



测试报告

(SVHC)

深圳市惠贻华普电子有限公司
深圳市南山区华侨城东部工业区 B3 栋 4 楼东

No. GZ0907063740/CHEM

日期: 2009 年 7 月 17 日

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以下测试之样品是由申请者所提供及确认: FSK 无线射频模组

SGS 工作编号 : SZ11987948
SGS 内部编号 : 2.2
测试型号 : RFM01
客户参考信息 : RFM01、RFM02、RFM12、RFM12B、RFM12BP、HM-T、
HM-R、HM-TR、RFM22、RFM23、RFM31、RFM42、
RFM43、RFM81、RFM82、RFM91、RFM92 模组
样品接收日期 : 2009 年 7 月 9 日
测试周期 : 2009 年 7 月 9 日 - 2009 年 7 月 17 日

测试要求 : 基于欧洲化学品管理署于 2008 年 10 月 28 日公布的高关注物质清单 (根据欧盟第 1907/2006 号 REACH 法规), 测试 15 种高关注物质的含量。

测试结果 : 见后续页

结果概述 : 根据具体的测试范围和分析技术, 样品中 15 种高关注物质的含量都低于 0.1%。

通标标准技术服务有限公司
授权签名

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备注: 根据客户申请, SGS 出具了此中文报告, 英文版本可根据客户要求提供. (The Chinese test report is issued according to the applicant's request. The English version is available from SGS if further needed)

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测试样品:
样本描述: “FSK 无线射频模组”

样品按照以下材质种类拆分:

描述
聚合物 (包括 PVC, PET, ABS 等)
金属 (包括合金, 不锈钢, 铝, 铜等)
印刷电路板/元器件
非金属, 非聚合物 (包括人造和合成纤维, 木材, 纸制品和皮革等)
玻璃/陶瓷
其它 (包括化学物质, 液体, 干燥剂, 墨盒里的碳粉和油墨等)

备注:

1. 附录 A 是根据欧盟 67/548/EEC 指令和第 1907/2006 (EC) 号法规, 关于物质分类的定义。

测试方法:

SGS 实验室内部方法 RSTS-EE-SVHC-002, ICP/AES, GC/MS 和 GC/ECD 分析。

注释:

1. 本报告所涉及的关于 15 种高关注物质的化学分析是基于根据欧洲化学品管理署于 2008 年 10 月 28 日公布的候选清单, 利用现有的分析技术所完成的。具体参考 http://echa.europa.eu/consultations/authorisation/svhc/svhc_cons_en.asp 这个清单目前正在处于评估阶段, 将来可能会有所改变。
2. 根据欧盟第 1907/2006 (EC) 号法规, 如果满足以下两个条件, 如果物质符合第 57 条中的标准并根据第 59 条第一款被确定, 物品的任何制造商或进口商应根据第 7 条第 4 款向欧盟化学品管理署进行通报: (a) 物质在物品中的总含量超过 1 吨/年/生产商或进口商; (b) 物质在物品中的总含量以质量分数计超过 0.1% 的浓度。
3. 欧盟第 1907/2006 (EC) 号法规第 33 条规定, 含有满足第 57 条中的标准并根据第 59 条第一款被确定且质量分数大于 0.1% 的物质的物品的所有供应商应向物品接受者提供其可获取的充足信息, 以使物品使用安全, 这些信息至少包括物质的名称。
4. 如果样品中 SVHC 的测试结果超过检测限, 建议客户进一步定量分析检测含有 SVHC 的组分并且得到 SVHC 物质的准确浓度。

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测试报告

(SVHC)

测试结果:

No. GZ0907063740/CHEM

日期: 2009年7月17日

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物质名称	CAS No.	EC No.	浓度 (%)	报告限 (%)	分类
C10-13 氯代烃(短链氯化石蜡)	85535-84-8	287-476-5	ND	0.01	持续性, 生物累积性及 毒性物质(PBT) 及非常 持久, 高度生物累积性 物质(vPvB)
蒽	120-12-7	204-371-1	ND	0.005	持续性, 生物累积性及 毒性物质(PBT)
二甲苯麝香	81-15-2	201-329-4	ND	0.005	非常持久, 高度生物累 积性物质(vPvB)
邻苯二甲酸二丁酯	84-74-2	201-557-4	ND	0.005	第二类生殖毒性物质
4,4'-二氨基二苯甲烷	101-77-9	202-974-4	ND	0.005	第二类致癌物
邻苯二甲酸丁苄酯	85-68-7	201-622-7	ND	0.005	第二类生殖毒性物质
邻苯二甲酸二(2-乙基己基) 酯(DEHP)	117-81-7	204-211-0	ND	0.005	第二类生殖毒性物质
六溴环十二烷(HBCDD)	25637-99-4 and 3194- 55- 6 (134237-51- 7, 134237-50- 6, 134237-52- 8)	247-148-4 and 221- 695-9	ND	0.005	持续性, 生物累积性及 毒性物质(PBT)
三丁基氧化锡**	56-35-9	200-268-0	ND	0.005	持续性, 生物累积性及 毒性物质(PBT)
氯化钴*	7646-79-9	231-589-4	ND	0.005	第二类致癌物
五氧化二砷*	1303-28-2	215-116-9	0.022	0.005	第一类致癌物
三氧化二砷*	1327-53-3	215-481-4	0.019	0.005	第一类致癌物
三乙基砷酸酯*	15606-95-8	427-700-2	0.043	0.005	第一类致癌物
酸式砷酸铅*	7784-40-9	232-064-2	ND	0.005	第一类致癌物; 第一类 生殖毒性物质
重铬酸钠*	10588-01-9	234-190-3	ND	0.005	第二类致癌物; 第二类 诱导有机体突变的物 质; 第二类生殖毒性物 质

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Member of the SGS Group (SGS SA)

测试报告 (SVHC)

No. GZ0907063740/CHEM

日期: 2009 年 7 月 17 日

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备注:

1*. 氯化钴浓度是基于 ICP-AES 测得钴元素的结果和 IC 测得氯离子的结果。

五氧化二砷, 三氧化二砷, 酸式砷酸铅和三乙基砷酸酯浓度都是基于重金属的检测结果 (例如砷、铅)

重铬酸钠(CAS 号: 10588-01-9)的浓度是基于 ICP-AES 测得钠元素的结果和分光光度法测得六价铬的结果。
2008 年 12 月 16 日最新修订的 67/548/EEC 中, 二水合重铬酸钠 (CAS 号: 7789-12-0) 不被列为 SVHC。

三丁基氧化锡 (TBTO) 浓度是用 TLC 方法确认后, 基于 ICP-AES 测得锡元素的结果

需进一步确认物品中以上金属化合物的存在。

报告限指的是各元素的检出限 (例如: 锡、钴、氯、砷、铅、钠和六价铬)

2. ND = 未检出 (低于报告限)

3. 所有报告限是基于均一材料分析得出。

4. 本报告中的测试结果和照片引用自报告 GZ0907063739/CHEM。

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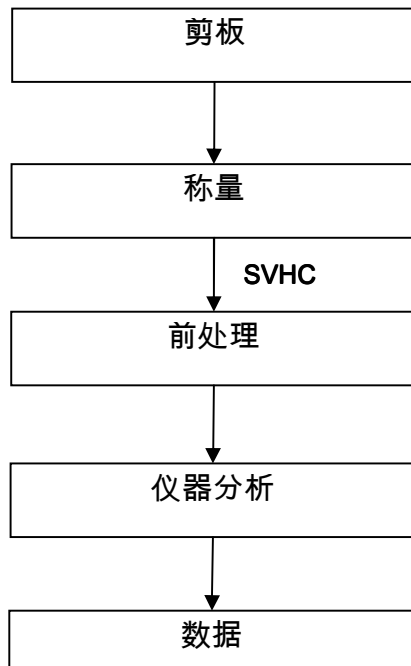


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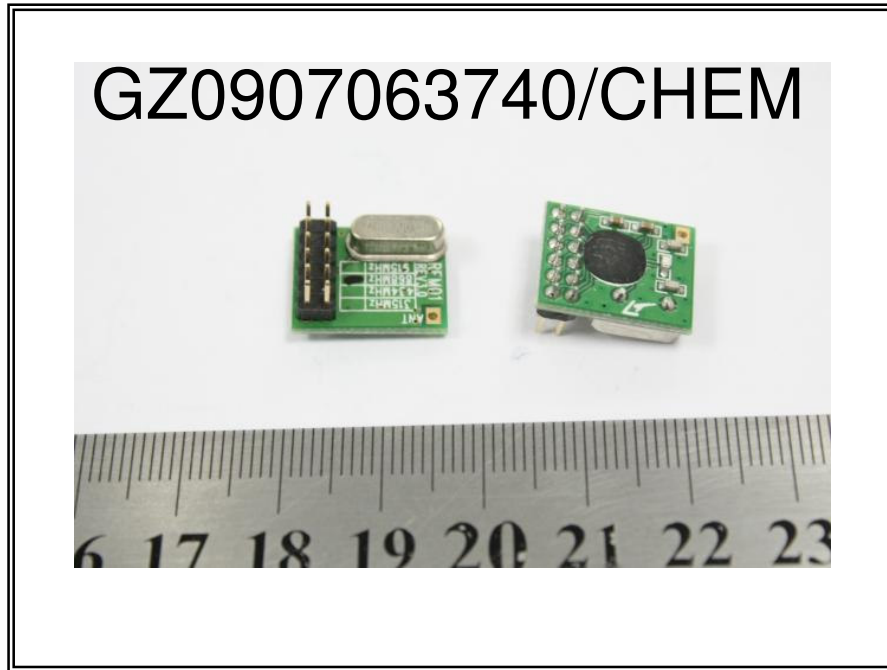
测试流程图



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样品照片:



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附录 A

分类

第一类致癌物

67/548/EEC 指令和第 1907/2006/EC 法规中的定义

已经为人类熟知对人有致癌作用。有充分证据可以建立癌症的发展和人与该类物质接触之间的因果联系。

第二类致癌物

物质如果对人具有致癌作用, 则被认为是该类物质。有足够的证据可以充分假定人与该类物质直接接触可以致癌。

基于:

- 适当长期的动物实验
- 其它相关信息

第一类诱导有机体突变的物质

已经为人类熟知可以致基因突变的物质。有充分证据可以建立长期基因损害和人与该类物质接触之间的因果联系。

第二类诱导有机体突变的物质

物质如果对人具有致基因突变作用, 则被认为是该类物质。有足够的证据可以充分假定人与该类物质直接接触可以致基因损害。

基于:

- 适当长期的动物实验
- 其它相关信息

第一类生殖毒性物质

已经为人类熟知可以降低人的生殖能力。有充分证据可以建立人生殖能力降低和人与该类物质接触之间的因果联系。

已经为人类熟知对人体有毒。有充分证据可以建立人体暴露于物质与不断发展的毒副作用之间的联系。

第二类生殖毒性物质

物质如果有减弱人的生殖能力的作用, 则被认为是该类物质。有足够的证据可以充分假定人与该类物质直接接触可以减弱人的生殖能力, 基于:

- 动物实验研究明确的证明在没有毒性时可以降低生殖能力, 或者在相同给药水平时, 与其它毒性同时表现出, 但是不是其它毒性的二级非特定结果;
- 其它相关信息

如果物质对人类有长期的毒性, 则被认为是该类物质。有足够的证据可以充分假定人暴露与该类物质会引起长期毒性。一般基于:

- 适当的动物实验研究表明具有生殖毒性, 或者在相同给药水平时, 不是其它毒性的二级非具体毒性结果
- 其它相关信息。

持续性, 生物累积性及毒性物质; 非常持久, 高度生物累积性物质

持续性, 生物累积性及毒性物质和非常持久, 高度生物累积性物质将会给化学品安全管理带来很大的挑战。对这些物质来说, 没法建立充分可靠的对环境安全的浓度。

*** 报告完 ***

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