



中国认可
国际互认
检测
TESTING
CNAS L7472

TEST REPORT

检测报告



Report No./报告号: A2111132-C01-R05-V1

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Applicant: Shenzhen Esun Industrial Co., Ltd.
申请商: 深圳光华伟业股份有限公司
Address: Wuhan University Building A403-I and A901, No.6 Yuexing 2 Road, Nanshan District, Shenzhen, China
地 址: 深圳市南山区粤兴二道 6 号武汉大学深圳产学研大楼 A403-I 及 A901

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client:
 以下测试之样品及样品信息由申请者提供并确认:

Sample Name/样品名称 eStars-PLA
Sample Received Date November 12, 2021
样品接收日期 2021 年 11 月 12 日
Testing Period November 12 - 18, 2021
检测日期 2021 年 11 月 12 日至 2021 年 11 月 18 日
Test Method & Test Result Please refer to following pages.
检测依据和检测结果 请参考下一页

Test Requested/检测要求

As specified by client, according to RoHS Directive 2011/65/EU with amendment (EU) 2015/863 to test Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers(PBDEs), Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP), Di-2-ethylhexyl phthalate(DEHP) and Diisobutyl phthalate(DIBP) in the tested materials of the submitted sample(s).
 根据客户要求, 依据指令 2011/65/EU 及修订指令(EU) 2015/863 对所提交样品材料中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸二丁酯(DBP), 邻苯二甲酸丁基苯酯(BBP), 邻苯二甲酸二乙基己基酯(DEHP)和邻苯二甲酸二异丁酯(DIBP)进行检测。

Result/结果

Pass /合格

Tested by:

主 检:

Anne Zhao

Approved by:

签 发:

[Signature]



Reviewed by:

审 核:

Tony Gmy

Date of issue:

签发日期:

November 24, 2021

2021年11月24日

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Tested Material Description/测试材料描述

Black plastic /黑色塑料

Test method/检测方法

Tested Item(s)/ 检测项目	Test Method/ 检测方法	Measured Equipment(s) 检测设备
Lead (Pb)/ 铅(Pb)	IEC 62321-5:2013	ICP-OES
Cadmium (Cd)/ 镉(Cd)	IEC 62321-5:2013	ICP-OES
Mercury (Hg)/ 汞(Hg)	IEC 62321-4:2013+AMD1:2017	ICP-OES
Hexavalent Chromium (Cr(VI))/ 六价铬 (Cr(VI))	IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ ICP-OES
Polybrominated Biphenyls (PBBs)/ 多溴联苯(PBBs)	IEC 62321-6:2015	GC-MS
Polybrominated Diphenyl Ethers (PBDEs)/ 多溴二苯醚 (PBDEs)	IEC 62321-6:2015	GC-MS
Phthalates(DBP, BBP, DEHP, DIBP)/ 邻苯二甲酸酯 (邻苯二甲酸二丁酯(DBP)、 邻苯二甲酸丁基苄酯(BBP)、邻苯二甲酸二 乙基己基酯(DEHP)、邻苯二甲酸二异丁酯 (DIBP))	IEC 62321-8:2017	GC-MS

Test Result/结果

Tested Item(s) 检测项目	Result 结果(mg/kg)	MDL 方法检出限 (mg/kg)	EU RoHS Limit EU RoHS 限值 (mg/kg)
Lead (Pb)/ 铅(Pb)	N.D	2	1000
Cadmium (Cd)/ 镉(Cd)	N.D	2	100
Mercury (Hg)/ 汞(Hg)	N.D	2	1000
Hexavalent Chromium (Cr(VI))/ 六价铬(Cr(VI))	N.D	8	1000

Shenzhen Alpha Product Testing Co., Ltd./ 深圳阿尔法商品检验有限公司

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

广东省深圳市宝安区福永街道立新路2号i栋阿尔法检验中心

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Test Result/结果

Tested Item(s) 检测项目	Result 结果(mg/kg)	MDL 方法检出限 (mg/kg)	EU RoHS Limit EU RoHS 限值 (mg/kg)
Monobromobiphenyl (MonoBB) /一溴联苯	N.D	5	/
Dibromobiphenyl (DiBB) /二溴联苯	N.D	5	/
Tribromobiphenyl (TriBB) /三溴联苯	N.D	5	/
Tetrabromobiphenyl (TetraBB) /四溴联苯	N.D	5	/
Pentabromobiphenyl (PentaBB) /五溴联苯	N.D	5	/
Hexabromobiphenyl (HexaBB) /六溴联苯	N.D	5	/
Heptabromobiphenyl (HeptaBB) /七溴联苯	N.D	5	/
Octabromobiphenyl (OctaBB) /八溴联苯	N.D	5	/
Nonabromobiphenyl (NonaBB) /九溴联苯	N.D	5	/
Decabromobiphenyl (DecaBB) /十溴联苯	N.D	5	/
Sum of polybrominated biphenyls (PBBs)/ 多溴联苯(PBBs)总量	N.D	/	1000
Monobromodiphenyl ether (MonoBDE) /一溴二苯醚	N.D	5	/
Dibromodiphenyl ether (DiBDE) /二溴二苯醚	N.D	5	/
Tribromodiphenyl ether (TriBDE) /三溴二苯醚	N.D	5	/
Tetrabromodiphenyl ether (TetraBDE) /四溴二苯醚	N.D	5	/
Pentabromodiphenyl ether (PentaBDE) /五溴二苯醚	N.D	5	/
Hexabromodiphenyl ether (HexaBDE) /六溴二苯醚	N.D	5	/
Heptabromodiphenyl ether (HeptaBDE) /七溴二苯醚	N.D	5	/
Octabromodiphenyl ether (OctaBDE) /八溴二苯醚	N.D	5	/
Nonabromodiphenyl ether (NonaBDE) /九溴二苯醚	N.D	5	/
Decabromodiphenyl ether (DecaBDE) /十溴二苯醚	N.D	5	/
Sum of polybrominated diphenyl ethers (PBDEs) 多溴二苯醚 (PBDEs)总量	N.D	/	1000
Dibutyl phthalate(DBP) /邻苯二甲酸二丁酯(DBP)	N.D	50	1000
Benzylbutyl phthalate(BBP) / 邻苯二甲酸丁基苄酯(BBP)	N.D	50	1000
Di-2-ethylhexyl phthalate(DEHP)/ 邻苯二甲酸二乙基己基酯(DEHP)	N.D	50	1000
Diisobutyl phthalate(DIBP) / 邻苯二甲酸二异丁酯(DIBP)	N.D	50	1000

Remark: MDL = Method Detection Limit/方法检出限
 备注: N.D = Not Detected (<MDL)/ 未检出 (小于方法检出限)
 mg/kg = ppm = parts per million/百万分之一

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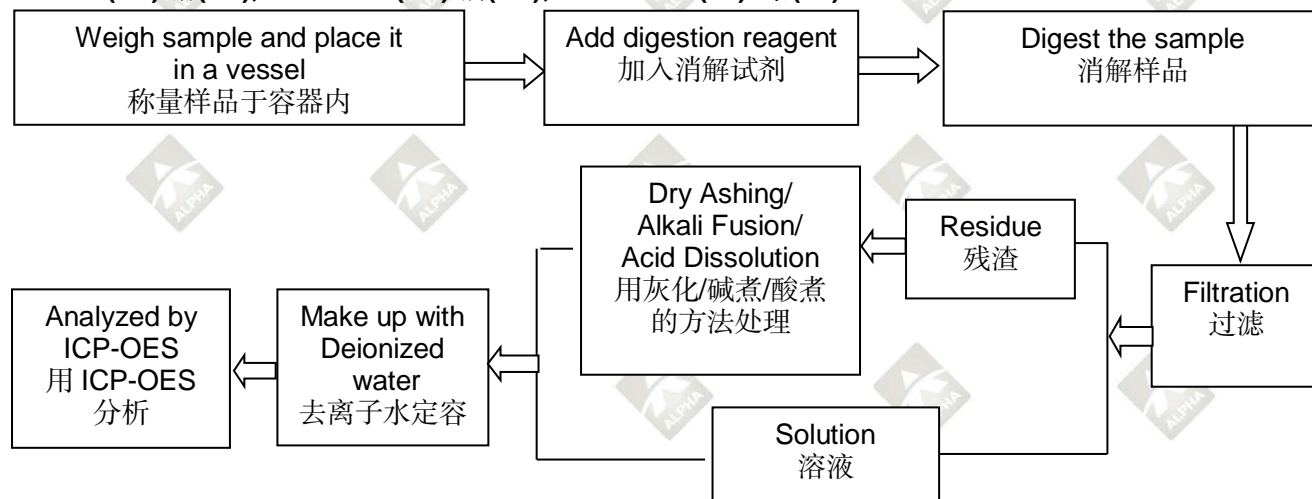


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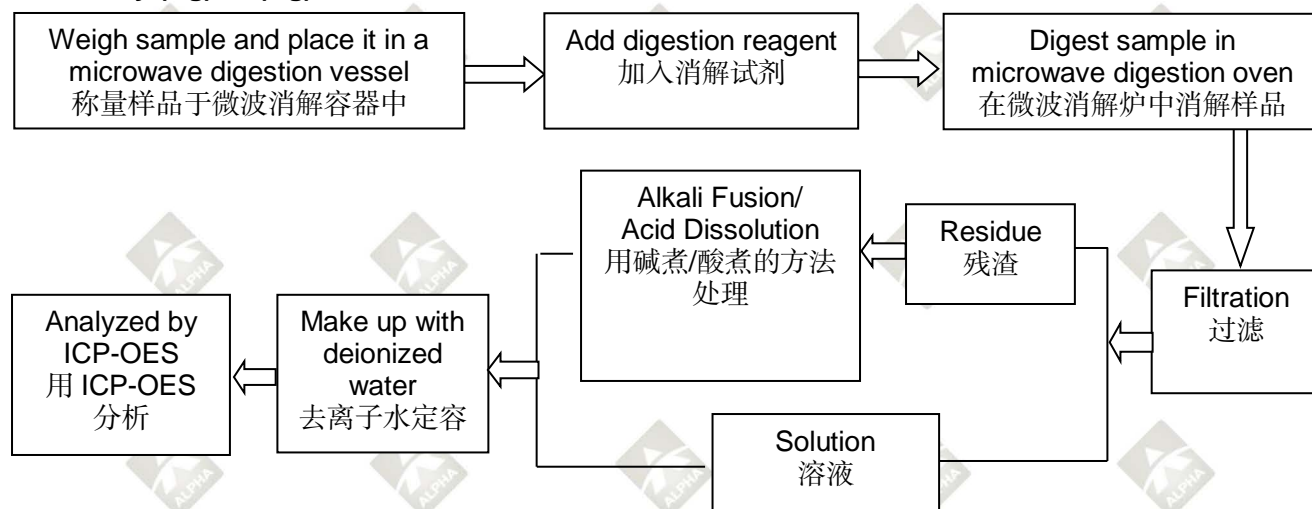
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Test Process /检测流程

1. Lead(Pb)/铅(Pb), Cadmium(Cd)/镉(Cd), Chromium(Cr) /铬(Cr)



2. Mercury (Hg) /汞(Hg)



3. Hexavalent Chromium (Cr(VI))/六价铬(Cr(VI))

(1) IEC 62321-7-2:2017

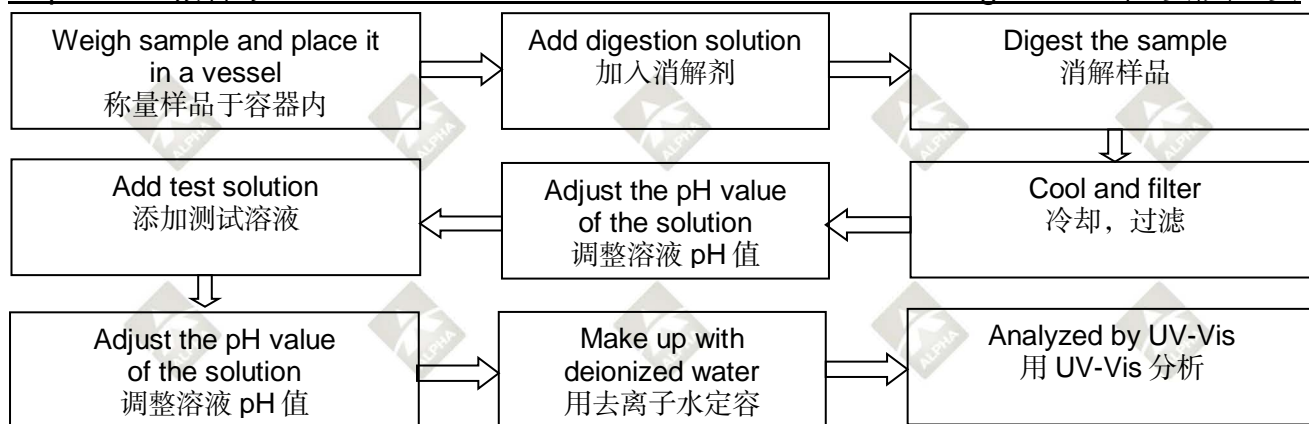
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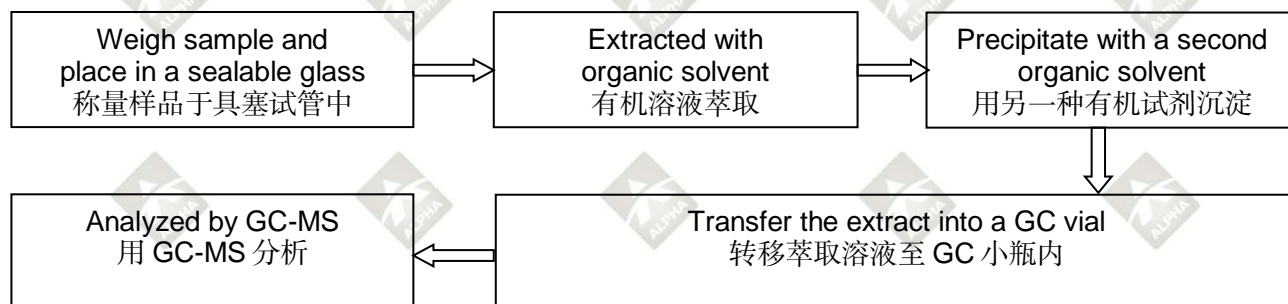
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4. Polybrominated Biphenyls (PBBs), Polybrominated Diphenyl Ethers (PBDEs)/ 多溴联苯(PBBs), 多溴二苯醚(PBDEs)



5. Phthalates/邻苯二甲酸酯 (DBP, BBP, DEHP, DIBP)



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Tested sample photo(s)/检测样品图片



Remark/备注:

Modification Version Number to (V1)/修改版本号至(V1)。

The original Test Report No. A2111132-C01-R05 (V0) (Version number: V0) dated November 18, 2021 was modified on November 24, 2021 due to include the following changes

原报告编号为 A2111132-C01-R05 (V0) (版本号: V0) 的检测报告, 签发日期为 2021 年 11 月 18 日, 该报告于 2021 年 11 月 24 日作出以下修改:

- Modify the address of the applicant.
- 修改申请商地址。

--- End of report ---
--- 报告结束 ---

Statement:

声明:

1. The sample(s) and sample Information was/were provided by the client who should be responsible for the authenticity which ALPHA hasn't verified;
样品及样品信息由申请者提供, 申请者应对其真实性负责, ALPHA 未核实其真实性。
2. The result(s) shown in this report refer(s) only to the sample(s) tested;
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