

# 歌尔股份有限公司有害物质管理政策

## Goertek Inc. Hazardous Substance Management Policy

### 一、目的 / Purpose

明确产品和生产制程中所含有害物质的限制，确保歌尔股份有限公司(以下简称“歌尔股份”“公司”或“我们”)的产品符合相关法律法规、环保标识及客户的要求。

To define restrictions on hazardous substances in products and manufacturing processes, ensuring that products from Goertek Inc. (abbreviated as "the Company" "we") comply with relevant laws and regulations, environmental labeling requirements, and customer specifications.

### 二、范围 / Scope

适用公司或公司委托设计、制造、销售并且发布的产品；同样适用于由客户委托公司设计、制造、销售或发布的产品中，由客户提供的部件和材料除外，需参照客户单独要求执行。

Applies to products designed, manufactured, sold, or released by the Company or its authorized partners. This also applies to products designed, manufactured, sold, or released by the Company on behalf of customers, except for components and materials provided by customers, which should adhere to customer-specific requirements.

### 三、定义 / Definitions

**限制物质:** 限制使用的化学物质或材料。不管化学物质或材料是有意添加、含有或杂质，均需要满足限制要求。限制的种类有禁止使用、ND（不可检测）、小于某限制含量。

**Restricted substances:** Restricted substances are chemicals or materials whose use in products is limited, whether intentionally added, contained, or exist as impurities. Restrictions include: total ban ("Non-use"), non-detectable levels ("ND"), or maximum concentration limits.

**管理物质:** 截至本标准发布，可以使用但需报告使用情况的物质。供应商必须以书面形式报告管理物质的信息，如不报告则视为不含有。

**Reportable substances:** These substances are permitted for use but must be formally disclosed to Goertek in writing. Absence of disclosure will be interpreted as confirmation that the substance is not present.

**产品:** 指歌尔研发、生产、销售的电子产品、零部件，也指构成歌尔电子产品的零部件、原材料、包装材料、辅料等。

**Product:** Product refers to electrical and electronic equipment and components developed, manufactured, or sold by Goertek, including their constituent parts, raw materials, packaging materials, auxiliary materials, etc.

**物质:** 指自然状态下（存在的）或通过生产过程获得的化学元素及其化合物，包括为保持其稳定性而有必要的添加剂和加工过程中产生的杂质，但不包括不会影响物质稳定性或不会改变其成分的可分离的溶剂。

**Substance:** A substance is a chemical element or its compounds, either naturally occurring or produced through manufacturing processes, including stabilizers and process-related impurities, but excluding separable solvents that do not affect its stability or composition.

**物品:** 指由一种或多种物质和（或）配制品组成的物体。在生产过程中，它被赋予了特定的形状、外观或设计，比它的化学成分有更多的最终功能。

**Article:** An object consisting of one or more substances and/or preparations. It means an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition.

**均质材料:** 成分均匀的材料或由多种材料组合而成的材料，无法通过机械操作（如拧开、切割、碾压、破碎、研磨等）拆解或分离成不同的材料。

**Homogeneous material:** A material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be disjointed, disaggregated, or separated into different materials by mechanical actions such as unscrewing, cutting, crushing, grinding, and abrasive processes.

**CAS No.:** 是化学文摘服务社制定的化学物质登记号，是一种物质的唯一数字识别号码。

**CAS No.:** A unique numerical identifier assigned to chemical substances by the Chemical Abstracts Service (CAS).

**含有:** 指无论是否有意，在产品零部件、组件或所有使用的材料中，添加、填充、混入或附着的物质的残留情况，包括在产品加工过程、物流过程中无意图的混入、转移或附着后残留的情况。

**Contained:** Whether intentional or not, add, fill, mix and/or paste substances into/onto materials, parts and components of product, including unintentional mix and/or transfer attachment of substances to product during manufacturing process and logistics process.

**杂质:** 在天然材料中含有的，但在精制过程中技术上无法完全去除的物质，或者在反应的过程中生成，但技术上无法去除的物质。

**Impurity:** A substance contained in natural material, but which cannot be completely removed technically in the refining process, or which is generated in a reaction process, but cannot be completely removed technically.

**豁免:** 指根据欧盟 RoHS 指令，在特定应用中允许存在或高于检出浓度的有害物质，及歌尔基于法律法规、国际/国家标准或客户标准批准使用的有害物质。

**Exemptions:** Substances that are allowed to be present at or above detectable concentrations in specific applications per the RoHS Directive, and substances approved by Goertek base on laws & regulations, international/national standard, and industrial specification.

**禁止使用:** 歌尔规定的限制物质，禁止有意添加到产品中，且测试时不能检测到物质在均质材料中的含量。

**Non-use:** Listed substances by Goertek must not be intentionally added to the product, and their concentration in homogeneous materials must not exceed the method detection limit.

#### 四、管理标准 / Management Standards

公司内部的有害物质管理标准涵盖法律法规的要求，并严于法规要求，包括 RoHS、卤素、REACH、CP65、POPs、电池指令、包装指令、VOCs 等，并结合 IECQ QC080000 有害物质过程管理的体系要求，实现产品和生产制程的有害物质管理。

The Company's internal hazardous substance management standards cover the requirements of

laws and regulations and are stricter than regulatory requirements, including RoHS, halogen, REACH, CP65, POPs, battery directive, packaging directive, VOCs, etc. Integrated with the IECQ QC080000 HSPM (Hazardous Substance Process Management) system requirements, these standards ensure comprehensive control of hazardous substances in both products and manufacturing processes.

我们持续关注有害物质法律法规的更新状态，并对客户提出的有害物质相关要求收集，及时识别易出现有害物质的原材料及需要重点审核项。

We continuously monitor updates to hazardous substance regulations and collect customer-specific requirements regarding restricted substances. This enables timely identification of high-risk raw materials prone to containing hazardous substances and key audit focus areas.

公司已识别出并严格遵守的有害物质相关法律法规、标准及要求，包括：

The Company has identified and strictly complied with relevant laws, regulations, standards, and requirements related to hazardous substances, including:

名称	地区
<ul style="list-style-type: none"> <li>《电器电子产品有害物质限制使用管理办法》</li> <li>《工业防护涂料中有害物质限量》(GB 30981-2020)</li> <li>《胶粘剂挥发性有机化合物限量》(GB 33372-2020)</li> <li>《清洗剂挥发性有机化合物含量限值》(GB 38508-2020)</li> <li>《油墨中可挥发有机化合物 (VOCs) 含量的限值》(GB 38507-2020)</li> </ul>	中国
<ul style="list-style-type: none"> <li>《限制在电子电气设备中使用某些有害成分的指令 (RoHS)》(2011/65/EU)</li> <li>《报废电子电气设备指令 (WEEE)》(2012/19/EU)</li> <li>《包装和包装废弃物指令及其修订版》(2018/852/EU)</li> <li>《电池指令》((EU)2023/1542)</li> <li>《欧盟·关于化学品注册、评估、授权和限制的法规及其修正案 (REACH)》((EC) No 1907/2006)</li> <li>《欧盟·持续性有机污染物 (POPs)》(2019/1021/EU)</li> <li>《法国 AGEC 法规-关于打击浪费和循环经济的法令》(No.2020-105)</li> <li>《瑞典电子电气产品化学税法案》(2016:1067)</li> <li>《欧洲臭氧破坏物质禁用指令》(2037/2000/EC)</li> <li>《欧盟生物杀灭剂法规》(EU No.528/2012)</li> <li>《欧盟木材法规》(No.995/2010)</li> </ul>	欧盟
<ul style="list-style-type: none"> <li>《美国消费者产品安全改进法案 (CPSIA)》</li> <li>《饮用水安全与毒性物质强制执行法》(1986)</li> <li>《加拿大环境保护法 (CEPA)》(1999)</li> <li>《美国有毒物质控制法案 (TSCA)》(2016)</li> <li>《美国包装材料中有毒物质控制示范法规 (TPCH)》(2021)</li> <li>《华盛顿州儿童产品安全法 (CSPA)》</li> </ul>	北美
<ul style="list-style-type: none"> <li>《化学物质审查规制法》</li> <li>《日本印刷电路板协会·限制印刷电路板 (PCB) 中氯和溴的含量》(JPCA-ES-01-1999)</li> </ul>	日本

名称	地区
• 《消费性产品中禁用特定有害物质 (PoHS)》 (2021)	挪威
• 《国际电工委员会·限制印刷电路板和互连结构的材料的卤素含量》 (IEC 61249-2-21)	其他
• 《电子工业的材料声明标准》 (IEC 62474-2018)	
• 《蒙特利尔破坏臭氧层物质管制议定书》	
• 《全球汽车申报物质清单》	
• 《斯德哥尔摩公约》	

Regulations & Standards	Region
<ul style="list-style-type: none"> <li>Administrative Measures on the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products</li> <li>Limit of Harmful Substances of Industrial Protective Coatings (GB 30981-2020)</li> <li>Limit of Volatile Organic Compounds Content In Adhesive (GB 33372-2020)</li> <li>Limits for Volatile Organic Compounds Content in Cleaning Agents (GB 38508-2020)</li> <li>Limits of Volatile Organic Compounds (VOCs) in Printing Ink (GB 38507-2020)</li> </ul>	China
<ul style="list-style-type: none"> <li>Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (2011/65/EU)</li> <li>Directive on Waste Electrical and Electronic Equipment (WEEE) (2012/19/EU)</li> <li>Amending Directive 94/62/EC on Packaging and Packaging Waste (2018/852/EU)</li> <li>Regulation Concerning Batteries and Waste Batteries ((EU)2023/1542)</li> <li>EU - Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) ((EC) No 1907/2006)</li> <li>EU - Regulation on Persistent Organic Pollutants (POPs) (2019/1021/EU)</li> <li>French AGEC Law - Law Regarding a Circular Economy and the Fight Against Waste (No.2020-105)</li> <li>Swedish Chemical Tax Act on Electrical and Electronic Products (2016:1067)</li> <li>EC Regulation on Substances that Deplete the Ozone Layer (2037/2000/EC)</li> <li>EU Biocidal Products Regulation (EU No.528/2012)</li> <li>EU Timber Regulation (No.995/2010)</li> </ul>	EU
<ul style="list-style-type: none"> <li>Consumer Product Safety Improvement Act (CPSIA)</li> <li>Safe Drinking Water and Toxic Enforcement Act (1986)</li> <li>Canadian Environmental Protection Act (CEPA) (1999)</li> <li>Toxic Substances Control Act (TSCA) (2016)</li> <li>Toxics in Packaging Clearhouse (TPCH) Model Legislation (2021)</li> <li>Washington State Children's Safety Products Act (CSPA)</li> </ul>	North America
<ul style="list-style-type: none"> <li>Chemical Substances Control Law</li> <li>Japan Printed Circuit Association - Limitation of Chlorine and Bromine Content in Printed Circuit Boards (PCBs) (JPCA-ES-01-1999)</li> </ul>	Japan
<ul style="list-style-type: none"> <li>Prohibition of Certain Hazardous Substances in Consumer Products (PoHS) (2021)</li> </ul>	Norway

Regulations & Standards	Region
<ul style="list-style-type: none"> <li>• International Electrotechnical Commission - Limitation of Halogen Content in Materials for Printed Boards and Other Interconnecting Structures (IEC 61249-2-21)</li> <li>• Material Declaration for Products of and for the Electrotechnical Industry (IEC 62474-2018)</li> <li>• Montreal Protocol on Substances that Deplete the Ozone Layer</li> <li>• Global Automotive Declarable Substance List (GADSL)</li> <li>• Stockholm Convention</li> </ul>	Others

## 五、全流程管理 / Full-process Management

公司对有害物质开展严格管理，严格遵守国内外与电子电器产品中有有害物质及化学品相关的法律法规，对标客户限制物质、有害物质的管理规范，已制定《歌尔限制物质标准》《歌尔绿色产品标识规范》《供应商有害物质过程管理规范》《进料环保测试监控操作指导书》《制程环保测试监控操作指导书》《出货环保测试监控操作指导书》等管理制度，对生产过程中使用的所有零部件、原材料、辅料、包装材料及成品开展有害物质的测试及监控。

The Company strictly manages hazardous substances and complies with relevant domestic and international laws and regulations on hazardous substances and chemicals in electronic and electrical products and sets standards for the management of customers' restricted substances and hazardous substances. We have established management rules such as the *Goertek Restricted Substances Specification*, the *Goertek Green Product Marking Specification*, the *Hazardous Substance Process Management Specification for Suppliers*, the *Incoming Environmental Testing Monitoring Operation Manual*, the *Process Environmental Testing Monitoring Operation Manual*, and the *Shipping Environmental Testing Monitoring Operation Manual*. We conduct hazardous substance testing and monitoring on all components, raw materials, auxiliary materials, packaging materials and finished products used in the production process.

我们从设计、制造、采购、不合格控制等环节进行全流程管理，确保产品和生产制程过程中的有害物质符合客户及相关法规的要求。

We implement full-process management across design, manufacture, procurement, and non-conformity control to ensure compliance of hazardous substances in both products and production processes with customer requirements and applicable regulations.

我们对产品中可能含有的有害物质已 100%进行识别，以法律法规为底线并综合客户的有害物质要求，我们主动管理有害物质，进行有害物质限制、消减和替代，对限制/监测使用的物质提前部署消减计划。此外，有害物质在某些应用中是豁免的，这是可以接受的（可参考欧盟 RoHS 和 ELV 指令之豁免条款）。

对于使用豁免条款的物料，供应商需在豁免到期前完成物料替换，豁免条款获取网址：

<https://eurlex.europa.eu>。当客户有特殊要求时，将满足客户最终的要求。

We have identified 100% of the harmful substances that may be present in our products. Taking laws and regulations as the bottom line and in combination with customers' hazardous substance requirements. We proactively manage hazardous substances through restriction, reduction, and substitution initiatives, implementing phase-out plans for restricted or monitored substances in advance. Where exemptions apply (as permitted under regulations such as the EU RoHS and ELV Directives), suppliers must complete material substitutions before exemption expirations. EUR-Lex

exemption clauses reference: <https://eurlex.europa.eu>. Customer-specific requirements always take precedence and will be fully met.

我们每年接受客户关于有害物质的审核，并完成我们内部、外部供应商及加工厂的有害物质的审核，针对审核发现进行优化及改善。对于不符合的项目，要求责任单位限期完成整改。

我们按照《产品中的限制物质》《产品中的管理物质》《制程限制物质》列出包括但不限于以下所示物质的管控，参见附录 1、附录 2、附录 3。

We undergo annual customer audits on hazardous substances while conducting internal audits and external supplier and processor evaluations. All audit findings drive continuous optimization and improvement. Non-conformities require responsible parties to implement corrective actions within defined timelines.

Our substance control framework, structured under *Restricted Substances in Products, Managed Substances in Products* and *Process-Restricted Substances*, covers – but is not limited to – the materials specified in *Appendix 1, 2, and 3*.

#### 附录 1: 产品中的限制物质 / Appendix 1: Restricted Substances in Products

限制物质	CAS号	限值	适用范围	参考法规/标准
镉及其化合物	7440-43-9 等	ND	有机材料（如塑料、橡胶、树脂、油墨、助焊剂等）	EU RoHS 指令 REACH 附录 XVII 欧盟电池指令 挪威 PoHS 指令
		20ppm	焊料（仅金属合金）	
		50ppm	无机材料（金属、陶瓷、玻璃）	
		10ppm	电池	
铅及其化合物	7439-92-1 等	50ppm	有机材料（如塑料、橡胶、树脂、油墨、助焊剂等）	EU RoHS 指令 REACH 附录 XVII 欧盟电池指令 挪威 PoHS 指令 加州 65 号提案
		90ppm	外观无机材料	
		40ppm	电池	
		400ppm	焊料（仅金属合金）及无机材料（金属、陶瓷、玻璃）	
汞及其化合物	7439-97-6 等	5ppm	塑料、油漆、油墨、非金属材料	EU RoHS 指令 REACH 附录 XVII 欧盟电池指令 加州 65 号提案
		禁止使用	电池	
		100ppm	其他材料	
六价铬化合物	18540-29-9 等	ND	纺织品	EU RoHS 指令
		Negative	金属材料（含金属表面处理）	
		400ppm	其他材料	
		3ppm	皮革（如腕带、挂绳、皮套等）	REACH 附录 XVII

限制物质	CAS号	限值	适用范围	参考法规/标准
重金属 (铅+镉+汞+六价铬)	7440-43-9 18540-29-9 7439-97-6 7439-92-1	80ppm	包装材料	欧盟包装指令
多溴联苯 PBBs	59536-65-1 67774-32-7 36355-01-8 27858-07-7 13654-09-6 等	400ppm	所有材料	EU RoHS 指令 REACH 附录 XVII
多溴联苯醚 PBDEs	1163-19-5 32534-81-9 32536-52-0 1163-19-5 等	单项 <10ppm, 总和 <500ppm	所有材料	EU RoHS 指令 欧盟 POPs 法规
邻苯二甲酸酯	/	单项 <100ppm, 加和 <1000ppm	所有材料	EU RoHS 指令 REACH 附录 XVII 加州 65 号提案
三氧化二锑	1309-64-4	900ppm	所有材料	加州 65 号提案
偶氮染料	/	20ppm	纺织品、皮革、染料或着色剂	REACH 附录 XVII GB 20400 皮革和毛皮有害物质限量 GB 18401 国家纺织产品基本安全技术规范
石棉	12001-28-4 12172-73-5 77536-67-5 77536-66-4 77536-68-6 12001-29-5 132207-32-0 1332-21-4	禁止使用	所有材料	REACH 附录 XVII
氧化铍	1304-56-9	ND	所有材料	加州 65 号提案 IEC 62474
双酚 A BPA	80-05-7	50ppm ND	所有材料 热敏纸	加州 65 号提案 REACH 附录 XVII
富马酸二甲酯 DMF	624-49-7	0.1ppm	所有材料	REACH 附录 XVII 2012/48/EU
中链氯化石蜡 MCCP	85535-85-9	禁止使用	所有材料	REACH 附录 XVII
短链氯化石蜡 SCCPs	85535-84-8 84082-38-2 71011-12-6 85536-22-7 61788-76-9 108171-26-2	禁止使用	所有材料	欧盟 POPs 法规 REACH 法规
二氯化钴	7646-79-9 7791-13-1	禁止使用	所有材料	REACH 法规 SVHC

限制物质	CAS号	限值	适用范围	参考法规/标准
十溴二苯乙烷 DBDPE	84852-53-9	禁止使用	所有材料	加拿大环境保护法
卤化戴奥辛/呋喃	/	ND	所有材料	欧盟 POPs 法规 加州 65 号提案
卤化二苯基甲烷 对象为单甲基-四氯 二苯基甲烷, 单甲 基-二氯二苯基甲 烷, 单甲基-二溴二 苯基甲烷	76253-60-6 81161-70-8 99688-47-8	禁止使用	所有材料	REACH 附录 XVII
六溴环十二烷及主 要非对映异构体 HBCDD	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	ND	所有材料	欧盟 POPs 法规 挪威 PoHS 指令
六氯丁二烯	87-68-3	禁止使用	所有材料	欧盟 POPs 法规 美国有毒物质控制法案 TSCA
六氯环己烷	608-73-1 58-89-9 319-84-6 319-85-7 多个	禁止使用	所有材料	欧盟 POPs 法规
六氯苯 HCB	118-74-1	10ppm	所有材料	欧盟 POPs 法规
1 至 7 芳香环的芳 香烃矿物油 MOAH	无	1ppm (3~7 环 MOAH) 1000ppm (1~7 环 MOAH)	包装材料中的油墨	法国 AGECE 法规
16 至 35 个碳原子 组成的饱和烃矿物 油 MOSH	无	1000ppm	包装材料中的油墨	法国 AGECE 法规
镍及其化合物	7440-02-0 多个	镍释放: 0.2µg/cm <sup>2</sup> / week	长时间接触皮肤的材料 或部件	REACH 附录 XVII
臭氧层破坏物质 ODCs	/	禁止使用	所有材料	蒙特利尔议定书 欧洲臭氧破坏物质禁用指 令
多环芳烃 PAHs	/	单个物质 <0.2ppm, 总量<1ppm	放入口中的材料或和皮 肤长时间接触的玩具材 料 (超过 30 秒) 3 岁以 下儿童使用	REACH 附录 XVII 德国 GS: AfPS GS 2019:01PAK

限制物质	CAS号	限值	适用范围	参考法规/标准
		儿童产品: 单个物质 <0.2ppm, 总量<5ppm 其他产品: 单个物质 <0.5ppm, 总量 <10ppm	未包含在类别 1 中和皮 肤会长时间接触 (超过 30 秒), 或者和皮肤反 复短时间接触的材料。	
		儿童产品: 单个物质 <0.5ppm, 其他产品: 单个物质 <1ppm	未包含在类别 1 和 2 中, 和皮肤短期接触 (不超过 30 秒) 的材 料	
五氯苯酚 PCP 及其 盐/酯类	87-86-5, 85380-74-1 多个	禁止使用	所有材料	欧盟 POPs 法规
高氯酸盐	7601-89-0 7778-74-7 7790-98-9 7791-03-9 10034-81-8	6ppb	所有材料	2000 年高氯酸盐污染防 治法 GADSL REFERENCE LIST
多氯联苯 PCBs 多氯化萘 PCNs 多氯三联苯 PCTs	1336-36-3 70776-03-3 61788-33-8 多个	禁止使用	所有材料	REACH 附录 XVII 日本化审法第 1 种特定化 学物质 欧盟 POPs 法规
全氟辛酸 PFOA 及 其盐类和全氟辛酸 相关化合物	/	≤1ug/m <sup>2</sup> , 涂层区域 25ppb	纺织品及其他涂层材料 除上述外所有材料	欧盟 POPs 法规 挪威 PoHS 指令 加拿大环境保护法
全氟烷基磺酸及其 相关物质	多个	禁止使用	所有材料	欧盟 POPs 法规 生态环境部 2019 年第 10 号公告 US TPCH 法规 REACH 法规 附录 XV 斯德哥尔摩公约
放射性物质	/	禁止使用	所有材料	日本-1986 年关于核材 料、核燃料和反应堆的管 理法律 欧盟 EU-D 96/29/Euratom
特定苯并三氮唑 [2-(3',5'-二叔丁基- 2'-羟基苯基)苯并三 唑]	3846-71-7	ND	所有材料	日本化审法 REACH 法规

限制物质	CAS号	限值	适用范围	参考法规/标准
2-[2-羟基-3,5-二(1,1-二甲基丙基苯基)]-2H-苯并三唑 UV-328	25973-55-1	1ppm	所有材料	斯德哥尔摩公约
四溴双酚 A TBBP-A	79-94-7	900ppm	有机材料	挪威 PoHS 指令 华盛顿州儿童产品安全法 加州 65 号提案 IEC 62474
三取代基有机锡化合物	/	ND	所有材料	REACH 附录 XVII 日本化审法
其他有机锡化合物	/	1000ppm	所有材料	REACH 附录 XVII 2009/425/EC 加拿大环境保护法
TSCA物质	/	禁止使用	所有材料	美国有毒物质控制法案 TSCA
雷斯法案和欧盟木材法规	无	禁止使用	所有材料	美国雷斯法案 欧盟木材法规
八甲基环四硅氧烷 D4 十甲基环五硅氧烷 D5 十二甲基环六硅氧烷 D6	556-67-2 541-02-6 540-97-6	1000ppm	皮肤接触硅胶或橡胶件	REACH 附录 XVII
卤素Cl、Br	7782-50-5等	单项 <900ppm且 加和 <1500ppm	所有材料（金属、玻璃、陶瓷除外）	JPCA-ES-01-1999 IEC 61249-2-21 IPC-4101B

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
Cadmium and its compounds	7440-43-9 etc.	ND	Organic materials (such as plastic, rubber, resin, ink, flux)	EU Directive 2011/65/EU REACH ANNEX XVII EU battery directive Norway FOR-2004-06-01-922
		20ppm	Solder (Metal alloys only)	
		50ppm	Inorganic materials (metal, ceramic, glass)	
		10ppm	Cell	
Lead and its compounds	7439-92-1 etc.	50ppm	Organic materials (such as plastic, rubber, resin, ink, flux)	EU Directive 2011/65/EU REACH ANNEX XVII EU battery directive Norway FOR-2004-06-01-922 California Proposition 65
		90ppm	Exterior inorganic materials	
		40ppm	Cell	

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
		400ppm	Solder (Metal alloys only) and inorganic materials (metal, ceramic, glass)	
Mercury and its compounds	7439-97-6 etc.	5ppm	Plastic, paint, ink, nonmetal and Non-ceramic material	EU Directive 2011/65/EU REACH ANNEX XVII EU battery directive California Proposition 65
		Non-use	Cell	
		100ppm	Other materials	
Hexavalent chromium compounds	18540-29-9 etc.	ND	Textile	EU Directive 2011/65/EU
		Negative	Metal (include metal surface treatment)	
		400ppm	Other materials	
		3ppm	Leather: wristband, lanyard, case etc.	REACH ANNEX XVII
Heavy Metals (Cd + Cr (VI) + Hg + Pb)	7440-43-9 18540-29-9 7439-97-6 7439-92-1	80ppm	Packaging	EU Directive on packaging and packaging waste
Polybrominated Biphenyls (PBBs)	59536-65-1 67774-32-7 36355-01-8 27858-07-7 13654-09-6 etc.	400ppm	All materials	EU Directive 2011/65/EU REACH ANNEX XVII
Polybrominated Diphenyl Ethers (PBDEs)	1163-19-5 32534-81-9 32536-52-0 1163-19-5 etc.	Individually 10ppm, 500 ppm for sum of total	All materials	EU Directive 2011/65/EU EU POPs
Phthalates	/	Individually 100ppm, 1000 ppm for sum of total	All materials	EU Directive 2011/65/EU REACH ANNEX XVII California Proposition 65
Antimony Trioxide	1309-64-4	900ppm	All materials	California Proposition 65
Azodyes	/	20ppm	Textile, leather, dye or coloring	REACH ANNEX XVII GB 20400-2006 Leather and fur-Limit of harmful matter GB 18401-2010 Chinese National General Safety Technical Code for Textile Products

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
Asbestos	12001-28-4 12172-73-5 77536-67-5 77536-66-4 77536-68-6 12001-29-5 132207-32-0 1332-21-4	Non-use	All materials	REACH ANNEX XVII
Beryllium oxide	1304-56-9	ND	All materials	REACH ANNEX XVII California Proposition 65 IEC 62474
Bisphenol A (BPA)	80-05-7	50ppm	All materials	California Proposition 65
		ND	Thermal paper	REACH ANNEX XVII
Dimethyl Fumarate (DMF)	624-49-7	0.1ppm	All materials	REACH ANNEX XVII 2012/48/EU
Chlorinated Paraffins, Medium Chain (MCCP)	85535-85-9	Non-use	All materials	REACH ANNEX XVII
Chlorinated Paraffins, Short Chain(SCCPs)	85535-84-8 84082-38-2 71011-12-6 85536-22-7 61788-76-9 108171-26-2	Non-use	All materials	REACH ANNEX XVII EU POPs
Cobalt dichloride	7646-79-9 7791-13-1	Non-use	All materials	REACH ANNEX XVII
Decabromodiphenylethane (DBDPE)	84852-53-9	Non-use	All materials	Canadian Environmental Protection Act, 1999
Halogenated dioxins and furans	/	ND	All materials	EU POPs California Proposition 65
Halogenated diphenyl methanes The target is mono methyl tetrachlorodiphenylmethane, mono methyl dichlorodiphenyl methane, mono methyl dibromodiphenyl methane	76253-60-6 81161-70-8 99688-47-8	Non-use	All materials	REACH ANNEX XVII

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
Hexabromocyclododecane and its diastereoisomers (HBCDD)	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	ND	All materials	IEC 62474 EU POPs IEC 62474 Norway FOR-2004-06-01-922
Hexachlorobutadiene	87-68-3	Non-use	All materials	EU POPs US TSCA
Hexachlorocyclohexane	608-73-1 58-89-9 319-84-6 319-85-7 several	Non-use	All materials	EU POPs
Hexachlorobenzene (HCB)	118-74-1	10ppm	All materials	EU POPs
Aromatic hydrocarbons of mineral oil (MOAH) with 1 to 7 aromatic rings	Not applicable	1ppm (MOAH with 3 to 7 aromatic rings) 1000ppm (MOAH with 1 to 7 aromatic rings)	Printing ink in packaging materials	law n ° 2020-105
Mineral oil saturated hydrocarbons (MOSH) with 16 to 35 carbon atoms	Not applicable	1000ppm	Printing ink in packaging materials	law n ° 2020-105
Nickel and its compounds	7440-02-0 several	Release of Nickel: 0.2µg/cm <sup>2</sup> /week	Parts or materials which prolonged contact with human skin	REACH ANNEX XVII
Ozone Depleting Substances(ODCs)	/	Non-use	All materials	Montreal Protocol 2037/2000/EC
Polycyclic aromatic hydrocarbons(PAHs)	/	Single<0.2ppm and total <1ppm	For Children under 3 years old to use, Materials can be put into mouth or Materials of toys which prolonged contact with human skin(more than 30 seconds)	REACH ANNEX XVII GS: AfPS GS 2019:01PAK

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
		Production for child: single<0.2ppm and tole <5ppm; Other production single<0.5ppm tolle<10ppm	Not included in upper situation, materials which prolonged(more than 30 seconds)or repeated contact with human skin	
		Production for child: single<0.5ppm; Other production single<1ppm	Not included in upper two situations, materials which short(below 30 seconds)contact with human skin	
Pentachloropheno I (PCP)and its salts and esters	87-86-5, 85380-74-1 Several	Non-use	All materials	EU POPs
Perchlorate	7601-89-0 7778-74-7 7790-98-9 7791-03-9 10034-81-8	6ppb	All materials	Perchlorate Contamination Prevention Act GADSL REFERENCE LIST
Polychlorinated biphenyls(PCBs) Polychlorinated naphthalenes(PCNs) Polychlorinated terphenyls(PCTs)	1336-36-3 70776-03-3 61788-33-8 Several	Non-use	All materials	REACH ANNEX XVII Japan. Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances
Perfluorooctanoic acid (PFOA) and related compounds	/	≤1ug/m <sup>2</sup> (coating area)	Textiles and other coating materials	REACH ANNEX XVII Norway FOR-2004-06-01-922 Canadian Environmental Protection Act, 1999
		25ppb	All, except those restricted above	
Perfluoroalkyl sulfonic acid and its related substances	Multiple	Non-use	All materials	EU POPs Ministry of Ecology and Environment Announcement No. 10, 2019 US TPCH REACH ANNEX XV Stockholm Convention

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
Radioactive substances	/	Non-use	All materials	1986 (Japanese law) Japan Law Concerning Prevention from Radiation Hazards 96/29/Euratom
Specific benzotriazole	3846-71-7	ND	All materials	Japan. Law Concerning the Examination and Regulation of Manufacture REACH (EC) 1907/2006
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	1ppm	All materials	Stockholm Convention on Persistent Organic Pollutants
Tetrabromobisphenol A(TBBP-A)	79-94-7	900ppm	Organic materials	Norway FOR-2004-06-01-922 Children's Safe Products Act California Proposition 65 IEC 62474
Trisubstituent organotin compounds	/	ND	All materials	REACH ANNEX XVII Japan. Law Concerning the Examination and Regulation of Manufacture
Organotin compounds	/	1000ppm	All materials	REACH ANNEX XVII 2009/425/EC Canadian Environmental Protection Act, 1999
TSCA substances	/	Non-use	All materials	Toxic Substances Control Act
Lacey Act and EU Timber Regulation	Not Applicable	Non-use	All materials	US Lacey Act (16 U.S.C. §§ 3371-3378) 995/2010/EU
Octamethylcyclotrisiloxane (D4) Decamethylcyclopentasiloxane (D5) Dodecamethylcyclohexasiloxane (D6)	556-67-2 541-02-6 540-97-6	1000ppm	Silicone or rubber parts that come into contact with the skin	REACH ANNEX XVII

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
Halogen: Cl, Br	7782-50-5 etc.	Cl<900ppm; Br<900ppm 1500 ppm (Cl + Br) total content	All materials (except metal, glass and ceramics)	JPCA-ES-01-1999 IEC 61249-2-21 IPC-4101B

## 附录 2: 产品中的管理物质 / Appendix 2: Managed Substances in Products

管理物质	CAS号	限值	适用范围	参考资料
氨基乙醇胺	111-41-1	最低检出浓度	涂料、油漆、 清漆、纺织、 缓蚀剂	加拿大环境保护法
2-[(2-氨基乙基)氨基]乙醇	111-41-1	最低检出浓度	所有材料	加拿大环境保护法
氯化芳烃	多个	最低检出浓度	穿戴类产品	加拿大环境保护法
界面活性剂 DTDMAC、 DODMAC/DSDMAC、 DHTDMAC	68783-78-8 107-64-2 61789-80-8 多个	1000ppm	所有材料	挪威 PoHS 指令
苯乙烯化二苯胺 SDPA	/	最低检出浓度	所有材料	加拿大环境保护法
华盛顿州儿童高关注度化学 品清单	多个 <a href="http://apps.leg.wa.gov/WAC/default.aspx?cite=173-334-130">http://apps.leg.wa.gov/WAC/default.aspx?cite=173-334-130</a>	最低检出浓度	儿童产品	华盛顿州儿童产品安全法
美国加州65法案化学物质 清单	除本标准中已列出的物质外, 清单详见网址: <a href="http://oehha.ca.gov/prop65/prop65_list/Newlist.html">http://oehha.ca.gov/prop65/prop65_list/Newlist.html</a>	最低检出浓度	所有材料	加州 65 号提案
RoHS条款	/	4.1 限制物质 限值	RoHS 豁免的 零件/组件	歌尔政策
IEC 62474物质	<a href="http://std.iec.ch/iec62474">http://std.iec.ch/iec62474</a>	按照标准规定	所有材料	歌尔政策
Managed Substances	CAS No.	Concentration Limit	Application Scope	Referances
Aminoethyl ethanolamine	111-41-1	Detectable levels	Paints, lacquers, varnishes, textiles, corrosion inhibitors	Canadian Environmental Protection Act, 1999

Managed Substances	CAS No.	Concentration Limit	Application Scope	Referances
2-(2-Aminoethylamino)ethanol	111-41-1	Exceed MDL	All materials	Canadian Environmental Protection Act, 1999
Chlorinated Aromatic Hydrocarbons	Several	Exceed MDL	Wearable product	Canadian Environmental Protection Act, 1999
Surfactant DTDMAC,DODMAC/DS DMAC,DHTDMAC	68783-78-8 107-64-2 61789-80-8 Several	1000ppm	All materials	Norway FOR-2004-06-01-922
Diphenylamines, Substituted (SDPA)	/	Exceed MDL	All materials	Canadian Environmental Protection Act, 1999
Washington State's List of Chemicals of High Concern to Children (CHCC)	<a href="http://apps.leg.wa.gov/WAC/default.aspx?cite=173-334-130">http://apps.leg.wa.gov/WAC/default.aspx?cite=173-334-130</a> several	Exceed MDL	Children's product	Children's Safe Products Act
Proposition 65 list of chemicals	All applications, All the substances are managed substances except the substances which listed in the standard, the list refers to: <a href="http://oehha.ca.gov/prop65/prop65_list/Newlist.html">http://oehha.ca.gov/prop65/prop65_list/Newlist.html</a>	Exceed MDL	All materials	California Proposition 65
RoHS	/	4.1 limit substances' concentration limit	RoHS exempted parts/components	Goertek policy
IEC 62474 Substances	<a href="http://std.iec.ch/iec62474">http://std.iec.ch/iec62474</a>	According to this standard	All materials	Goertek Policy

## 附录 3: 制程限制物质 / Appendix 3: Process-Restricted Substances

限制物质	CAS 号	限值	适用范围
苯	71-43-2	禁止使用	清洗剂、去油剂、脱模剂等
		需通报	其他制程
铍粉尘	7440-41-7	呼吸区域 <0.0001mg/m <sup>3</sup>	连接器触点、EMI 触片 (铍铜合金)、收发器 (氧化铍)
含溴有机溶剂	109-65-9	禁止使用	所有制程

限制物质	CAS 号	限值	适用范围
	106-94-5 75-26-3 75-27-4 74-96-4 74-83-9 124-48-1		
乙二醇丁醚	111-76-2	禁止使用	油漆、涂料、稀释剂等
含氯有机溶剂	/	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
环己烷	110-82-7	禁止使用	清洗剂、去油剂、脱模剂
双吗啉甲烷	5625-90-1	禁止使用	CNC防锈剂
甲醛	50-00-0	需通报	所有制程
氟化氢	7664-39-3	需通报	所有制程
甲苯	108-88-3	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
正庚烷	142-82-5	禁止使用	清洗剂、去油剂、脱模剂
正己烷	110-54-3	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
醋酸镍	6018-89-9	禁止使用	金属阳极封孔剂
N-甲基吡咯烷酮NMP	872-50-4	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
臭氧层破坏物质 ODCs	/	禁止使用	所有制程
炔丙基氯	624-65-7	禁止使用	金属钝化剂
六氟化硫 SF <sub>6</sub>	2551-62-4	呼吸区域小于 1000ppm (6000mg/m <sup>3</sup> )	制造环节, IC 制造的受控条件除外
二甲苯、乙苯、甲醇	106-42-3 108-38-3 95-47-6 100-41-4 67-56-1	禁止使用	所有制程

Restricted Substances	CAS No.	Concentration Limit	Application Scope
Benzene	71-43-2	Non-use	Cleaning agents, degreasers, release agent etc.
		Required to report	Other manufacturing processes
Beryllium Dust and Fumes	7440-41-7	<0.0001mg/m <sup>3</sup> Breathing zone < 0.0001 mg/m <sup>3</sup>	Connector contacts, EMI finger (beryllium-copper alloys), transceivers (beryllium oxide)

Restricted Substances	CAS No.	Concentration Limit	Application Scope
Bromine-containing organic solvent	109-65-9 106-94-5 75-26-3 75-27-4 74-96-4 74-83-9 124-48-1	Non-use	All manufacturing processes
2-Butoxyethanol	111-76-2	Non-use	Paints, coatings, cleaning agents
Chlorinated Organic Solvents	/	Non-use	Cleaning agents, degreasers, release agent
		Required to report	Other manufacturing processes
Cyclohexane	110-82-7	Non-use	Cleaning agents, degreasers, release agent
Dimorpholine methane	5625-90-1	Non-use	CNC rust preventive
Formaldehyde	50-00-0	Required to report	All manufacturing processes
Hydrogen fluoride	7664-39-3	Required to report	All manufacturing processes
Toluene	108-88-3	Non-use	Cleaning agents, degreasers, release agent
		Required to report	Other manufacturing processes
n-Heptane	142-82-5	Non-use	Cleaning agents, degreasers, release agent
n-Hexane	110-54-3	Non-use	Cleaning agents, degreasers, release agent
		Required to report	Other manufacturing processes
Nickel acetate	6018-89-9	Non-use	Porous sealing agent for metal anode
N-methylpyrrolidone (NMP)	872-50-4	Non-use	Cleaning agents, degreasers, release agent
		Required to report	Other manufacturing processes
Ozone Depleting Chemicals (ODCs)	/	Non-use	All manufacturing processes
Propargyl chloride	624-65-7	Non-use	Metal deactivator
Sulfur hexafluoride(SF6)	2551-62-4	Breathing zone <1000ppm(6000mg/m3)	For manufacturing except IC lithography
Xylene, p-xylene, m-xylene, o-xylene, ethyl benzene, methanol	106-42-3 108-38-3 95-47-6 100-41-4 67-56-1	Non-use	All manufacturing processes