检 测 报 告
TEST REPORT

报告编号（No.）:UTS25120107M07　　报告日期（Report Date）: 2025/12/12

委托单位/Client	：	昆山安普琪工程塑料有限公司/昆山金彩达工程塑胶有限公司 KUNSHAN ANPUQI ENGINEERING PLASTICS CO.,LTD/ KUNSHAN JINCAIDA ENGINEERING PLASTICS CO., LTD
地　　址/Address	：	昆山市张浦镇俱进路 15 号 No.15, jujin Road,Zhangpu Town,Kunshan City

以下样品信息由申请人提供及确认:
The following sample(s) was/were submitted and identified on behalf of the client as:

样品名称/Sample Name	：	塑料粒子/Plastic Pellets
材　　料/Material	：	PBT,POM,PA,TPU
型　　号/Model	：	参见下一页/Please refer to next page(s)
接样日期/Receiving Date	：	2025/12/08
检测项目/Test Item	：	RoHS 2.0 & 卤素/Halogen
结　　论/Conclusion	：	1.申请人所提供样品的检测结果符合欧盟 RoHS 指令 2011/65/EU 附录Ⅱ及其修订指令(EU)2015/863 的限值要求。/Based on the analysis of the submitted sample, the results meet the requirements of EU RoHS Directive 2011/65/EU Annex Ⅱ and its amending Directive (EU)2015/863. 2.申请人所提供样品的检测结果符合 IEC 61249-2-21:2003 的要求。/Based on the analysis of the submitted sample, the results meet the requirements of IEC 61249-2-21:2003.

签发 Approved by	樊建红	审核 Reviewed by	马林	编制 Prepared by	闵丹丹
	樊建红 授权签字人		马林		闵丹丹

江苏省优联检测技术服务有限公司
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The following sample(s) was/were submitted and identified on behalf of the client as:

材料/Material	型号/Model
PBT,POM,PA,TPU	POM:M90，M90-04，M90-44，FM090，FM270,500P. PA6/ PA66:（15%GF,20%GF,25%GF,30%GF,33%GF,45%GF）. PA12 TR90(A2446-68)(A9362-68), PA12 LV-5H(A2451-68),PA12 GV-5H GF50 黑色/black,TR90 NZ(A2449-68)(A9362-68) TPU:TPU-80A,TPU-80AE(A9310-54,A9293-54,A1478-54),TPU-85A , TPU-85A (A1478-54),TPU-90A. PBT:（15%GF,20%GF,30%GF）

1、测试标准/Test Standard(s)
IEC62321-5:2013;IEC62321-4:2013+AMD1:2017CSV;IEC62321-7-2:2017;IEC62321-6:2015;
IEC62321-8:2017; EN 14582:2016

2、测试日期/Test Date(s)
2025/12/09-2025/12/10

3、测试设备/Test Equipment(s)

设备名称 Test Equipment	设备编号 Equipment Number	校准有效期 Calibration Period of Validity
等离子体发射光谱仪 ICP-OES	M-1-584	2025/12/14
紫外可见分光光度计 UV-vis	M-1-622	2025/12/12
气相色谱质谱联用仪 GC-MS	M-1-583	2025/12/14
气相色谱质谱联用仪 GC-MS	M-1-582	2025/12/14
离子色谱仪 IC	E-1-1038	2026/11/21

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4、测试结果/Test Result(s)

4.1 RoHS 2.0

检测项目 Test Items	检测方法 Methods	方法检测限 MDL (mg/kg)	检测结果 Results (mg/kg)	法规限值* Limits (mg/kg)
铅/Pb	M1	2	N.D.	1000
镉/Cd		2	N.D.	100
汞/Hg	M2	2	N.D.	1000
六价铬/Cr (VI)	M3	8	N.D.	1000
一溴联苯/Monobromobiphenyl (MonoBB)	M4	5	N.D.	---
二溴联苯/Dibromobiphenyl (DiBB)		5	N.D.	---
三溴联苯/Tribromobiphenyl (TriBB)		5	N.D.	---
四溴联苯/Tetrabromobiphenyl (TetraBB)		5	N.D.	---
五溴联苯/Pentabromobiphenyl (PentaBB)		5	N.D.	---
六溴联苯/Hexabromobiphenyl (HexaBB)		5	N.D.	---
七溴联苯/Heptabromobiphenyl (HeptaBB)		5	N.D.	---
八溴联苯/Octabromobiphenyl (OctaBB)		5	N.D.	---
九溴联苯/Nonabromobiphenyl (NonaBB)		5	N.D.	---
十溴联苯/Decabromobiphenyl (DecaBB)		5	N.D.	---
上述多溴联苯总和/Total PBBs sum of above		---	N.D.	1000
一溴二苯醚/Monobromodiphenyl ether (MonoBDE)		5	N.D.	---
二溴二苯醚/Dibromodiphenyl ether (DiBDE)		5	N.D.	---
三溴二苯醚/Tribromodiphenyl ether (TriBDE)		5	N.D.	---
四溴二苯醚/Tetrabromodiphenyl ether (TetraBDE)		5	N.D.	---
五溴二苯醚/Pentabromodiphenyl ether (PentaBDE)		5	N.D.	---
六溴二苯醚/Hexabromodiphenyl ether (HexaBDE)		5	N.D.	---
七溴二苯醚/Heptabromodiphenyl ether (HeptaBDE)		5	N.D.	---
八溴二苯醚/Octabromodiphenyl ether (OctaBDE)		5	N.D.	---
九溴二苯醚/Nonabromodiphenyl ether (NonaBDE)		5	N.D.	---
十溴二苯醚/Decabromodiphenyl ether (DecaBDE)		5	N.D.	---
上述多溴二苯醚总和/Total PBDEs sum of above		---	N.D.	1000
邻苯二甲酸二丁酯/Dibutyl Phthalate (DBP)	M5	30	N.D.	1000
邻苯二甲酸丁基苄基酯/Benzylbutyl Phthalate (BBP)		30	N.D.	1000
邻苯二甲酸二(2-乙基己基）酯 /Di-(2-ethylhexyl)Phthalate (DEHP)		30	N.D.	1000
邻苯二甲酸二异丁酯/Diisobutyl phthalate(DIBP)		30	N.D.	1000

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注意/Remark : *报告中述及的法规限值根据是欧盟 RoHS 指令 2011/65/EU 附录Ⅱ及其修订指令(EU)2015/863 的限值要求。/The Limits are based on the requirements of EU RoHS Directive 2011/65/EU Annex Ⅱ and its amending Directive (EU)2015/863.

4.2 卤素/Halogen

检测项目 Test Items	检测方法 Methods	方法检测限 MDL (mg/kg)	检测结果 Results (mg/kg)	限值** Limits (mg/kg)
氟/Fluorine (F)	M6	30	N.D.	---
氯/Chlorine (Cl)		30	N.D.	900
溴/Bromine (Br)		30	N.D.	900
碘/Iodine (I)		30	N.D.	---
总计/Total (Cl+Br)		---	N.D.	1500

注意/Remark : **报告中述及的限值根据是 IEC 61249-2-21:2003 的要求。/The Limits are based on the requirements of IEC 61249-2-21:2003.

备注 /Note :

1) “---” = 未明确规定/Not Regulated.
2) N.D. = 未检出，小于方法检测限/Not detected, less than MDL.
3) M1: 参考 IEC 62321-5: 2013，采用电感耦合等离子体发射光谱仪进行测定。
   With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.
4) M2: 参考 IEC 62321-4: 2013+AMD1: 2017CSV，采用电感耦合等离子体发射光谱仪进行测定。
   With reference to IEC 62321-4: 2013+AMD1: 2017CSV, analysis was performed by ICP-OES.
5) M3: 参考 IEC 62321-7-2: 2017，采用紫外-可见分光光度计进行测定。
   With reference to IEC 62321-7-2: 2017, analysis was performed by UV-Vis.
6) M4: 参考 IEC 62321-6: 2015，采用气相色谱-质谱联用仪进行测定。
   With reference to IEC 62321-6: 2015, analysis was performed by GC-MS.
7) M5: 参考 IEC 62321-8: 2017，采用气相色谱-质谱联用仪进行测定。
   With reference to IEC 62321-8: 2017, analysis was performed by GC-MS.
8) M6: 参考 EN 14582: 2016，采用离子色谱法(IC)进行检测。
   With reference to EN 14582: 2016, analysis was performed by IC.

检测部位描述/TEST PART DESCRIPTION: 非金属/Non-metal

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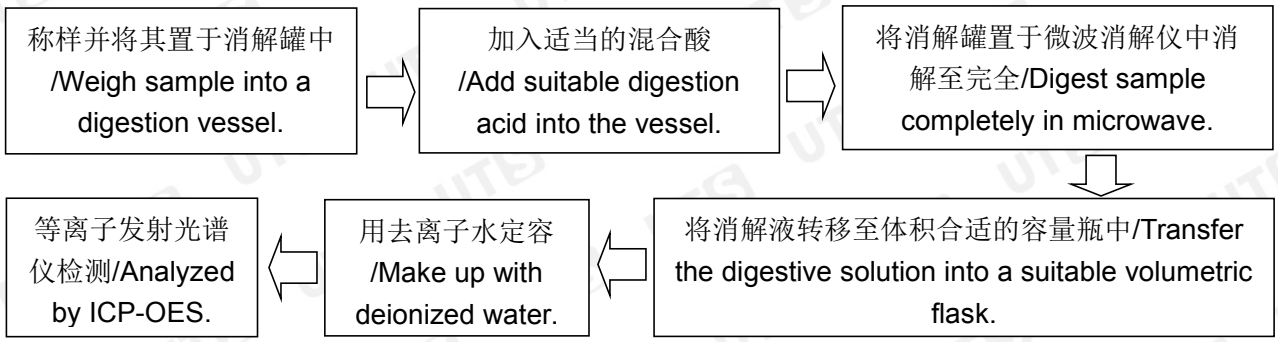
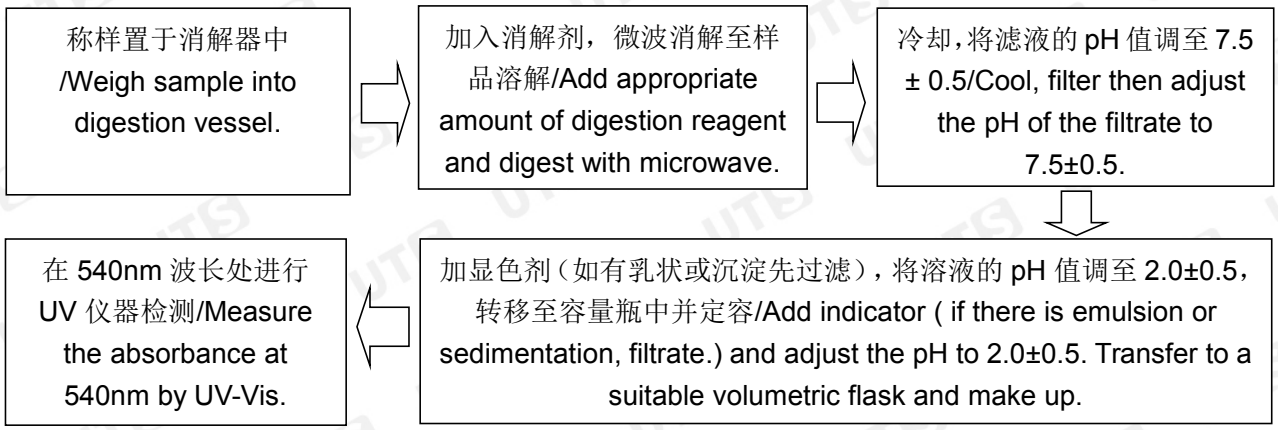
检测流程图/FLOW CHART

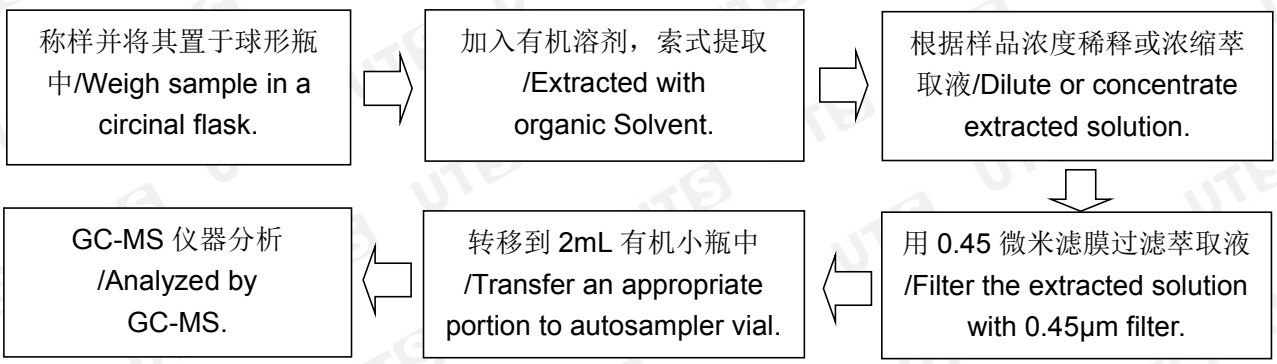
1. Pb、Cd、Hg 检测/Test for Pb, Cd, Hg Content



2. 六价铬 Cr（Ⅵ）检测/Test for Chromium（Ⅵ）Content



3. 多溴联苯&多溴二苯醚和邻苯二甲酸酯检测 /Test for PBBs&PBDEs and Phthalates



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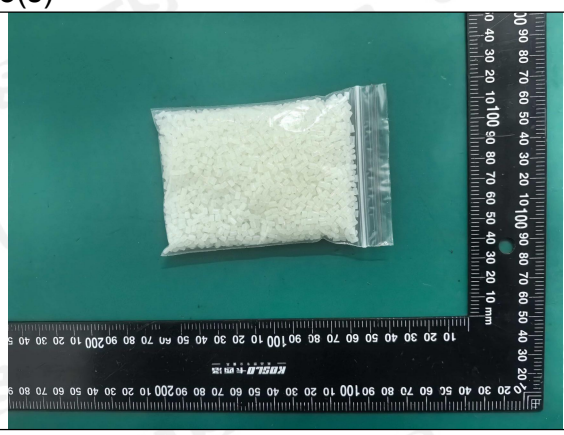
4. 卤素检测/Test for halogen Content

称样并将其置于燃烧皿/Weigh sample in a burning dish. → 在氧弹燃烧罐中加入 20ml 吸收溶液/Add 20ml absorbent solution to the oxygen cartridge. → 将氧气充入氧弹燃烧罐中，点火燃烧/Oxygen is filled into the oxygen cartridge, ignition combustion. → 待氧弹燃烧罐冷却至室温，将吸收液转入溶量瓶中/When the oxygen cartridge is cooled, the absorbent solvent is transferred into the flask. → 用吸收溶液定容至刻度/Make up with absorbent solvent. → 离子色谱仪器分析/Analyzed by ion chromatography.

5、样品照片/Sample photo(s)



……报告结束/End of Report……

本报告中结果仅作为科研、教学或内部质量控制之用。

Test results in this report are only used for scientific research, teaching and internal quality control.

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