



BUREAU
VERITAS

TEST REPORT

LAB NO. 报告号 : (5510)312-1078
DATE 日期 : November 12, 2010
PAGE 页码 : 1 OF 5

APPLICANT
申请人公司名称

: PT. HUMIGARD INDONESIA
Jalan Kembang Kencana A2 No.2D.
Jakarta Barat 11620 Indonesia

CONTACT PERSON
联系人名称

: Freist Sulistyo

DATE OF SUBMISSION
样品收取日期

: November 8, 2010

TEST PERIOD
所需工作周期

: November 8, 2010 to November 12, 2010

NO. OF WORKING DAY(S) : 5
所需工作日

SAMPLE DESCRIPTION
样品描述

: HUMICO MOISTURE ABSORBER, DESICCANT
Color: White
Manufacturer: PT. HUMIGARD INDONESIA
Country of origin: INDONESIA

SUMMARY OF TEST RESULTS 测试结果摘要

TEST REQUESTED 测试项目	PASS 通过	FAIL 不通过	REMARK 备注
Restriction of Hazardous Substances Directive (RoHS), 2002/95/EC 有关欧洲针对电子产品的指令(电子电器禁用某些有害物质指令), 2002/95/EC	X		

REMARK

If there are questions or concerns on this report, please contact:

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LAB NO. 报告号 : (5510)312-1078
DATE 日期 : November 12, 2010
PAGE 页码 : 2 OF 5

Photo of the Submitted Sample 递交样品照片



Sample Number
(5510)312-1078



LAB NO. 报告号 : (5510)312-1078
DATE 日期 : November 12, 2010
PAGE 页码 : 3 OF 5

TEST RESULT 测试结果

Restriction of Hazardous Substances Directive (RoHS), 2002/95/EC

有关欧洲针对电子产品的指令（电子电器禁用某些有害物质指令），2002/95/EC

Compounds 化合物	Tested item 测试项目 (ppm)	RoHS' Limits RoHS' 建议最高界限 (ppm)	
		1	
Lead 铅 (Pb)	ND	1000	
Mercury 汞 (Hg)	ND	1000	
Cadmium 镉 (Cd)	ND	100	
Chromium VI 六价铬 (Cr VI)	ND	1000	
Polybrominated Biphenyls 多溴联苯 (PBBs) :			
Bromobiphenyls 一溴联苯	ND		
Dibromobiphenyls 二溴联苯	ND		
Tribromobiphenyls 三溴联苯	ND		
Tetrabromobiphenyls 四溴联苯	ND		
Pentabromobiphenyls 五溴联苯	ND		
Hexabromobiphenyls 六溴联苯	ND		
Heptabromobiphenyls 七溴联苯	ND		
Octabromobiphenyls 八溴联苯	ND		
Nonabromobiphenyls 九溴联苯	ND		
Decabromobiphenyl 十溴联苯	ND		
Sum of PBBs 多溴联苯总和	ND	1000	
Polybrominated Diphenyl Ethers 多溴联苯醚 (PBDEs) :			
Bromodiphenyl ethers 一溴联苯醚	ND		
Dibromodiphenyl ethers 二溴联苯醚	ND		
Tribromodiphenyl ethers 三溴联苯醚	ND		
Tetrabromodiphenyl ethers 四溴联苯醚	ND		
Pentabromodiphenyl ethers 五溴联苯醚	ND		
Hexabromodiphenyl ethers 六溴联苯醚	ND		
Heptabromodiphenyl ethers 七溴联苯醚	ND		
Octabromodiphenyl ethers 八溴联苯醚	ND		
Nonabromodiphenyl ethers 九溴联苯醚	ND		
Decabromodiphenyl ether 十溴联苯醚	ND		
Sum of PBDEs 多溴联苯醚总和	ND	1000	

Tested Item 测试项目	Conclusion 结论
1) White powder (humico moisture absorber, desiccant)	PASS 通过



Note / 注释:

Detection limits for regulated substances and limit of RoHS (in ppm) reference to 2002/95/EC

Regulated Substances 受限物质	Detection limit 检测限	RoHS* Limit (ppm) RoHS'建议最高界限
Pb 铅	10	1000
Hg 汞	10	1000
Cd 镉	10	100
Cr VI 六价铬	10	1000
PBBs 多溴联苯 <i>Bromobiphenyls</i> <i>Dibromobiphenyls</i> <i>Tribromobiphenyls</i> <i>Tetrabromobiphenyls</i> <i>Pentabromobiphenyls</i> <i>Hexabromobiphenyls</i> <i>Heptabromobiphenyls</i> <i>Octabromobiphenyls</i> <i>Nonabromobiphenyls</i> <i>Decabromobiphenyl</i>	50 (each)	1000 (sum)
PBDEs 多溴联苯醚 <i>Bromodiphenyl ethers</i> <i>Dibromodiphenyl ethers</i> <i>Tribromodiphenyl ethers</i> <i>Tetrabromodiphenyl ethers</i> <i>Pentabromodiphenyl ethers</i> <i>Hexabromodiphenyl ethers</i> <i>Heptabromodiphenyl ethers</i> <i>Octabromodiphenyl ethers</i> <i>Nonabromodiphenyl ethers</i> <i>Decabromodiphenyl ether</i>	50 (each)	1000 (sum)

ppm = mg/kg 百万分之一

< = less than 少于

ND = not detected 不被检出

NA = not applicable 不适用

Negative = 阴性

Positive = 阳性

NR = not requested 没有要求

Pb = Lead 铅

Hg = Mercury 汞

Cd = Cadmium 镉

Cr = Chromium 铬

Br = Bromine 溴

PBBs = Polybrominated Biphenyls 多溴联苯

PBDEs = Polybrominated Diphenyl Ethers 多溴联苯醚

Test Method / 测试方法:

Wet Chemistry Tests – Reference to IEC 62321:2008, “Electrotechnical Products- Determination of Levels of Six Regulated Substances”: 湿化学方法 – 参照 IEC 62321:2008, 电子电器产品中六种限用物质浓度测定

i. Lead (Pb) and Cadmium (Cd): The sample is comminuted and digested with acid mixtures. Pb/ Cd contents are determined with ICP-AES technique. (Chapter 8, 9 & 10)

铅和镉: 先将样品粉碎, 然后用混酸消解。铅/镉的含量由等离子发射光谱仪测定 (第 8, 9 和 10 章)。

ii. Mercury (Hg): The sample is comminuted and digested with acid mixtures. Hg content is determined with ICP-AES, ICP-MS or AAS-VGA technique. (Chapter 7)

汞: 先将样品粉碎, 然后用混酸消解。汞含量由离子发射光谱仪, 或者原子吸收分光光度计-氢化物发生装置测定。 (第 7 章)

iii. Chromium (VI) (Cr VI) 六价铬:

A. Metal: Qualitative method for the presence of hexavalent chromium on metal surface on "Test for the presence of Hexavalent Chromium (Cr VI) in colourless and coloured corrosion-protection coatings on metals". The presence of hexavalent chromium is indicated by the formation of a red to violet color. The method is applied in turn to 1) untreated surface; 2) surface got by gently rubbing to scratch possibly reduced chromate surface but without completely removing the whole coating layer; 3) surface got by forcibly scratching into the deeper layers, even reaching the substrate. The sample is further verified by boiling water extraction method if the result of spot test shows ahead is negative or uncertain. (Annex B)

金属: 金属表面六价铬存在的定性方法 “金属表面无色和有色腐蚀防护涂层中六价铬 (Cr VI) 的测试”。测 试颜色呈红—紫色, 则表明六价铬的存在。该方法适用于 1) 未磨损过的表面; 2) 轻微磨损过的表面, 以去除可能被还原的铬酸盐表层, 但不去除整个镀层; 3)用力磨损的镀层表面, 甚至于基材表面。如果以上点测试结果呈阴性或无法确定, 则用沸水萃取方法作进一步确认。 (附录 B)

B. Plastics & Electronics : The sample is comminuted and digested with alkaline mixtures. Chromium VI content is determined with UV-VIS spectroscopic technique. (Annex C)

塑料和电子器件: 先将样品粉碎, 然后用混碱消解。六价铬含量由紫外可见分光光度计测定。 (附录 C)

iv. PBBs and PBDEs: The sample extracted by appropriate solvent is used for extraction and quantified GC-MS. (Annex A)

多溴联苯和多溴联苯醚: 将样品用合适溶液进行提取, 再由气相色谱-质谱联用仪测定。 (附录 A)

Remark / 备注:

1. The result relates only to the tested item. The report shall not be reproduced except full without the written approval of the testing laboratory. Parameters which are not covered by the lab's testing scope are subcontracted to laboratories with government approval. The accreditation relates to competences given in the accreditation certificate.

测试结果仅代表被测样品。未经实验室书面许可, 此报告不可被复制。对于本实验室未能涵盖的测试项目, 实验室可以分包给其它政府承认的实验室。分包实验室的能力验证会在验证证书中注明。

2. The received sample(s) was out of scope of the stated requirement. The test was performed as per client's request.

根据客户要求, 对提交的样品进行上述测试。

END 结束

APPENDIX 附录 – TEST PROCESS 測試程序

