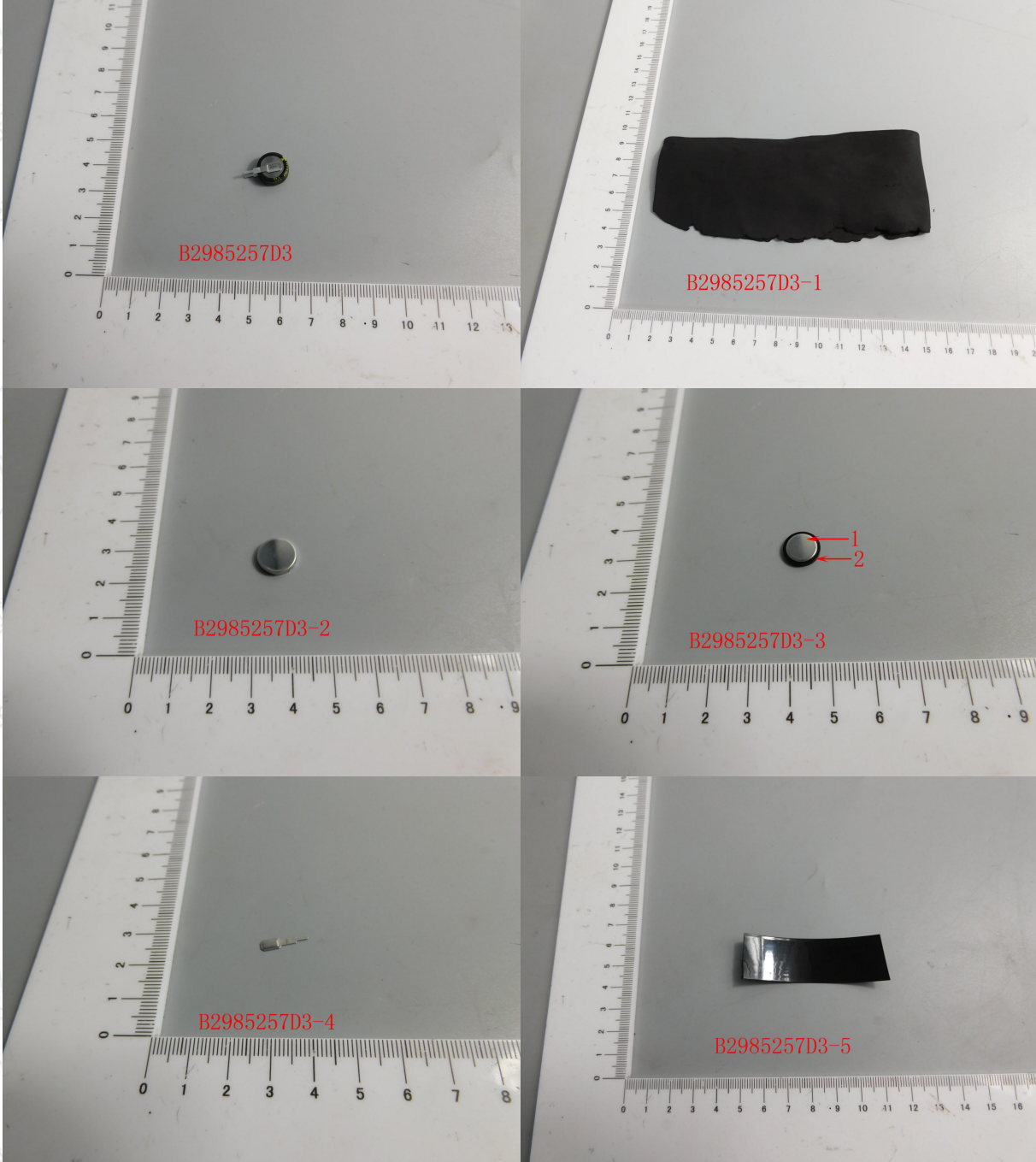
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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 6 页, 共 10 页 Page 6 of 10

样品编号和照片 Sample No. & Photo:



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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 7 页, 共 10 页 Page 7 of 10

样品编号和照片 Sample No. & Photo:



仅对报告照片中的样品负责 Pony authenticate the photo on original report only

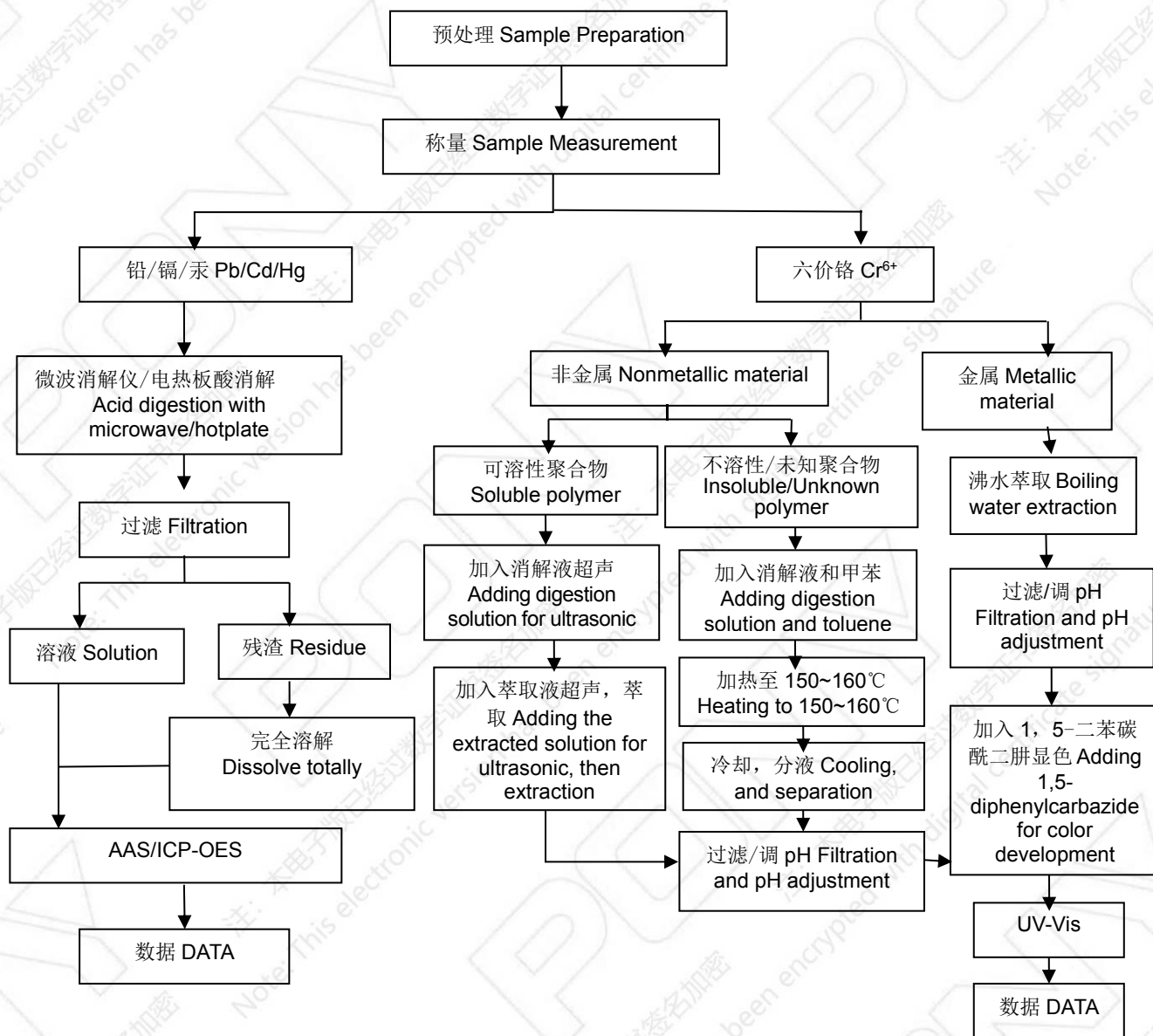
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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 8 页, 共 10 页 Page 8 of 10
测试流程图 Measurement Flow-chart

样品按照下述流程被完全消解 (六价铬除外)。
These Samples Were Dissolved Totally By Pre-conditioning Method According To Below Flow Chart.
(Cr⁶⁺ Test Method Excluded)



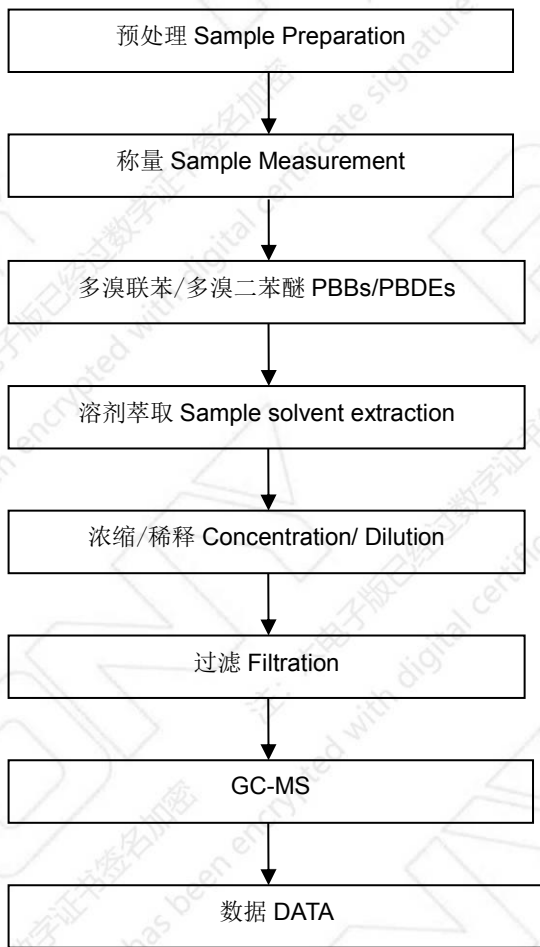
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测试报告 Test Report NO.: BRCWBOTB2985257D3a 签发日期 Issued Date: 2023-05-19 第 9 页,共 10 页 Page 9 of 10

测试流程图 Measurement Flow-chart

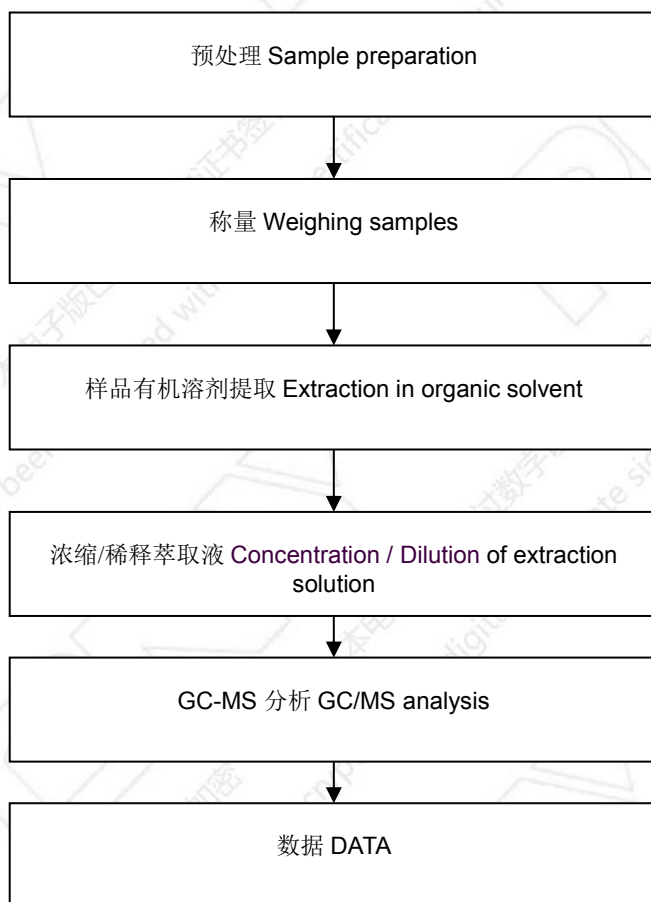


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邻苯二甲酸酯类测试流程 Phthalate Flow Chart



报告结束 End of Report

