Test report
检 测 报 告

Report Number: KTi260309R366
报告编号：KTi260309R366

Applicant: Guangdong Tianhao New Materials Technology Co.,Ltd
申请公司：广东天皓新材料科技有限公司

Address: Hongxin Chuanggu Park,Building A,No.12 Dayuan Street,YaoLe Village, Liaobu Town,Dongguan City,Guangdong Province
地　　址：广东省东莞市寮步镇药勒村大园街 12 号鸿信创谷 A 栋

Manufacture: Guangdong Tianhao New Materials Technology Co.,Ltd
制造公司：广东天皓新材料科技有限公司

Address: Hongxin Chuanggu Park,Building A,No.12 Dayuan Street,YaoLe Village, Liaobu Town,Dongguan City,Guangdong Province
地　　址：广东省东莞市寮步镇药勒村大园街 12 号鸿信创谷 A 栋

Product Name: Color masterbatch
产品名称：色母粒

Product model: MB-11915,MB-11916,MB-11920
产品型号：MB-11915,MB-11916,MB-11920

Series Model: Please refer to next page(s)
系列型号：请参见下一页

Sample receipt Date: Mar.09, 2026
接收样品日期：2026.03.09

Sample test Date: Mar.09, 2026 to Mar.13, 2026
样品检测日期：2026.03.09 - 2026.03.13

Test requirements: Selected test (s) in the selected parts as requested by client with the RoHS 2 Directive 2011/65/EU Annex II (EU) 2015/863 as last amended by Directive (EU) 2017/2102.
检测要求：根据客户要求，依据 RoHS 2 指令 2011/65/EU 和附件 II (EU) 2015/863 及修订指令(EU) 2017/2102 的要求在选定部件中进行测试。

Test Method： Please refer to next page(s).
测试方法：请参见下一页

Test Conclusion: PASS (Based on test results)
测试结论:合格（依据测试结果判定）

Tested by: Cathy　　Approved by: Martin

测试单位：　　批准单位：

GUANGDONG KAIXU TESTING TECHNOLOGY CO., LTD
KTi
APPROVAL

广东凯旭检测技术有限公司
Guangdong KAIXU Testing Technology Co., Ltd
地址：广东省东莞市东城街道莞龙路东城段 123 号 2 栋 215 室
Adress：Room 215, Building 2, No. 123, Dongcheng Section, Guanlong Road, Dongcheng Street, Dongguan City, Guangdong Province, China
Http: www.kti-lab.com　　Fax : +86-755-23283457　　Tel : +86-755-85254458　　E-mail: service@kti-lab.com

Series Model:

MB8514-2B,MB-11929,MB-12508A,MB-601,MB-11928,MB-11927,MB-11922,MB-11924,MB-11925,MB-11926,MB-11923,MB-11930,MB-12007,MB-12008,MB-12009,2014,6896,9018,7434,M1061,11611A,111613,12052A,12263B,8657,11320

系列型号：

MB8514-2B,MB-11929,MB-12508A,MB-601,MB-11928,MB-11927,MB-11922,MB-11924,MB-11925,MB-11926,MB-11923,MB-11930,MB-12007,MB-12008,MB-12009,2014,6896,9018,7434,M1061,11611A,111613,12052A,12263B,8657,11320

Test Method:
检测方法：

1.With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
2.With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
(1)With reference to IEC 62321-3-1:2013, screening by XRF spectroscopy.
(2)Wet chemical test method
a.With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES.
b.With reference to IEC 62321-5:2013, determination of Lead by ICP-OES.
c.With reference to IEC 62321-4:2013+A1:2017, determination of Mercury by ICP-OES.
d.With reference to IEC 62321-7-1:2015 & IEC 62321-7-2:2017, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
e.With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS.
3.With reference to IEC 62321-8: 2017, determination of phthalates by GC-MS.

1.参照 IEC 62321-2:2013，对与提交文章脱节的样品进行审查。
2.参照 IEC 62321-1:2013，对本报告中照片所示的样品进行了测试.
(1)参照 IEC 62321-3-1:2013，XRF 光谱筛选。
(2)湿化学试验法
a.参考 IEC 62321-5:2013，ICP-OES 测定镉。
b.参考 IEC 62321-5:2013，ICP-OES 测定铅。
c.参考 IEC 62321-4:2013+A1:2017，ICP-OES 测定汞。
d.参考 IEC 62321-7-1:2015 和 IEC 62321-7-2:2017，测定紫外可见比色法测定六价铬。
e.参照 IEC 62321-6:2015，气相色谱-质谱法测定多溴联苯和多溴联苯醚。
3.参照 IEC 62321- 8:20 17，采用气相色谱-质谱法测定邻苯二甲酸盐。

Test Result:

测试结果：

Part No. 序号	Part Description: 分组描述	Test item(s) 测试项目(s)	Results of XRF(1) XRF(1) 的结果	Results of Wet Chemical Testing(2) (mg/kg) 湿化学试验结果(2) (mg/kg)	Conclusion on EU RoHS 欧盟 RoHS 结论	Limit (mg/kg) 限值 (mg/kg)
1+2+3	Black plastic + White plastic + Grey plastic	铅(Pb)	/	N.D.	PASS	1000
		镉(Cd)	/	N.D.	PASS	100
		汞(Hg)	/	N.D.	PASS	1000
		总铬(Cr6+)	/	N.D.	PASS	1000
		多溴联苯（PBBs）	/	N.D.	PASS	1000
		多溴联苯醚（PBDEs）	/	N.D.	PASS	1000
		邻苯二甲酸二丁酯 (DBP)	/	N.D.	PASS	1000
		邻苯二甲酸丁苄酯 (BBP)	/	N.D.	PASS	1000
		邻苯二甲酸二异辛酯 (DEHP)	/	N.D.	PASS	1000
		邻苯二甲酸二异丁酯 (DIBP)	/	N.D.	PASS	1000

Remark:

备注：

(1) Pb=Lead,Pb =铅

Cd=Cadmium, Cd =镉

Hg=Mercury, Hg =汞

Cr=Chromium, Cr =铬

Br=Bromine,Br =溴

PBBs=Polybrominated biphenyls, PBBs=多溴联苯

PBDEs=Polybrominated diphenyl ethers.PBDEs=多溴联苯醚

(2) (a) It is the result on total Br while test item on restricted substances is PBBs/PBDEs. It is the result on total Cr while test item on restricted substances is Cr^{6+}.

(b) Results are obtained by XRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb,Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according toIEC62321-3-1:2013(unit: mg/kg).

(a)这是总溴的结果，限制物质的测试项目是多溴联苯(PBB)/多溴联苯醚(PBDE)。这是总铬的测试结果，而限制物质的测试项目是 Cr6+。

(b)通过 XRF 获得初步筛选的结果，如果浓度超过 IEC 62321 -3-1:2013（单位：mg/kg）的以下警示值，建议进行 ICP-OES (Cd, Pb,Hg), UV-Vis （Cr(VI)）和 GC-MS （PBBs, PBDEs）的进一步化学测试。

Element 元素	Unit 单位	Non-metal 聚合物	Metal 金属	Composite Material 复合材料
Cd	mg/kg	BL≤70-3σ< X <130+3σ≤OL	BL≤70-3σ< X <130+3σ≤OL	BL≤50-3σ< X <150+3σ≤OL

Pb	mg/kg	BL≤700-3σ< X <1300+3σ≤OL	BL≤700-3σ< X <1300+3σ≤ OL	BL≤500-3σ< X <1500+3σ≤OL
Hg	mg/kg	BL≤700-3σ< X <1300+3σ≤OL	BL≤700-3σ< X <1300+3σ≤OL	BL≤500-3σ< X <1500+3σ≤OL
Cr	mg/kg	BL≤700-3σ< X	BL≤700-3σ< X	BL≤500-3σ< X
Br	mg/kg	BL≤300-3σ< X	--	BL≤250-3σ< X

(c) OL=Over Limit, BL=Below Limit, X=inconclusive, LOD=Limit of Detection, NA=not applicable

(c) OL=超过限度，BL=低于限度，X=不确定，LOD=检测限度，NA=不适用。

(d) The XRF screening test for RoHS elements-The reading may be different to the actual content in the sample be of non-uniformity composition

(d) 对 RoHS 元素的 XRF 筛选测试-读数可能与样品中不均匀成分的实际含量不同。

(3) (a) mg/kg=ppm=0.0001%, N.D.=not detected(＜MDL)

(a)mg/kg= ppm = 0.0001%, N.D.=没有检测到(< MDL)

(b) Unit and Method Detection Limit(MDL) in wet chemical test

(b)湿化学试验的单元和方法检出限（MDL）

Test Items 测试项目	**Pb**	**Hg**	**Cd**	**DBP**	**BBP**	**DEBP**	**DIBP**
Unit 单位	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	10	10	10	100	100	100	100

The MDL for single compound of PBBs &PBDEs is 20mg/kg, MDL of Cr6+ for metal sample is 0.10μg/cm² and MDL of Cr6+ for polymer & composite sample is 8mg/kg.

多溴联苯和多溴二苯醚单一化合物的 MDL 为 20mg/kg，金属样品的 Cr6+ MDL 为 0.10 μg/cm²，聚合物和复合材料样品的 Cr6+ MDL 为 8mg/kg。

(c) Metal sample:

(c)金属样品：

	CrVI concentration CrVI 浓度	**Conclusion 结论**
1	> 0.13 μg/cm²	Positive 阳性
2	< 0.10 μg/cm²	Negative 阴性
3	0.10 μg/cm² ~ 0.13 μg/cm²	Inconclusive 不确定

- unavoidable coating variations may influence the determination
- Information on storage conditions and production date of the tested sample is unavailable and thus Cr^{6+} results represent status of the sample at the time of testing.

-不可避免的涂层变化可能影响测定

-测试样品的储存条件和生产日期信息不可用，因此Cr6+结果代表测试时样品的状态。

Appendix Ⅰ

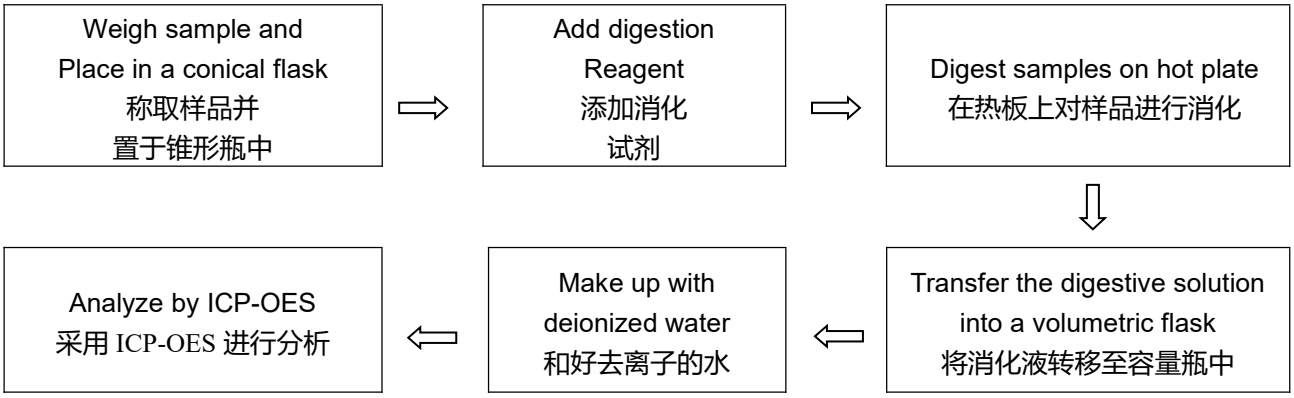
附录一

Test Process:

测试过程:

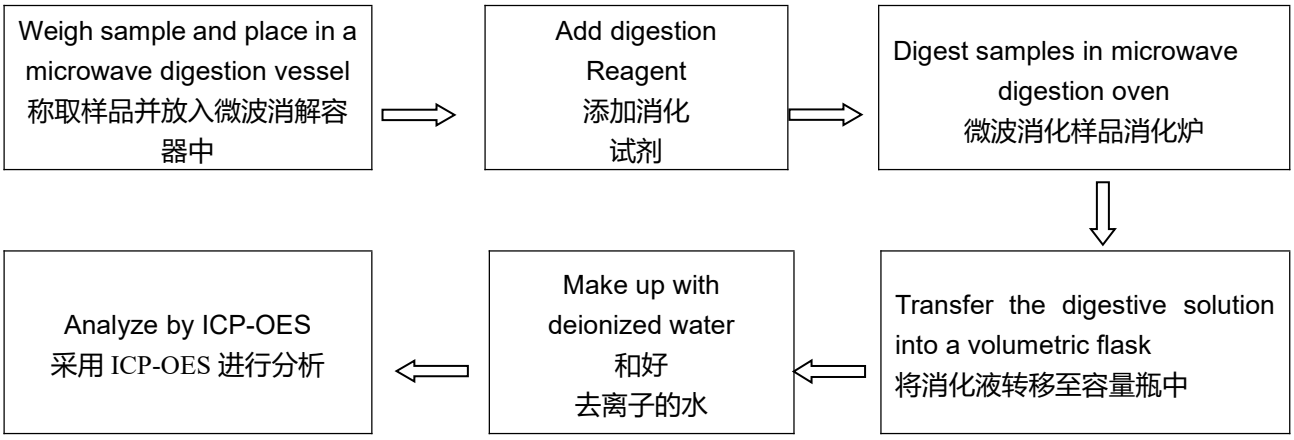
1.Test for Cd/Pb Content

1.镉/铅含量检测



2.Test for Hg Content

2.汞含量测试

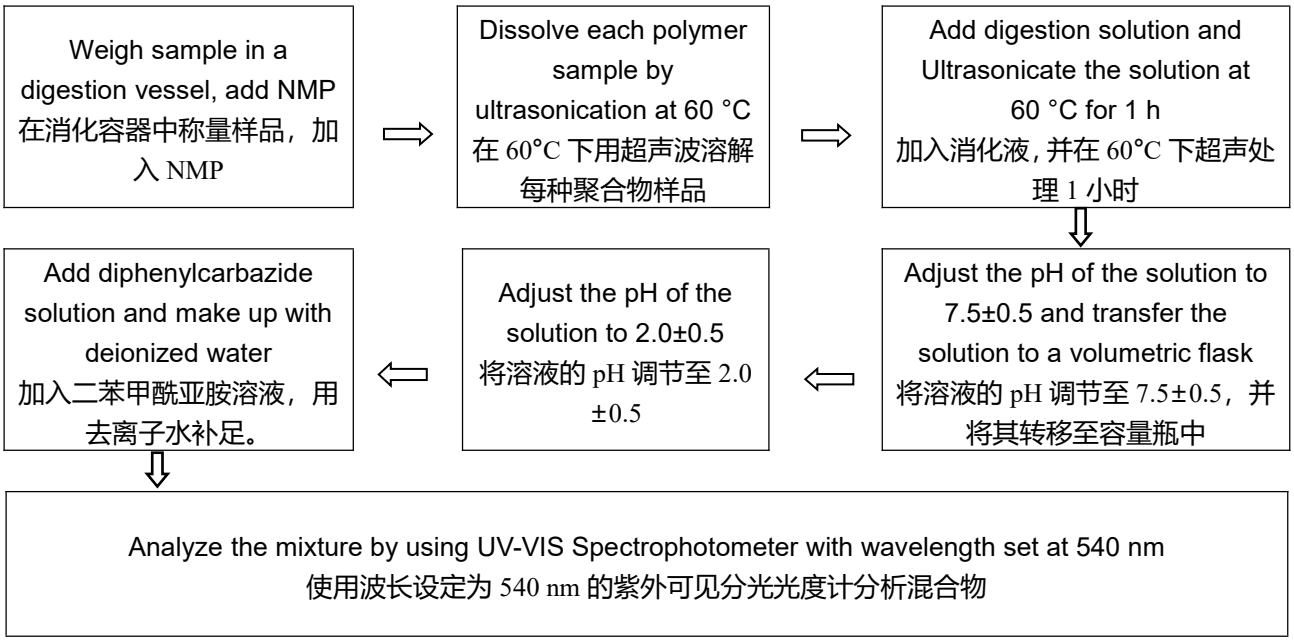


3.Test for Chromium (VI) Content

铬（VI）含量检测

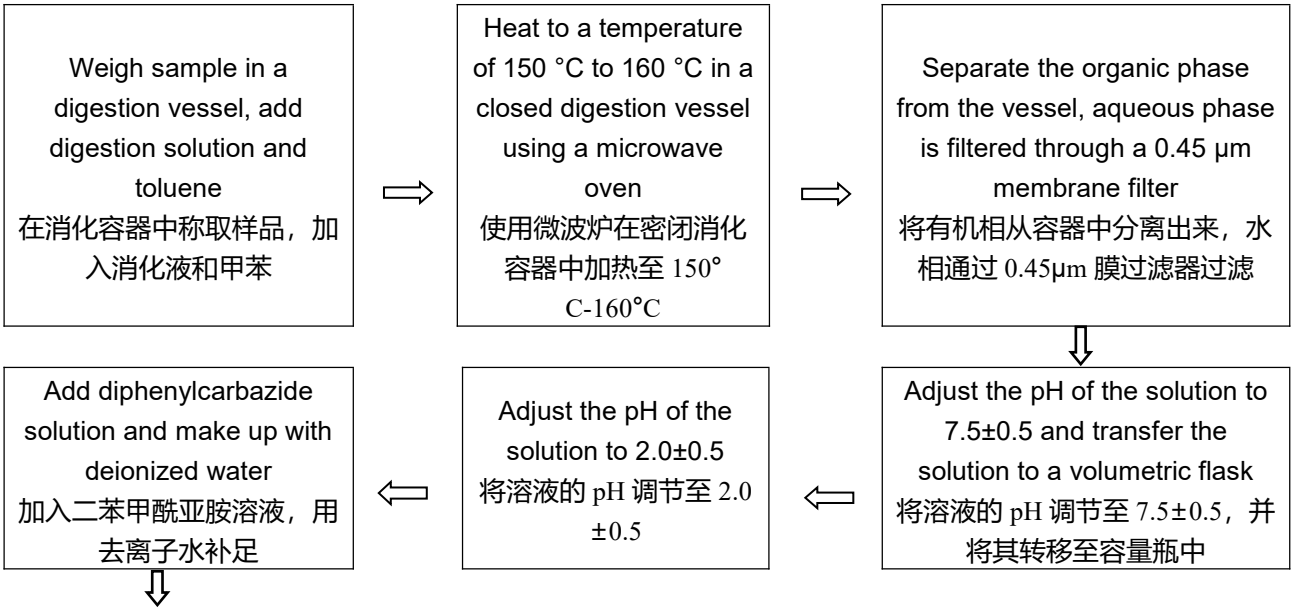
Soluble polymers：

可溶性聚合物：



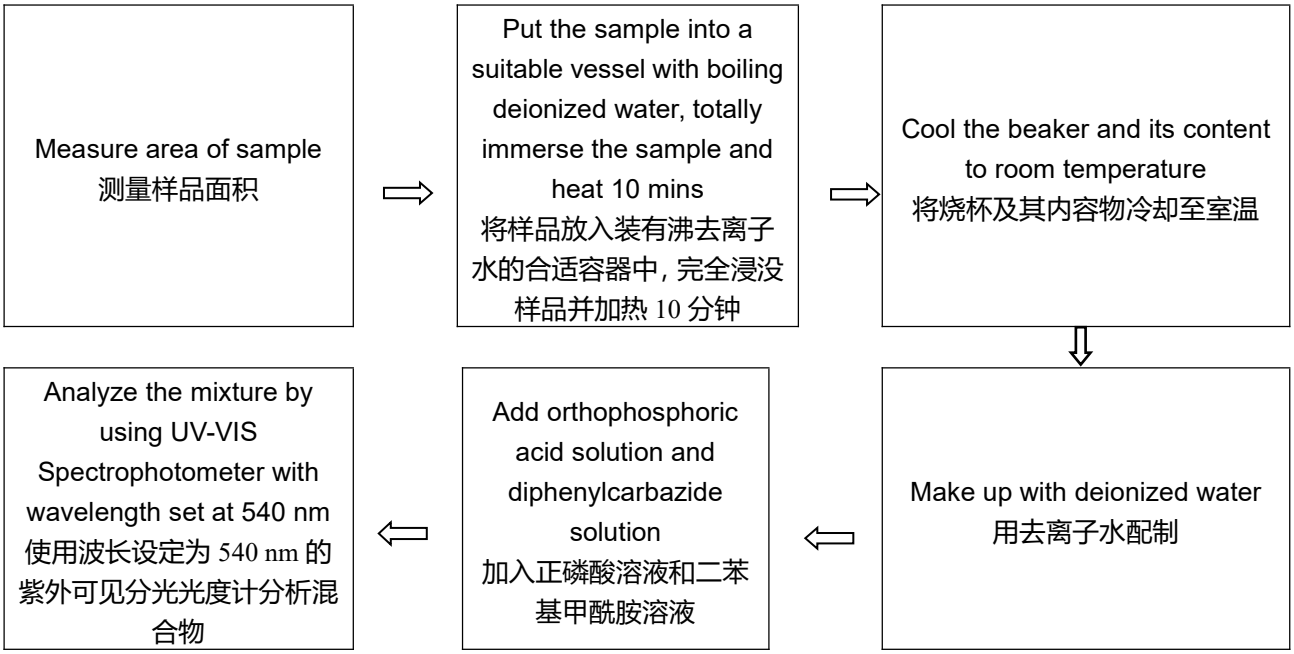
Insoluble/unknown polymers and electronics without Sb

不溶性 / 未知聚合物和不含 Sb 的电子产品

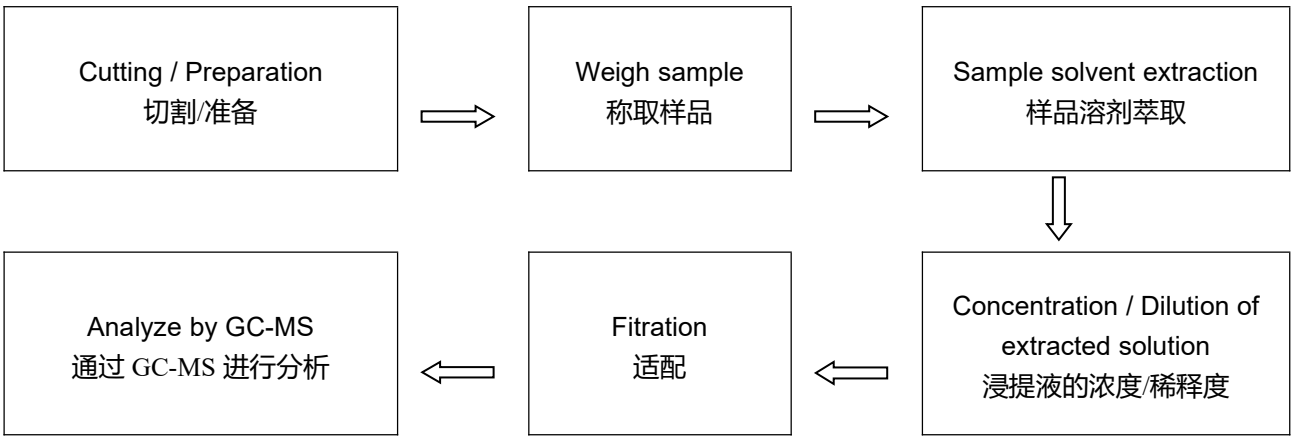


Analyze the mixture by using UV-VIS Spectrophotometer with wavelength set at 540 nm
使用波长设定为 540 nm 的紫外可见分光光度计分析混合物

Metal material
金属材料



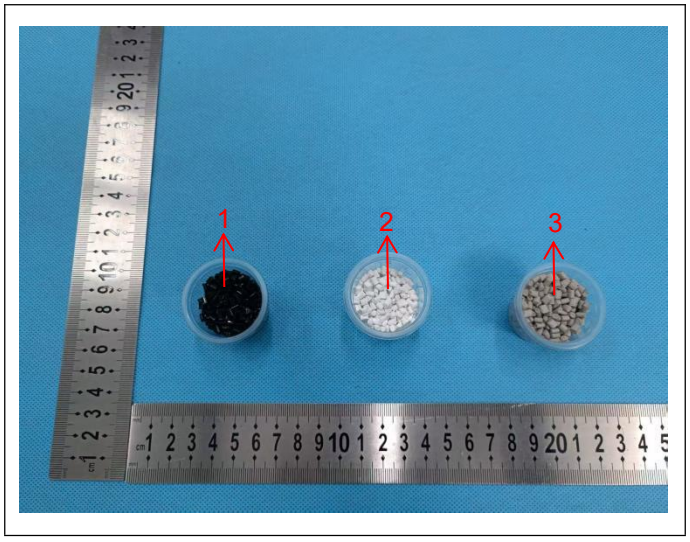
4.Test for DBP, BBP, DEHP, DIBP, PBB, PBDE Content
DBP、BBP、DEHP、DIBP、PBB、PBDE 含量检测



Sample Description:
样品信息：

Material No. 材料编号	Description 样品描述
1	Black plastic 黑色塑料
2	White plastic 白色塑料
3	Grey plastic 灰色塑料

Tested sample photos
样品照片



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报告结束