



检测报告(Test Report)

报告编号(Report No.): WTH22H07136370C

日期(Date): 2022/7/12

页数(Page): 1 of 12

委托单位: 深圳市鑫唐电子科技有限公司

Applicant: Shenzhen City Xintang Electronic Technology Co., Ltd.

单位地址: 深圳市宝安区新安街道安乐社区翻身路 63 石鸿花园 D 座 26B

Address: 26B, Block D, Shihong Garden, 63, Fanshen Road, Anle Community, Xin'an Street, Bao'an District, Shenzhen City

样品信息(Sample Information):

样品名称(Sample Name): 胶管, 负极箔, 正极箔, 电解纸, 黑色胶塞, 白色铝壳, 引线, 电解液

委托日期(Sample Received Date): 2022/7/6

检测日期(Testing Period): 2022/7/6 - 2022/7/12

检测结果(Test Result): 请参见后续页(Please refer to following page(s)).

检测要求(Test Requested):	结论(Conclusion)
根据客户要求, 参照欧盟 RoHS 指令 2011/65/EU 及其修订指令 EU 2015/863, 检测样品中的铅、镉、汞、六价铬、多溴联苯、多溴二苯醚、DBP、BBP、DEHP、DIBP 的含量(As specified by client, to determine the Pb, Cd, Hg, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP content in the sample with reference to EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863.)	合格(PASS)

授权签字人

Signed for and on behalf of HCT

Michael Huang

黄胜明 Michael Huang





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检测结果(Test Result(s)):

单位(Unit): mg/kg

检测项目 (Test Items)	检测方法/仪器 (Test Method/ Equipment)	方法 检出限 (MDL)	EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863
铅 Lead(Pb)	IEC 62321-5:2013.	2	1000
镉 Cadmium(Cd)	ICP-OES/AAS	2	100
汞 Mercury(Hg)	IEC 62321-4:2013 +AMD1:2017. ICP-OES	2	1000
六价铬 Hexavalent Chromium(Cr(VI))	IEC 62321-5:2013/ IEC 62321-7-2:2017. ICP-OES/AAS UV-VIS	8	1000
一溴联苯 Mono-bromobiphenyl	IEC 62321-6:2015. GC-MS	5	—
二溴联苯 Di-bromobiphenyl		5	
三溴联苯 Tri-bromobiphenyl		5	
四溴联苯 Tetra-bromobiphenyl		5	
五溴联苯 Penta-bromobiphenyl		5	
六溴联苯 Hexa-bromobiphenyl		5	
七溴联苯 Hepta-bromobiphenyl		5	
八溴联苯 Octa-bromobiphenyl		5	
九溴联苯 Nona-bromobiphenyl		5	
十溴联苯 Deca-bromobiphenyl		5	
多溴联苯 Polybrominated Biphenyls(PBBs)	—	—	1000
一溴二苯醚 Mono-bromodiphenyl ether	IEC 62321-6:2015. GC-MS	5	—
二溴二苯醚 Di-bromodiphenyl ether		5	
三溴二苯醚 Tri-bromodiphenyl ether		5	
四溴二苯醚 Tetra-bromodiphenyl ether		5	
五溴二苯醚 Penta-bromodiphenyl ether		5	
六溴二苯醚 Hexa-bromodiphenyl ether		5	
七溴二苯醚 Hepta-bromodiphenyl ether		5	
八溴二苯醚 Octa-bromodiphenyl ether		5	
九溴二苯醚 Nona-bromodiphenyl ether		5	
十溴二苯醚 Deca-bromodiphenyl ether		5	
多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)	—	—	1000





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检测项目 (Test Items)	含量 (Content)								
	1	2	3	4	5	6	7	8	9
铅 Lead(Pb)	N.D.	10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
镉 Cadmium(Cd)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
汞 Mercury(Hg)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
六价铬 Hexavalent Chromium(Cr(VI))	N.D.	/	/	N.D.	N.D.	/	/	/	N.D.
一溴联苯 Mono-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
二溴联苯 Di-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
三溴联苯 Tri-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
四溴联苯 Tetra-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
五溴联苯 Penta-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
六溴联苯 Hexa-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
七溴联苯 Hepta-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
八溴联苯 Octa-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
九溴联苯 Nona-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
十溴联苯 Deca-bromobiphenyl	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
多溴联苯 Polybrominated Biphenyls(PBBs)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
一溴二苯醚 Mono-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
二溴二苯醚 Di-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
三溴二苯醚 Tri-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
四溴二苯醚 Tetra-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
五溴二苯醚 Penta-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
六溴二苯醚 Hexa-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
七溴二苯醚 Hepta-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
八溴二苯醚 Octa-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
九溴二苯醚 Nona-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
十溴二苯醚 Deca-bromodiphenyl ether	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
多溴二苯醚 Polybrominated Diphenyl Ethers(PBDEs)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.





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邻苯二甲酸二正丁酯 Dibutyl phthalate (DBP)	IEC 62321-8:2017, GC-MS	30	1000
邻苯二甲酸丁苄酯 Butylbenzyl phthalate (BBP)		30	1000
邻苯二甲酸二(2-乙基己基)酯 Di-(2-ethylhexyl) Phthalate (DEHP)		30	1000
邻苯二甲酸二异丁酯 Di-iso-butyl phthalate (DIBP)		30	1000

检测项目 (Test Items)	含量 (Content)								
	1	2	3	4	5	6	7	8	9
邻苯二甲酸二正丁酯 Dibutyl phthalate (DBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
邻苯二甲酸丁苄酯 Butylbenzyl phthalate (BBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
邻苯二甲酸二(2-乙基己基)酯 Di-(2-ethylhexyl) Phthalate (DEHP)	134	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
邻苯二甲酸二异丁酯 Di-iso-butyl phthalate (DIBP)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

检测项目 (Test Item)	检测方法/仪器 (Test Method/ Equipment)	方法检出限 (MDL) ($\mu\text{g}/\text{cm}^2$)	EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863
六价铬 Hexavalent Chromium(Cr(VI)) \blacklozenge	IEC 62321-7-1:2015. UV-VIS	0.10	—

样品序号 (Sample No.)	结果(Result) ($\mu\text{g}/\text{cm}^2$)	定性结果 (Qualitative Result)
2	N.D.	阴性(Negative)
3	N.D.	阴性(Negative)





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样品序号 (Sample No.)	结果(Result) ($\mu\text{g}/\text{cm}^2$)	定性结果 (Qualitative Result)
6	N.D.	阴性(Negative)
7	N.D.	阴性(Negative)
8	N.D.	阴性(Negative)

备注(Note):

“—”=Not regulated 无规定

mg/kg (milligram per kilogram 毫克每千克) = ppm (parts per million 百万分之)

$\mu\text{g}/\text{cm}^2$ (microgram per square centimeter 微克每平方厘米)

MDL=Method Detection Limit 方法检出限

N.D.=Not Detected(less than method detection limit), 未检出 (小于方法检出限)

Results shown as N.D. are ignored in the sum calculation.结果显示为 N.D.不计入总和的计算。

The detected Chromium (Cr) content is "N.D.", therefore, the Hexavalent Chromium (Cr (VI)) content is "N.D.", No

need for validation test of the Hexavalent Chromium (Cr (VI)).检测的铬 (Cr) 含量是 “N.D.”, 则六价铬 (Cr(VI))

含量也是 “N.D.”, 不需要进行六价铬 (Cr(VI)) 的确认性测试。

If Chromium (Cr) content exceeds Hexavalent Chromium (Cr (VI)) method detection limit, Validation test of the Hexavalent Chromium (Cr (VI)) is required.

若铬 (Cr) 含量超过六价铬 (Cr(VI)) 方法检出限, 需要进行六价铬 (Cr(VI)) 的确认性测试。

For specimen 9: The result(s) is(are) of total weight of wet sample.

对于样品 9: 结果为湿样品总重量中的含量。

◆ = a. 当六价铬的浓度高于 $0.13\mu\text{g}/\text{cm}^2$ 时, 样品为阳性, 即含有六价铬;

b. 当六价铬的浓度为 N.D.(低于 $0.10\mu\text{g}/\text{cm}^2$) 时, 样品为阴性, 即未检测到六价铬;

c. 当六价铬的浓度介于 $0.10\mu\text{g}/\text{cm}^2$ 与 $0.13\mu\text{g}/\text{cm}^2$ 之间时, 无法直接判定是否检测到六价铬, 因不同个体的样品表面差异可能会影响测定结果;

由于未获知样品的存储条件和生产日期, 样品的六价铬检测结果仅能代表检测时样品含六价铬的状态。

a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than $0.13\mu\text{g}/\text{cm}^2$. The sample coating is considered to contain Cr(VI);

b. The sample is negative for Cr(VI) if Cr(VI) is N.D. (concentration less than $0.10\mu\text{g}/\text{cm}^2$). The coating is considered a non-Cr(VI) based coating;

c. The result between $0.10\mu\text{g}/\text{cm}^2$ and $0.13\mu\text{g}/\text{cm}^2$ is considered to be inconclusive -unavoidable coating variations may influence the determination;

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.





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样品描述(Sample Description):

序号 (No.)	HCT 样品 ID (HCT Sample ID)	检测点描述 (Test Part Description)		备注 (Note)	
1	WTH22H07136363C~86C.1	1	白印黑色塑胶皮	White printed black plastic sheet	●
2	WTH22H07136363C~86C.2	2	银色金属箔	Silver metal foil	●
3	WTH22H07136363C~86C.3	3	暗银色金属箔	Dull silver metal foil	●
4	WTH22H07136363C~86C.4	4	白色纸	White paper	●
5	WTH22H07136363C~86C.5	5	黑色软胶塞	Black soft plastic stopper	●
6	WTH22H07136363C~86C.6	6	银色金属外壳	Silver metal case	●
7	WTH22H07136363C~86C.7	7	银色金属引脚 (正极)	Silver metal pin (positive)	●
8	WTH22H07136363C~86C.8	8	银色金属引脚 (负极)	Silver metal pin (negative)	同(Same) 7
9	WTH22H07136363C~86C.9	9	棕色液体	Brown liquid	●

备注(Note):

●=实际检测样品(Actual tested sample)

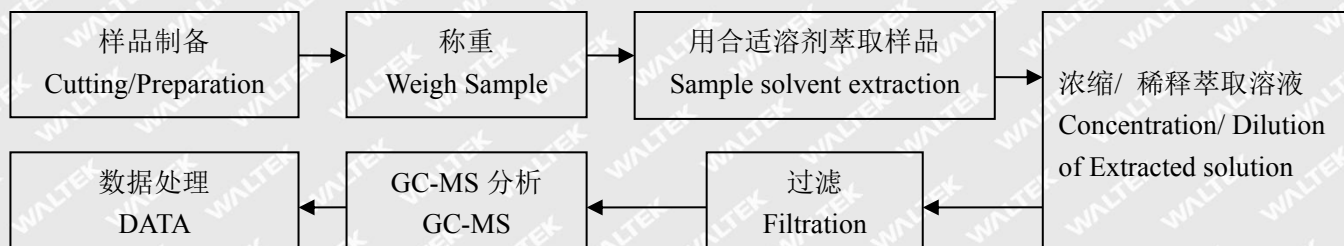
“同”=表示该样品与实际检测样品为同材质，未测试。

("Same" = It means that the sample and the actual tested sample are of the same material and have not been tested.)

根据客户提供的申明，材质相同的样品（部位）清单见上表格。

(According to the client's declarations, see the above table for the list of samples (parts) of the same material.)

DBP, BBP, DEHP, DIBP 的检测流程图 (Test Flow Chart for DBP, BBP, DEHP, DIBP)





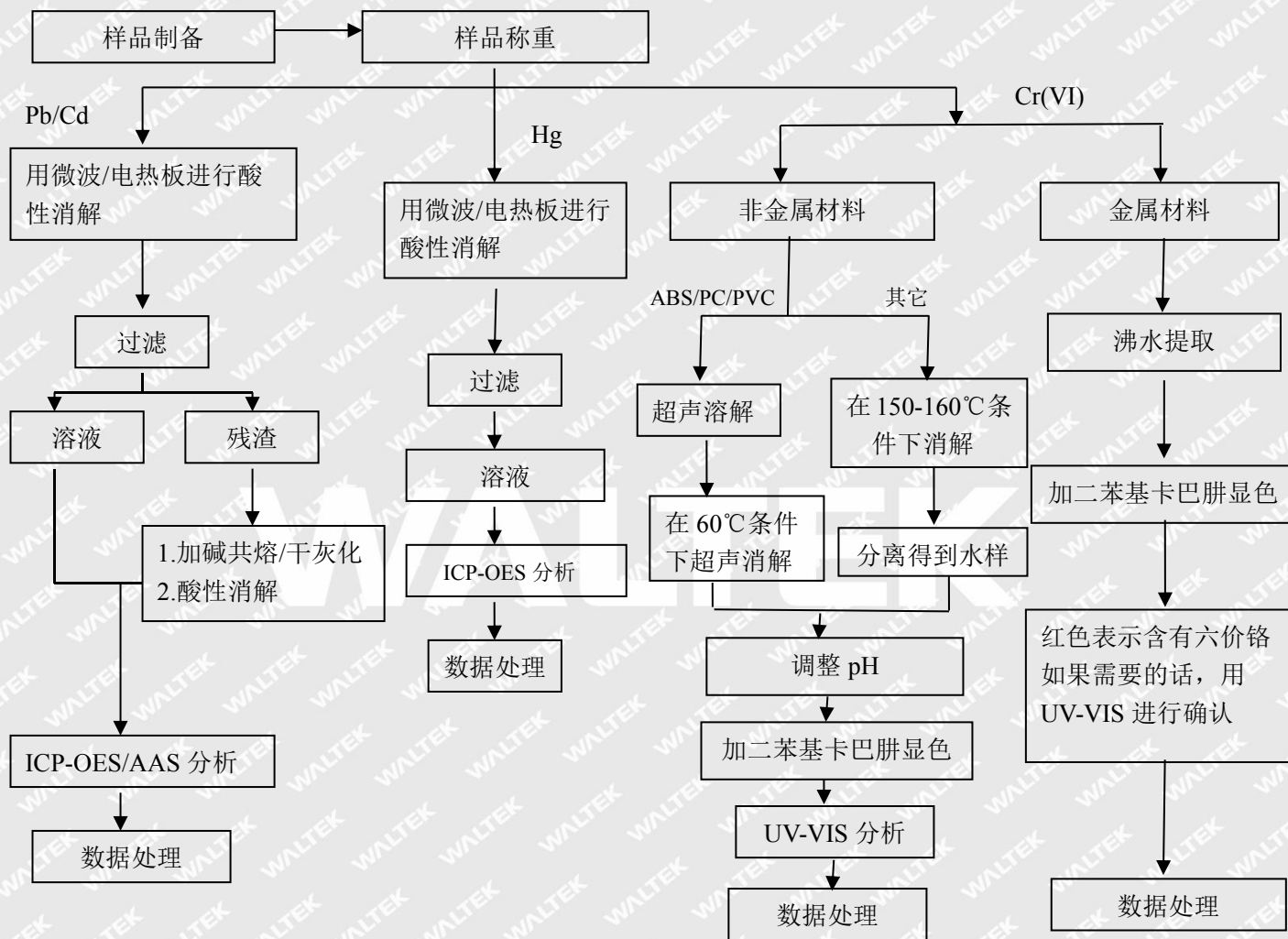
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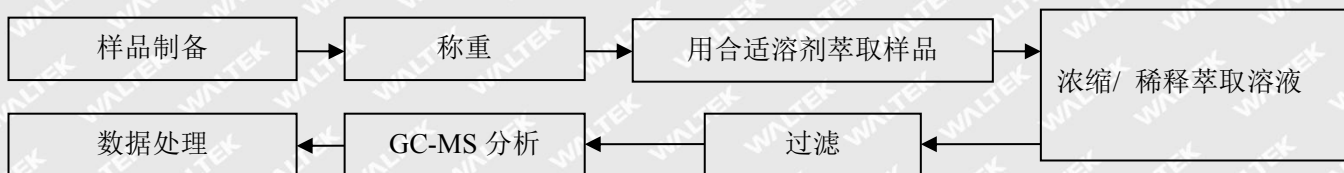
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铅、镉、汞、六价铬、多溴联苯、多溴二苯醚的检测流程图



根据以上的流程图之条件, 样品已经完全溶解(六价铬检测方法除外)。

PBBs/PBDEs





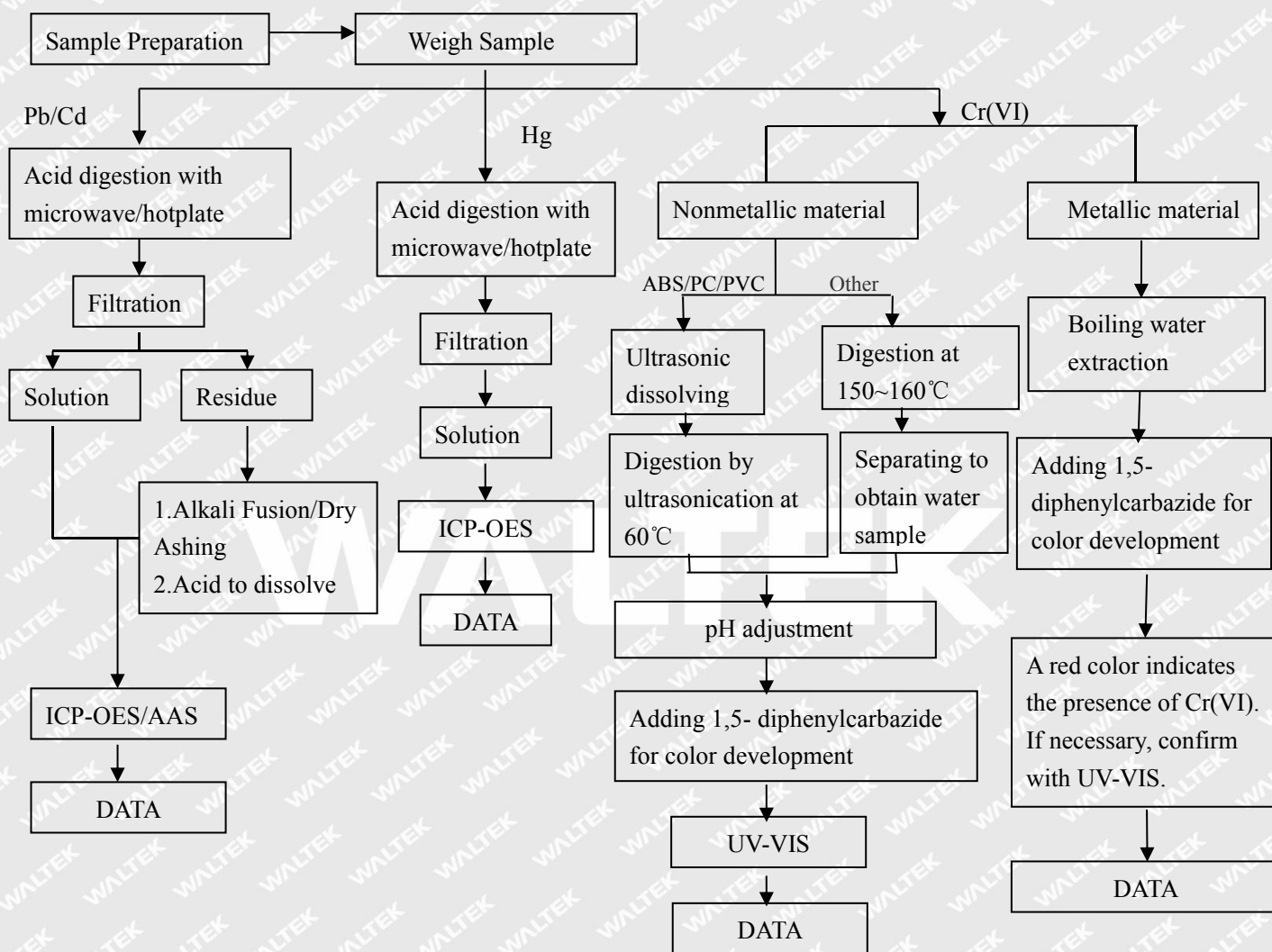
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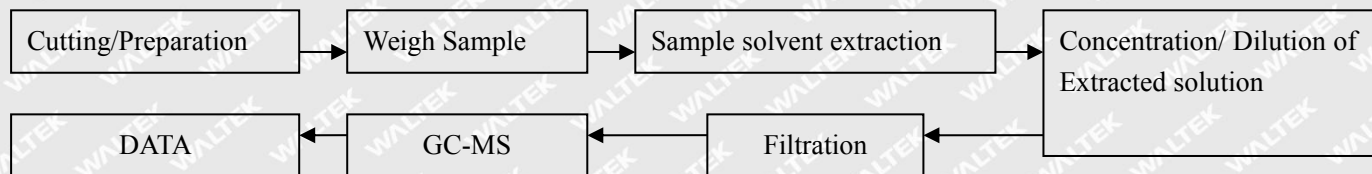
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Test Flow Chart for Pb, Cd, Hg, Cr(VI), PBBs, PBDEs



These sample were dissolved totally by pre-conditioning method according to above flow chart(Cr(VI) test method excluded)

PBBs/PBDEs





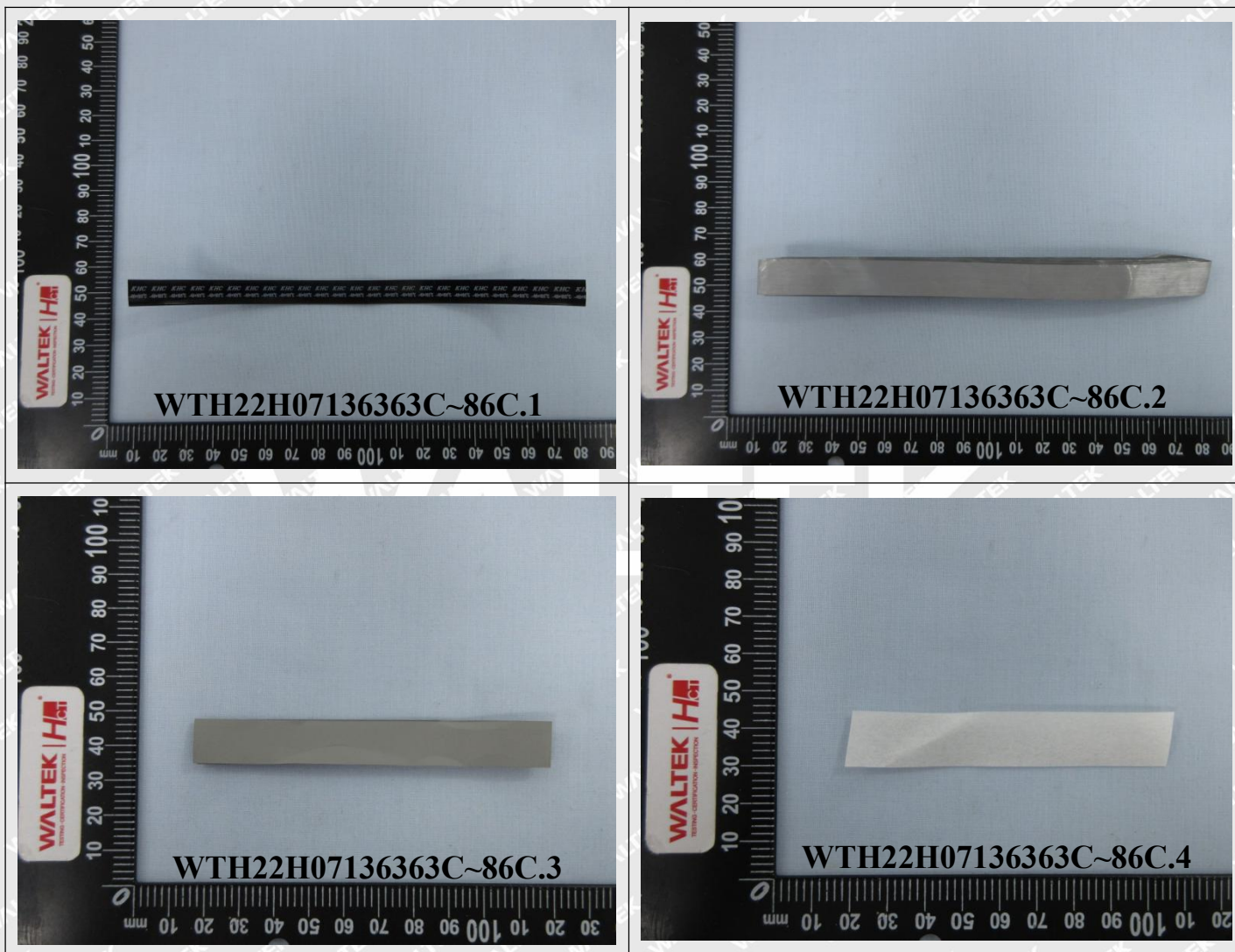
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样品附图(The photo of the sample)



*

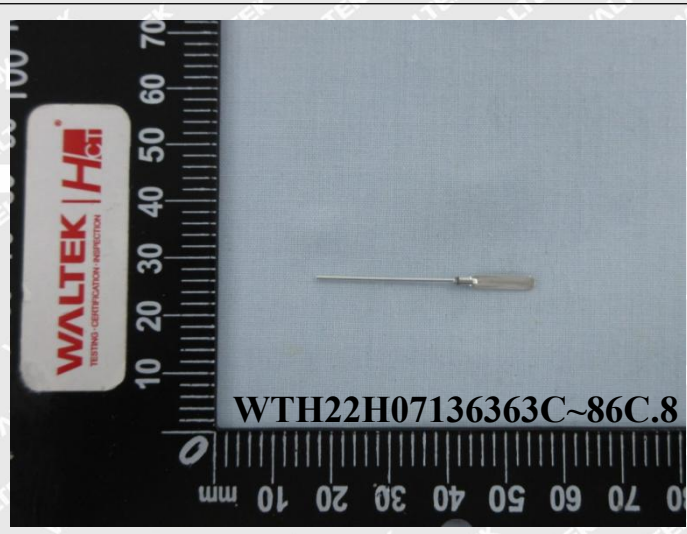
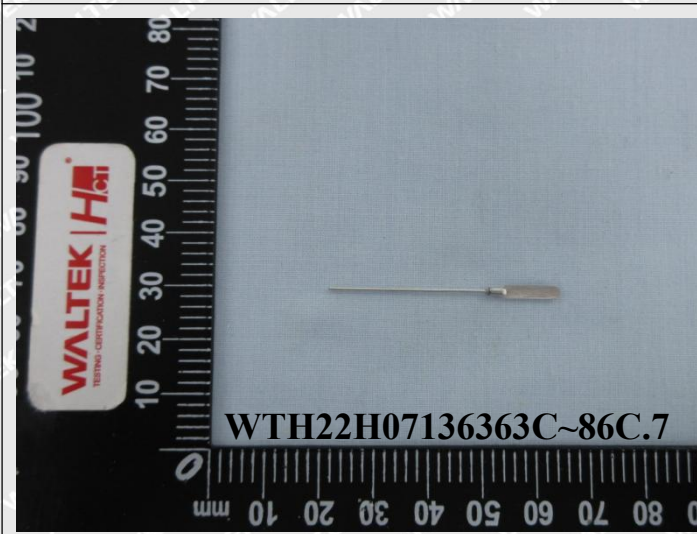


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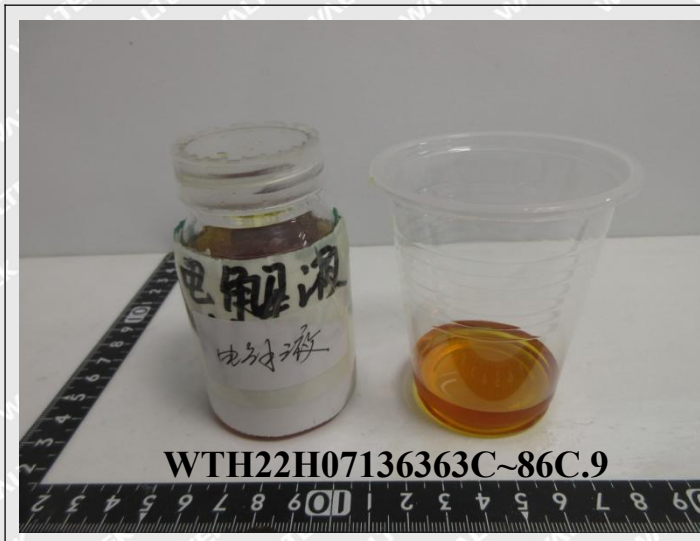


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声明(Statement):

1. 检测报告无批准人签字和专用章无效;
This report is considered invalid without approved signature and special seal;
2. 委托单位及地址, 样品和样品信息由委托方提供, 委托方应对其真实性负责, HCT 未核实其真实性;
The Applicant name and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which HCT hasn't verified;
3. 本报告检测结果仅对受测样品负责;
The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经 HCT 书面同意, 不得部分复制本报告;
Without written approval of HCT, this report can't be reproduced except in full;
5. 无 CMA 标识报告中的结果仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供内部参考;
The result(s) in no CMA logo report shall only be used for client's scientific research, teaching, internal quality control, product research and development, etc. and just for internal reference;
6. 有 CNAS 标识报告中的“n”代表该检测项目暂未申请 CNAS 认可;
The “n” in CNAS logo report means that the test item(s) was (were) currently not applying for CNAS accreditation;
7. 本报告使用的判定规则:
Decision rules used in this report:
(1)按照检测要求列的法规/标准中规定的判定规则;
(2)如果检测要求列的法规中没有规定判定规则的话,则按照《CNAS-GL015 判定规则和符合性声明指南》6.2.1 简单接受(w=0)的判定规则:
合格(接受)--测得值位于容许区间以内。
不合格(拒绝)--测得值位于容许区间以外。





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(1)According to the Decision rules in the regulations/standards listed in the Test Requested;
(2)If there is no Decision rules specified in the regulations listed in the Test Requested, then according to CNAS-GL015 Guidelines on Decision Rules and Statements of Conformity, 6.2.1, Simple Acceptance ($w=0$) of The binary Decision rule:

PASS (Accepted) - The measured value is within the tolerance interval.

FAIL (Rejected) - The measured value is outside the tolerance interval.

报告结束(End)

WALTEK

