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一、目的 Purpose

身为地球村的一员，宁波鼎声微电子科技有限公司负责的尽其一切力量来保护共同且唯一的地球，故制定此标准规范来改善、监督与维持产品均符合不使用危害物质之规定。

As a member of the global village, NingBo GiantOhm Micro Electronics Technology Co., Ltd. is responsible for making effort to protect our unique Earth. Therefore, this technical standard (hereafter as Standard) is formulated to improve, supervise, and maintain that products comply with the regulations of no-use hazardous substances.

二、适用范围 Scope

本公司产品使用之材料、组件、零件、包装材料、制程附属材料均适用之。此外，在本技术标准中未明确规定的物质或者其用途，如果各国或当地法令或客户禁止使用或限制使用，必须按照其法令或要求执行。

Anything used in our products are all applicable with this Standard, including but not limited in the materials, component, parts, packing materials and process auxiliary materials, and so on. In addition, substances or their uses not specified in this Standard must be used in accordance with national or local laws and regulations or customer regulations if their use is prohibited or restricted.

三、权责 Responsibility

3.1 供应商 Supplier

3.1.1 配合材料调查 Cooperate with material investigation

3.1.2 按照采购需求，交付符合此规范值原材料

Deliver materials that meet this Standard according to requirements.

3.1.3 及时获知本规范文件的更新，并执行之。

Timely obtain updates to this Standard and execute it.

3.2 采购部 Purchasing Dept.

3.2.1 执行供货商材料调查 Conduct supplier material investigation.

3.2.2 采购符合此规范之原材料 Purchase the materials conforming to this Standard.

3.2.3 本规范更新时之供货商通知。Supplier notification when this Standard updated.

3.3 工程部 Engineering Dept.

3.3.1 试作符合此规范之原材料。Trial use of materials that meet Standard.

3.4 生产部 Manufacturing Dept.

3.4.1 生产用原材料与设备均符合此规范之生产流程，确保产品无污染。

The materials and equipment should be conforming to this Standard, ensuring that the products are pollution-free.

3.5 品质部 Quality Assurance Dept.

3.5.1 监督使用之原材料与设备是否符合此规范之要求。

Supervise the materials and equipment used comply with the Standard.

3.5.2 收集相关法律、法规、客户标准,并整理纳入公司管制档。

Collect HSF relevant laws, regulations and Customer Specific Requirements , and controlled in DCC.

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3.6 研发部 R&D Dept.

3.6.1 设计不使用有害物质的符合法律法规的产品。

Design products that manufacturing with no-use hazardous substances and comply with laws and regulations.

四、定义 Definition

4.1 N.D.: Not Detectable

小于侦测极限; 阴性; 未检出。 Less than detection limit; Negative; Not Detected.

“N.D.” 测试结果的原材料是鼎声微电允收的。

Materials which test result is "N.D." can be accepted by GiantOhm.

4.2 HSF: Hazardous substance free

有害物质减免, 指减少或禁用任何列表于本技术标准的物质。

Reduce or prohibit any substances listed in this Standard.

4.3 环境管理物质 Substances related Environment

指会对全球环境造成严重影响和法律法规规定物质及鼎声微电指定之物质。

The substances that may have a serious impact on the global environment and which are regulated by laws and regulations.

4.4 RoHS:

欧盟电子电机设备中危害物质限用指令 Restriction of the use of certain hazardous substance in EEE

4.5 PPM: 百万分之一 Parts per Million

4.6 包装材料 Packing materials

指于储存及运送过程中,用以保护、装卸及标示鼎声微电产品所使用之材料。同时也包含标示所使用的墨水或染料。

Those materials used to protect, load and unload, and label GIANTOHM products during storage and transportation. It also includes the ink or dye used for labeling.

4.7 均质材料 Homogenous material

无法再以机械方式(如松脱、切割、破碎、研磨等)加以分离拆解之最小单元。

The smallest unit that cannot be separated and disassembled mechanically, such as loosening, cutting, crushing, grinding, etc.

4.8 杂质 Impurity

能够满足以下任一个或两个条件的物质

Substances that can meet one or both of the following conditions

-包含在天然材料中,作为工业材料使用,在精制过程中技术上不能完全去除的物质(例如自然的物质).

Substances included in natural materials and used as industrial materials that cannot be completely removed technically during the refining process, such as natural substances.

-合成反应过程中产生,而在技术上不能完全去除的物质。

Substances produced during the synthesis reaction process that cannot be completely removed technically.

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五、内容 Content

5.1 RoHS 2011/65/EU & 2015/863/EU 禁用物质一览表

RoHS 2011/65/EU & 2015/863/EU List of prohibited substances

管制物质 Substance	检测标准 Test standard	限制含量 Limit	备注 Remark
铅(Pb)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	豁免条款除外 Exception to exemption clause
镉(Cd)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	/
六价铬(Cr6+)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
汞(Hg)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
溴化耐燃剂(PBBS)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
溴化耐燃剂(PBDE)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
邻苯二甲酸二辛酯 Bis(2-ethylhexyl)phthalate (DEHP)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
邻苯二甲酸丁苄酯 Benzyl butyl phthalate (BBP)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	

5.2 欧盟 2006/122/EC 规定之禁用物质

Prohibited substances regulated by EU 2006/122 / EC

管制物质 Substance	限制含量 Limit content
全氟辛烷磺酰基化合物 (PFOS)	<ol style="list-style-type: none"> 使用其作为物质或制品的成份,若其浓度大于或等于 0.005%,不得投放于市场。It's prohibited to market if the concentration of PFOS in products is higher or equal to 0.005%. 在半成品或成品中,或它们的部件中,以含有 PFOS 的结构或特殊部件的局部结构计算,浓度不得等于或高于 0.1%。In semi-finished or finished products, or in their components, the concentration shall not be equal to or higher than 0.1% when calculated based on the local structure containing PFOS or special components. 对于纺织品和其他有涂层的材料, PFOS 的量不得等于或高于 1μg/m²。For textiles and other coated materials, the amount of PFOS shall not be equal to or higher than 1 μg / m².
全氟辛酸及其盐全氟辛酸及其盐 (PFOA)	其被怀疑具有 PFOS 相似的危害,因此,需要对当前正在进行的风险评估活动和获得更安全的替代物质的可能性继续审查,并制订降低风险措施。It is suspected to have similar hazards to PFOS, therefore, it is necessary to continue reviewing the current risk assessment activities and the possibility of obtaining safer alternative substances, and develop risk reduction measures.

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5.3 REACH 法规 REACH regulation

依据欧盟化学品政策 (Registration, Evaluation, Authorization and Restriction of Chemicals, REACH) 即《化学品注册、评估、授权和限制》，明文规定要求所有成品供货商，如果该化学物质是欧盟化学署所认知的高关注化学物质列表 (Substances of Very High Concern, SVHC) 中之一，制造商必须义务提供成品所含有化学物质信息给消费者。

In accordance with the European Union Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), it is expressly stipulated and requested that all suppliers of finished products, if the chemical substance is one of the Substances of Very High Concern (SVHC) recognized by the European Union chemical agency, shall be obliged to provide information on the chemical substance contained in the finished product to the consumer.

REACH 法规中的第 67 条文，明文规定要求所有的化学品、半成品、成品制商，如果其产品组成成份含有危险物质(请参照 REACH 法规附录 17)，除了一些特殊条件允许之下，则不能制造或于市面贩卖。

Article 67 of REACH expressly requires all manufacturers of chemicals, semi-finished products and finished products if their products contain dangerous components Dangerous substances (please refer to appendix 17 of REACH) cannot be manufactured or sold in the market except under certain special conditions

所有给鼎声微电的任何产品，如果其组成成份含有受 REACH 规范到的化学品，且其含有浓度超过 1000 ppm (化学品重量/零件总重量)，就向鼎声微电报备及完成讯息传达的义务。提报讯息需要包含：(a) 化学品名称、(b) 化学文摘服务登记号码、(c) 化学品重量、(d) 产品含有该化学品的浓度。

If all the products, their composition contains a chemical specified by REACH and their concentration exceeds 1000 PPM (Chemical weight/total part weight)), given to GiantOhm, then shall report and inform to GiantOhm to complete the obligations of full information transmission. The submission information should include: (a) chemical name, (b) chemical text service registration number, (c) chemical weight, (d) product concentration containing the chemical.

请参考以下网站连结取得目前最新的高关注物质列表与 REACH 管制列表(附录 17)。

Please refer to the following website links for the latest published list of substances of high concern and REACH control list (appendix 17)

[SVHC](#)

[附录 17, Annex 17](#)

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5.4 中国 RoHS 2 《电器电子产品有害物质限制使用管理办法》

China RoHS 2 《Management Method for the Restricted Use of Harmful substances in Electrical and Electronic Products》

管制物质 Substance	检测标准 Test standard	限制含量 Limit	备注 Remark
铅(Pb)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	豁免条款除外 Exception to exemption clause
镉(Cd)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	/
六价铬(Cr6+)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
汞(Hg)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
溴化阻燃剂(PBBS)	Test refer to IEC 62321. Analysis by GC/MS	1000 PPM	
溴化阻燃剂(PBDE)	Test refer to IEC 62321. Analysis by GC/MS	1000 PPM	

5.5 根据国际法律法规并整合汽车客户对有害物质的管制要求，鼎声微电规定产品管制标准即 ELV 指令汽车禁用物质标准要求如下：

In accordance with international laws and regulations and the integration of automobile customers' control requirements on hazardous substances, GiantOhm stipulates the product control standard, namely the ELV directive automobile prohibited substances standard requirements, as follows:

管制物质 Substance	检测标准 Test standard	限制含量 Limit	备注 Remark
铅(Pb)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	豁免条款除外 Exception to exemption clause
镉(Cd)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	/
六价铬(Cr6+)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
汞(Hg)	Test refer to IEC 62321. Analysis by ICP	1000 PPM	
溴化阻燃剂(PBBS)	Test refer to IEC 62321. Analysis by GC/MS	1000 PPM	
溴化阻燃剂(PBDE)	Test refer to IEC 62321. Analysis by GC/MS	1000 PPM	

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5.6 针对我司原材料的特性,厂商须依下表提供检测报告:

According to the characteristics of our raw materials, the manufacturer shall provide the test report according to the following table:

材料名称 Material Name 检测项目 Items	基板类 Substrate	油墨类 Paste	封装胶带 Embossed tape	合金带材 Alloy Material	靶材 Target materials	Aluminum Heat dissipation 散热铝材	包材类 Packing Material	其它主材*1 Other Raw Material	其它辅材*2 Other Material
镉(Cd)	▲	▲	▲	▲	▲	▲	▲	▲	▲
铅(Pb)	▲	▲	▲	▲	▲	▲	▲	▲	▲
汞(Hg)	▲	▲	▲	▲	▲	▲	▲	▲	▲
六价铬(Cr ⁶⁺)	▲	▲	▲	▲	▲	▲	▲	▲	▲
PBBs	▲	▲	▲	▲	▲	▲	▲	▲	▲
PBDEs	▲	▲	▲	▲	▲	▲	▲	▲	▲
BBP	▲	▲	▲	▲	▲	▲	▲	▲	▲
DBP	▲	▲	▲	▲	▲	▲	▲	▲	▲
DEHP	▲	▲	▲	▲	▲	▲	▲	▲	▲
DIBP	▲	▲	▲	▲	▲	▲	▲	▲	▲
溴(Br)	▲	▲	▲	▲	▲	▲	▲	▲	■
氯(Cl)	▲	▲	▲	▲	▲	▲	▲	▲	■
氟(F)	▲	▲	▲	▲	▲	▲	▲	▲	■
碘(I)	▲	▲	▲	▲	▲	▲	▲	▲	■
DNOP	▲	▲	▲	▲	▲	▲	■	▲	■
DIDP	▲	▲	▲	▲	▲	▲	■	▲	■
铋(Sb)	▲	▲	▲	▲	▲	▲	■	▲	■
红磷(Red P)	▲	▲	▲	▲	▲	▲	■	▲	■
HBCDD	▲	▲	▲	▲	▲	▲	■	▲	■
PFOA	▲	▲	▲	▲	▲	▲	■	▲	■

注 Note:

▲—必须检测物质 The substances must be tested;

■—非强制检测物质,若鼎声微电要求时需检测。Substances that are not mandatory for testing are only tested when requested by GiantOhm.

*1 —其他主材, 包括镍,锡。Other Raw Material, including nickel, tin.

*2 —其他辅材, 包括标签, 电镀液和钢珠。Other Material, including labels, plating solution and steel beads.

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5.7 根据我司成品的特性，需要依据下表检测成品含有物质项目。

According to the characteristics of our finished products, substances contained in the finished products shall be detected according to the following table

成品 Finished goods	RoHS									
	Pb	Hg	Cd	Cr ⁶⁺	PBBs	PBDEs	BBP	DBP	DEHP	DIBP
	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	Halogen				Other					
	Br	Cl	F	I	Sb	Red P	HBCDD	PFOA/S	AS	Be
	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
	TSCA									
	2,4,6-三叔丁基苯酚(2,4,6-TTBP)		十溴二苯醚 (DecaBDE)		苯酚:异丙基磷酸酯(3:1)(PIP 3:1)		五氯硫酚 (PCTP)		六氯丁二烯 (HCBd)	
	▲		▲		▲		▲		▲	
	四项邻苯				多环芳香烃					
DINP	PAHs	DNHP	DNOP	PAHs						
▲	▲	▲	▲	▲						

5.8 检测报告需求 Requirements of test report

☆检测报告需具备项目 Test report shall have items:

5.8.1 前处理方式 Pre-Treatment method

5.8.2 测定方式 Detection method

5.8.3 检测机构名及检测机构人员签名 Testing institution and signature

5.8.4 样品收到日期, 测试日期和报告发行日期

Sample receiving date, test date and report date

5.8.5 测试结果及测试极限值 Test results and test limits

5.8.6 检测流程图 Test flow chart

5.8.7 检测样品名称型号和清晰可辨识的图片

Sample name, model and clearly identifiable picture

5.8.8 检测报告编号 Test report number

☆测试实验室要求 Requirement of test laboratory:

需由通过 ISO 17025 的认证机构进行测试。

The test will be conducted by an accredited body that has certified ISO 17025.

5.9 鼎声微电产品之电阻排外条款，详细条文说明如下：

The resistance paste on our products is subject to the exemption clause, the details are as below:

5.9.1 RoHS

铅符合欧盟 RoHS (2011/65/EU) 的豁免条款 7(c)-I, 即电子电气组件中玻璃或陶瓷材料 (电容器中陶瓷介质除外) 所含的铅, 如压电设备, 或玻璃/陶瓷基复合组件。

Lead (Pb) meets the EU RoHS (2011/65/EU) exemption clause 7(c)-I; that is, the lead

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contained in glass or ceramic materials (excluding ceramic media in capacitors) in electrical and electronic components, such as piezoelectric devices, or Glass/ceramic based composite components.

5.9.2 SS-00259

玻璃或陶瓷中，或玻璃或陶瓷基复合材料中含铅的电气及电子组件、但是电容器的介电陶瓷除外（例：压电器件）

Lead contained in glass or ceramic materials (excluding ceramic media in capacitors) in electrical and electronic components, such as piezoelectric devices, or Glass/ceramic based composite components.)

5.9.3 ECO:

阴极射线管、电子零件及荧光灯之玻璃中铅。

Lead in glass for electronic parts of cathode ray tubes and fluorescent lamps

5.9.4 ELV:

铅符合 ELV 附件 II (2016 年/ 774 / EC) 豁免条款 10 (a) - 电子和电子组件，其含有玻璃或陶瓷，玻璃或陶瓷基质化合物，玻璃陶瓷材料或玻璃-陶瓷基质化合物中的铅。

Lead meets the ELV Annex II (2016/774/EC) exemption clause 10(a) - Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound.

5.9.5 中国 RoHS China RoHS:

8.3.1 陶瓷及玻璃：用于除介电陶瓷电容以外的电子电气元器件(例如，压电器件、玻璃陶瓷的复合材料)

Ceramics and Glass: used for electronic and electrical components other than dielectric ceramic capacitors (for example, piezoelectric devices, glass and ceramic composites)

5.10 根据国际法律法规并整合客户对有害物质的管制要求,鼎声微电规定原材管制标准如下

According to international laws and regulations and the integration of customers' control requirements on hazardous substances, GiantOhm stipulates the raw material control standards as follows:

No.	管制物质 Substance	检测标准 Test standard	限制含量 Limit	备注 Remark
1	铅(Pb)	Test refer to IEC 62321. Analysis by ICP	90 PPM	豁免条款除外 Exception to exemption clause
2	镉(Cd)	Test refer to IEC 62321. Analysis by ICP	5 PPM	/
3	六价铬(Cr6+)	Test refer to IEC 62321. Analysis by ICP	8 PPM	
4	汞(Hg)	Test refer to IEC 62321. Analysis by ICP	2 PPM	

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No.	管制物质 Substance	检测标准 Test standard	限制含量 Limit	备注 Remark
5	溴化耐燃剂 (PBBs)	Test refer to IEC 62321. Analysis by GC/MS	5 PPM	/
6	溴化耐燃剂(PBDEs)	Test refer to IEC 62321. Analysis by GC/MS	5 PPM	
7	氯(Cl)	Test refer to BS EN 14582. Analysis by IC Method.	700 PPM	/
8	溴(Br)	Test refer to BS EN 14582. Analysis by IC Method.	700 PPM	/
9	氯(Cl)+ 溴(Br)	Test refer to BS EN 14582. Analysis by IC Method.	1200 PPM	/
10	多环芳香烃化合物(PAHs)	Test refer to IEC 62321: 2008 Analysis by GC/MS.	N.D.	/
11	Phthalates [DEHP, DBP, BBP, DIBP, DINP, DIDP, DNOP, DNHP, DIHP, DHNUP, DIPP, DPP,DMEP] [支链与直链的邻苯二甲酸二戊酯 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear] [邻苯二甲酸正戊基异戊基酯 N-pentyl-isopentylphthalate]	Test refer to EN 14372. Analysis by GC/MS.	N.D.	其他邻苯类物质 含量<1000ppm; 且所有邻苯二甲 酸盐无刻意添加
12	全氟辛烷磺酸(及其盐) (PFOS)	Test refer to US EPA 3550C: 2007. Analysis by LC/MS.	N.D.	/
13	全氟辛酸酸(PFOA)及其盐类 与酯类	Test refer to US EPA 3550C: 2007. Analysis by LC/MS..	N.D.	/
14	镍(Ni)及镍化合物(Nickel and nickel compounds)	Test refer to EPA3052 / EPA3050B. Analysis by ICP- OES, ICP-MS or AAS	N.D.	管控范围:与皮肤 持续接触的零部 件 Control Point: parts in constant contact with skin
15	砷(As)及砷化合物(Arsenic (As) and arsenic compounds)	Test refer to EPA3052 / EPA3050B. Analysis by ICP- OES, ICP-MS or AAS	N.D.	/
16	四溴双酚(TBBP-A)	Test refer to DIN 53313. Analysis by GC/MS, GC/ECD	N.D.	/
17	锑及锑化合物(Antimony (Sb) and its compounds)	/	100 PPM	/
18	其他有机溴化合物 (Other brominated organic compounds)	/	N.D.	/
19	多氯联苯(PCB)、多氯化萘 (PCN)、多氯三联苯(PCT)	Test refer to DIN 53313. Analysis by GC/MS, GC/ECD	N.D.	/
20	短链型氯代烷烃(SCCP)	Test refer to EPA 8082, Analysis by GC/MS	N.D.	/

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No.	管制物质 Substance	检测标准 Test standard	限制含量 Limit	备注 Remark
21	聚氯乙烯(PVC)以及聚氯乙烯混合物	Analysis by FT-IR	N.D.	/
22	其他有机氯化物 (Other chlorinated organic compounds)	/	N.D.	/
23	铍及其化合物 (Beryllium and its compounds)	Analysis by ICP	N.D.	/
24	氯系阻燃剂 (Chlorinated Flame Retardants)	/	N.D.	/
25	硼酸、特定硼酸钠 (Boric acid, specific sodium borates)	/	N.D.	/
26	4-(1,1,3,3-四甲基丁基)苯酚 (4-(1,1,3,3-tetramethylbutyl) phenol)	/	1000 PPM	/
27	灭蚊灵 (Mirex)	/	N.D.	/
28	乙二醇甲醚乙基及醋酸盐 (Ethylene Glycol Monomethyl Ether and its acetate) (EGDME)	/	N.D.	/
29	卤化戴奥辛和呋喃 (Halogenated dioxins and furans)	/	N.D.	/
30	黄磷,红磷(Phosphorus and Red Phosphorus)	/	N.D.	/
31	N,N-二甲基乙酰胺 (DMAC)	/	1000 PPM	/
32	磷酸三(二甲苯)酯 (Trixylyl phosphate (TXP))	/	1000 PPM	/
33	硒以及硒化合物 (Selenium (Se) and its compounds)	Test refer to EPA 3050B / 3051A/ 3054. Analysis by ICP-OES(ICP-AES), ICP-MS or AAS.	1000 PPM	/
34	中链氯化石蜡 (MCCP) Medium Chain Chlorinated Paraffins	/	N.D.	/
35	长链型氯化烷烃(LCCP) Long-chain chlorinated paraffins	Test refer to US EPA 8082, EPA 3550C. Analysis by GC-MS.	1000 PPM	/
36	壬基酚与壬基酚聚氧乙烯醚及相关物质 Nonylphenol/ethoxylates (NP/NPEs) and related substances	Test refer to US EPA 3540C, EPA 3550C or US EPA 8270D. Analysis by GC-MS	N.D.	/
37	烷基酚(Alkylphenols)	Test refer to US EPA 3540C, EPA 3550C or US EPA 8270D. Analysis by GC-MS.	N.D.	/

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38	木材, 纸张和其它植物为基础的产品 Wood, Paper and Other Plant-based Products	/	N.D.	/
39	2,4,6 三-叔丁基苯酚 2,4,6-Tri-tert-butylphenol	/	N.D.	/
40	取代类二苯胺及二苯胺与苯乙烯和2,4,4-三甲基戊烯的反应产物(BNST) Diphenylamine, Substituted (SDPA) and Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene(BNST)	/	N.D.	/
41	氯化烃类 Chlorinated Hydrocarbons	Test refer to US EPA3540C, US EPA 8270D, US EPA 5021. Analysis by GC-ECD	N.D.	/
42	二乙二醇二甲醚 (Bis(2-methoxyethyl) ether)	/	1000 PPM	/
43	磷系阻燃剂 Phosphorus-based Flame Retardant [TCEP, TDCPP, TCPP, TBPH, TPP, MDPP, DBPP, TBPP, TCCP, TDBPP]	Test refer to EPA 8141B. Analysis by GC-MS or ICP-OES (ICP-AES)	<25 PPM	/
44	三乙胺基氧化磷 Tris-(1-aziridinyl) phosphin oxide	/	N.D.	/
45	三(2,3-二溴丙基)磷酸酯 Tri-(2,3-dibromo-propyl phosphate)	/	N.D.	/
46	三取代基有机锡化合物(含三丁基锡化合物(TBT)和三苯基锡化合物(TPT))	Test refer to DIN 38407. Analysis by GC/MS	N.D.	/
47	石棉(Asbestos)	Analysis by FT-IR	N.D.	/
48	钴(Co)及钴化合物(Cobalt and cobalt compounds)	Test refer to EPA3052/EPA3050B. Analysis by ICP-OES、ICP-MS or AAS	N.D.	0.5ug/cm ² / week 管控范围: 与皮肤持续接触的零部件
49	偶氮化合物 (Azo Compounds)	Test refer to EN 14362-2.	N.D.	/
50	甲醛(Formaldehyde)	Test refer to EN 717-1, formaldehyde emission by the chamber method.	N.D.	/
51	发泡聚苯乙烯(EPS)	/	N.D.	/
52	臭氧层破坏物质 (Ozone depleting substances)	Test refer to EPA8260B. Analysis by GC/MS	N.D.	/
53	二辛基锡化合物(DOT)	/	N.D.	/
54	二丁基锡化合物 (DBT)	/	N.D.	/

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55	三丁基锡氧化物 (TBTO)	/	N.D.	/
56	氧化铍(Beryllium oxide)	/	N.D.	/
57	铍青铜(Beryllium copper)	/	N.D.	/
58	2-(2H-1,2,3-苯并三氮唑-2-基)-4,6-二叔丁基酚(CAS No. 3846-71-7)	/	N.D.	/
59	4,4-二氨基二苯甲烷 (4,4-MDA)	/	N.D.	/
60	高氯酸盐化合物 (Perchlorate Compounds)	/	N.D.	/
61	磷酸三(2-氯乙基)酯(TCEP)、磷酸三(2-氯丙基)酯(TCPP)、磷酸三(2,3-二氯丙基)酯(TDCPP)	/	N.D.	/
62	温室气体 (Green House Gases) HFC, PFC, SF6	/	N.D.	/
63	PFAS 全氟烷基和多氟烷基	/	N.D.	/
64	普林普剂(PCP)	/	N.D.	/
65	铋及铋化合物(Bismuth (Bi) and its compounds)	/	1000 PPM	/
66	放射性物质(Radioactive substances)	/	N.D.	/
67	卤化二苯基甲烷(Halogenated diphenyl methanes)	Analysis by GC/MS	N.D.	/
68	气味物质(二甲苯麝香及酮麝香) (Fragrance Substance (Musk xylene and Musk Ketone))	/	N.D.	/
69	界面活性剂(DTDMAC, DODMAC/DSDMAC and DHTDMAC) (Surfactants)	/	N.D.	/
70	五氯酚(PCP)	Analysis by GC/MS	1000 PPM	/
71	三氯沙(Triclosan)	/	N.D.	/
72	特定苯并三氮唑 (Specific Benzotriazole)	/	N.D.	/
73	富马酸二甲酯(DMF)	/	N.D.	/
74	三氧化锑(Antimony trioxide)	Analysis by ICP	100 PPM	/
75	六氯丁二烯(HCBD)	/	N.D.	/
76	四氯苯(TeCB)	/	N.D.	/
77	奈米物质 (Nanometer substance)	/	100g	/
78	苯(Benzene)	/	1000 PPM	/
79	正己烷(n-hexane)	/	1000 PPM	/

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80	六溴环十二烷	/	N.D.	/
81	过氯酸盐(Perchlorates)	/	N.D.	/
82	持久性有机污染物(源)(POPs) Persistent Organic Pollutants(POPs)	/	N.D.	/
83	2-萘胺及其盐类	91-59-8	1000 PPM	/
84	对二氨基联苯及其盐类和 4-氨基联苯；苯基苯胺及其 盐类	92-87-5/ 92-67-1	1000 PPM	/
85	4-硝基联苯	92-93-3	1000 PPM	/
86	有机锡化合物	/	1000 PPM	/
87	二-u-氧-正丁基锡羟基硼烷； 二丁基锡氢硼	75113-37-0	1000 PPM	/
88	五氟代苯酚及其酯类	87-86-5	1000 PPM	/
89	单甲基四氯二苯基甲烷和 单甲基二氯二苯基甲烷	76253-60-6/ /	N.D.	/
90	单甲基二溴二苯基甲烷：溴 苯甲基甲苯异构 (DBBT)	99688-47-8	N.D.	/
91	甲苯	108-88-3	1000 PPM	/
92	三氯苯	120-82-1	1000 PPM	/
93	氢氟氟烃(HCFC)	/	N.D.	/
94	特定苯并三唑	/	N.D.	/
95	氟代烷烃(HFC)	/	N.D.	/
96	得克隆	13560-89-9	N.D.	/
97	UV-328	25973-55-1	N.D.	/
98	TSCA	/	N.D.	/

☆注 Note:

若客户禁用物质我司制程不涉及者（如液体杀虫剂等），列入不涉及名录，若后续涉及液体类等物质时，需进行确认是否涉及，若存在涉及要求，纳入管控物质清单。详情请参照：QA-QR-161《客户管控物质清单》

If the customer's prohibited substances are not involved in our process (such as liquid insecticides, etc.), they shall be included in the list of not involved. If liquid substances are involved in the future, it is necessary to confirm whether they are involved. For details, please refer to: QA-QR-161 Customer Controlled Substances List

5.11 供应商原材 GP/RoHS 标识 GP/RoHS mark of supplier's raw material:

供应商需根据我司要求对原材进行清晰、明显、易区分的 GP/RoHS 或非 GP/RoHS 的标识，我司接受供应商现有的 RoHS 标识，也接受两种标识同时使用。

The supplier shall make clear, obvious and easily distinguishable GP/RoHS or non-GP/RoHS mark on the raw material according to our requirements. Our company accepts the supplier's own RoHS mark, and also accepts the use of both marks.

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5.12 包材部分 Packing materials:

针对我司产品所使用到之包装材料(包括纸带,上下胶带,胶盘,纸箱,内盒),其中重金属含量除符合上述提到之要求外,还须符合重金属含量总和<50PPM 之规定(即 $Cd+Pb+Hg+Cr^{+6}<50ppm$)。

The totally contents of Heavy Metal of packing materials used on GiantOhm products shall meet the requirements mentioned above, and also be less than 50 PPM which including tapes, reel, carton and box, i.e. $Cd+Pb+Hg+Cr^{6+}<50$ PPM.

☆注 Note:

如无法达到上述所有要求时,须说明原因及依据来源。

If all the above requirements cannot be met, should explain the reason and shown the source of evidence.

5.13 为定期了解、追踪、管理制造商或供货商新(原)材料的环境物质含量及是否符合《HSF 技术标准规范》规定, 供货商应定期提供以下数据:

In order to regularly obtain, track and manage the environmental substance content of new or raw materials from the manufacturer or supplier, and their compliance with the requirements of the Standard, the supplier shall regularly provide the following data:

- 5.13.1 提交环境管理物质检测报告(有效期一年), 其中 RoHS 和卤素为必测项目, 针对其他项目, 若供货商声明其供应材料中不含有, 则可不必检测, 但须提交此类项目的不使用保证书(有效期为1年)。

Supplier shall submit the Environmental Management Substance Test Report (valid for 1 year), and the RoHS and halogens are mandatory test items. For other materials, if the supplier declares that their products do not contain them, test reports may not be necessary, but a non-use guarantee letter (valid for 1 year) must be submitted for them.

- 5.13.2 供货商环境管理物质问卷表、物质安全数据表(有效期3年); 其中《环境管理物质不使用证明书》、《供应商环境管理物质调查表》、需加盖公司公章。

Supplier shall sign and submit back the files, such as Supplier Environmental Management Substance Questionnaire, Material Safety Data Sheet (valid for 3 years).

And two files should be stamped with official seal which the Certificate of Non-use of Environmental Management Substances, the Questionnaire of the Supplier of Environmental Management Substances.

- 5.13.3 若供货商不回签环境管理物质不使用证明书及供货商环境管理物质问卷表, 应提供不使用有害物质自我宣告声明。

If the supplier does not sign back the Certificate of Non-use of Environmental Management Substances and the supplier's Environmental Management Substances Questionnaire, the supplier shall provide a Self-Declaration of Non-use of Hazardous Substances.

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※上述若有资料不齐全者，要求该供货商立即补正，如不依规定提供，将告知采购于厂商环境管理物质评鉴表中，数据不全者扣 10 分。

If data mentioned above is incomplete, the supplier shall be required to make up immediately. If it is not provided in accordance with the regulations, Purchasing Dept. will notify the supplier, and deduct 10 points in the environmental management substance evaluation form.

六、参考资料

- | | | |
|-----|----------------|-----------|
| 6.1 | 《环境管理物质不使用证明书》 | QA-QR-038 |
| 6.2 | 《供应商环境管理物质调查表》 | PC-QR-001 |
| 6.3 | 《SVHC 候选物质清单》 | QA-QR-039 |
| 6.4 | 《客户管控物质清单》 | QA-QR-161 |

[以下无正文 END]