



密级 :D 级-内部公开

# 公司环境管理物质标准

## Company Hazardous Substances Management Standards

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## 1 目的 Purpose

为满足国际环保相关法规与客户产品的环保要求,公司制订环境管理物质标准,确保不使用或削减环境管理物质,以保护地球环境和人类健康。

In order to meet the relevant international regulations on hazardous substances and the hazardous substance requirements of customer products, the company formulates hazardous substance management standards to ensure that hazardous substances are not used or reduced to protect the global environment and human health.

## 2 适用范围 Scope

2.1 用于产品组装的所有部件和材料,例如半成品(组件)、零部件、附件、材料等;生产与维修过程中所使用的辅助材料,例如焊锡、助焊剂、胶带等;治具、工具、设备;以及产品的电池与包装材料。

All parts and materials used in product assembly, such as semi-finished products (components), parts, accessories, materials, etc.; auxiliary materials used in production and maintenance, such as solder, flux, tape, etc.; fixtures, tools and devices; and batteries and packaging of products Material.

2.2 SONY 产品在设计、开发、采购、生产及交付的过程中所使用的材料、零部件、辅助材料、捆包材、副资材以及与其接触的设备、治具、工具等的环境管理物质标准依照 SS-00259 最新版执行。

The hazardous substance management standards for materials, parts, accessory materials, baling materials, auxiliary materials used in the design, development, procurement, production and delivery of SONY products as well as the devices, fixtures, tools, etc. in contact with them be implemented accordance with the latest version of SS-00259.

2.3 三星机型的零部件、材料、附件、辅料、包装材料、电池等的环境管理物质标准按照 OQA-2049 最新版执行。

The hazardous substance management standards for parts, materials, accessories, auxiliary materials, packaging materials, batteries, etc. of Samsung models are implemented in accordance with the latest version of OQA-2049.

## 3 定义 Definition

3.1 **环境管理物质:** 包含在产品、零部件、材料、辅料等的物质中,对地球环境和人体健康有显著负面影响的物质。

**Hazardous substances:** Substances contained in products, parts, materials, auxiliary materials, etc., which have a significant negative impact on the global environment and human health.

3.2 **杂质:** 包含在天然材料中,作为工业材料的精制过程中技术上不能完全去除的物质,或者在合成反应的过程中产生但技术上不能完全去除的物质。此外,为了与主要原料加以区别而称为「杂质」的物质,如果其使用目的是为了改变材料的特性时,则作为「含有」处理。

**Impurity:** Substances contained in natural materials that cannot be completely removed technically during the refining process of industrial materials, or substances that are produced during synthetic reactions but cannot be completely removed technically. In addition, a substance called "impurity" in order to distinguish it from the main raw material is treated as "contained" if its purpose of use is to change the properties of the material.

3.3 **含有:** 无论是否有意,在所有产品的零部件和组件或其使用的材料中添加、填充、混入或粘附的物质(包含在加工过程中无意混入或粘附于产品中的物质)。

**Contained:** Substances (including substances that are inadvertently incorporated into or adhered to products during processing), whether intentional or not, added to, filled with, mixed into or adhered to in all product parts and assemblies or the materials in which they are used.

3.4 **禁止含有:** 不能含有,并且第三方公正检测机构的精密分析测试检测不到其含量。

**Not detected:** It cannot be contained, and its content cannot be detected by the precise analytical test of a third-party impartial testing agency.

注 Note: 本文件以中文为准,英文仅供参考。This document shall prevail in Chinese, English is for reference only.

**3.5 均质材料:** 无法再以机械方式（如松脱、切割、破碎、研磨等）加以分离拆解的最小单元。禁止把非均匀材质或复合材质的组件（半成品）整个破碎检测，造成有害物质的含量被稀释而造成误判。

Homogeneous material: The smallest unit that can no longer be separated and disassembled by mechanical means (e.g. loosening, cutting, crushing, grinding, etc.). It is forbidden to test the whole broken components (semi-finished products) of inhomogeneous materials or composite materials, which will cause the content of hazardous substances to be diluted and cause misjudgment.

**3.6 豁免:** 若在技术上或科学上，无法以其他物质予以取代，或取代后会形成更负面的社会影响，本标准所提及的豁免对象是参考欧盟 2011/65/EU(RoHS)及其修订指令等规定。

Exemptions: If technically or scientifically, it cannot be replaced by other substances, or the substitution will cause more negative social impact, the exemption objects mentioned in this standard refer to the European Union 2011/65/EU (RoHS) and its revised directives, etc. regulation.

**3.7 阈值:** 材料中允许存在的物质的最大浓度水平。阈值限制由通过实现将危害最小化的目标实际可实现的目标确定，同时允许仪器测量和材料中杂质的检测灵敏度误差。

Threshold: The maximum concentration level at which the presence of a substance can be tolerated in a material. The threshold limits are determined by what is practically achievable by obtaining the goal of minimizing the hazard, whilst allowing for detection sensitivity errors of instrumental measurements and impurities in a material.

备注 Notes: 针对 100 ppm 或 1000 ppm 等限值，理解为因为不可避免的原因或污染导致的法规允许最大值，正常情况下应为不含有，排除污染之后也应为不含有。

For the limit value of 100 ppm or 1000 ppm, etc., it is understood that the maximum value allowed by regulations due to unavoidable reasons or pollution, it should be non-contained under normal circumstances, and it should also be non-contained after pollution is excluded.

例如针对防火型塑胶，正常情况下不得含有 PBBs、PBDEs:

For example, for fire-resistant plastics, PBBs and PBDEs should not be contained under normal circumstances:

因材料中含有杂质的，可以适用 1000 ppm 限值；因添加回收料等原因导致含有的，不适用 1000 ppm 限值，应为不得含有。

Because the material contains impurities, the 1000 ppm limit can be applied; if it is contained due to the addition of recycled materials, the 1000 ppm limit is not applicable, and it should not be contained.

例如针对需要钝化工艺的金属，正常情况下不得含有六价铬:

For example, for metals that require a passivation process, they should not contain hexavalent chromium under normal circumstances:

因不可避免的三价铬转化为微量六价铬，可以适用 1000 ppm，但要求在出货到我司不得含有；确实使用六价铬钝化工艺导致含有的，不适用 1000 ppm 限值，应为不得含有。

Due to the inevitable conversion of trivalent chromium into a trace amount of hexavalent chromium, 1000 ppm can be applied, but it is required that the shipment to our company shall not contain; If the hexavalent chromium passivation process is used to cause it to be contained, the 1000 ppm limit does not apply, and it should not be contained.

**3.8 第三方检测机构:** 有通过 ISO 17025 认证的检测机构,如 SGS、TUV、BV、Intertek、CTI 等。

Third-party testing agency: There are testing institutions certified by ISO 17025, such as SGS, TUV, BV, Intertek, CTI, etc.

**3.9 测试方法和要求:** 各项限制物质在测试时应采用相应法规、标准中指定的方法进行测试。测试样品应与最终在产品中呈现的物理状态相同，胶水、油墨、涂料类在测试（VOC 测试除外）前应作固化、干燥处理。

Test methods and requirements: Each restricted substance shall be tested by the methods specified in the corresponding regulations and standards. The test sample should be in the same physical state as the final product. Glue, ink and paint should be cured and dried before the test (except VOC test).

## 4 环境管理物质管制要求 Hazardous Substance Management Requirements

## 4.1 通用环境管理物质 General Hazardous Substances

## 4.1.1 RoHS 指令 RoHS Directive

No.	物质名称 Substances	应用 Applications	阈值 Threshold	法规 Regulation
1	镉及其化合物 Cadmium and its compounds	除豁免外的所有应用 All applications except exemptions	<75 ppm	(EU)2015/863 韩国电器和消费品安全控制法 (Korea) Electrical appliances and consumer products safety control act
2	铅及其化合物 Lead and its compounds	与皮肤接触部件的表面涂层 Surface coating of parts in contact with skin	<90 ppm	US CA65
		与皮肤接触部件的基材（非金属） Substrates (non-metals) of parts in contact with skin	<100 ppm	US CA65
		除上述及豁免外的所有应用 All applications except the above and exemptions	<800 ppm	(EU)2015/863
3	汞及其化合物 Mercury and its compounds	儿童玩具的表面涂层 Surface coating of children's toys	<10 ppm	Canada SOR/2016-193
		木材防腐 The preservation of wood	未检出 Not Detected	REACH Annex X VII
		除上述及豁免外的所有应用 All applications except the above and exemptions	<800 ppm	(EU)2015/863
4	六价铬及其化合物 Hexavalent Chromium (Cr VI) and Cr (VI) compounds	接触皮肤的皮革产品 Leather products that come into contact with the skin	<3 ppm	REACH Annex X VII
		※ 零部件表面处理过程中禁止使用 Cr(VI)的工艺。 The process of using Cr (VI) in the surface treatment of parts is prohibited		
		除上述及豁免外的所有应用 All applications except the above and exemptions	<800 ppm	(EU)2015/863
5	多溴联苯 Polybrominated biphenyls (PBBs)	与皮肤接触的纺织品 Textiles in contact with skin	未检出 Not Detected	REACH Annex X VII
		除上述外的所有用途 All applications except the above	<800 ppm	(EU)2015/863
6	多溴二苯醚 Polybrominated diphenyl ethers (PBDEs)	所有用途 All applications	<800 ppm（十溴二苯醚未检出 Deca-BDE Not detected）	(EU)2015/863 US: TSCA
7	邻苯二甲酸二(2-乙基己基)酯 Di (2-ethylhexyl) phthalate (DEHP)	用于材料的增塑剂等用途 Plasticizers for materials, etc.	<800 ppm/项，儿童玩具及与皮肤直接接触的部件或材料总和<1000 ppm <800 ppm/each, Children's toys and parts or materials in direct contact with the skin, total<1000 ppm	(EU)2015/863 REACH Annex X VII 韩国电器和消费品安全控制法 (Korea) Electrical appliances and consumer products safety control act
8	邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)			
9	邻苯二甲酸丁苄酯 (BBP)			
10	邻苯二甲酸二异丁酯 (DIBP)			

**备注 Notes:**

1.上述 RoHS 物质的豁免对象是参考欧盟 2011/65/EU(RoHS)及其修订指令的附件所列, 以及欧盟新增豁免等规定, 并视法律法规趋势与客户环保要求, 列出豁免清单, 请参考附页一。

The exempted objects of the above RoHS substances are listed in the annexes of the EU 2011/65/EU (RoHS) and its amendments, as well as the new EU exemptions and other regulations, and based on the trends of laws and regulations and customer environmental protection requirements, list the exemption list, please Refer to Appendix I .

2.推荐采用 IEC 62321 最新版检测方法, 当发生同批部品因检测方法的不同而导致检测结果有争议时, 以 IEC 62321 最新版的检测结果为准。

It is recommended to use the latest version of IEC 62321 test method. When there is a dispute in the test results of the same batch of parts due to different test methods, the test results of the latest version of IEC 62321 shall prevail.

**4.1.2 其他法规或客户管制物质 Other Regulatory or Customers Controlled Substances**

No.	物质 Substances	应用 Applications	阈值 Threshold	法规 Regulation
1	铍及其化合物 Beryllium and its compounds	氧化铍 Beryllium oxide	未检出 Not detected	2002/96/EC 1999/45/EC
		除铍青铜及氧化铍以外的应用 Applications other than beryllium oxide and beryllium bronze	<1000 ppm	客户要求 Customers request
2	形成某些芳香胺的偶氮着色剂和偶氮染料 (见附页二) Azo colorants and azo dyes forming certain aromatic	纺织品、皮革 Textiles, Leather	<20 ppm	REACH Annex X VII GB 18401-2010
3	有机锡化合物(含三丁基锡化合物, 三苯基锡化合物, 二丁基锡化合物, 二辛基锡化合物) Organotin compounds (Containing tributyltin compounds (TBT), triphenyltin compounds (TPT), dibutyltin compounds (DBT), dioctyltin compounds (DOT))	所有应用 All applications	<1000 ppm/项 each	REACH Annex X VII
4	砷及其化合物(As) Arsenic and its compounds	木制品中的防腐剂、杀菌剂等 Preservatives and fungicides in wood products	未检出 Not detected	REACH Annex X VII
		除芯片、陶瓷、玻璃外的其他应用 Applications other than chips, ceramics, glass	<100 ppm	
5	多环芳烃(见附页六中表一) Polycyclic Aromatic Hydrocarbon (PAHs) (see table 1 of Appendix VI)	与皮肤接触的部件中使用的橡胶、塑料 (遥控器按键、电线等), 需申请德国 GS 安全认证的进行管控 The rubber and plastic used in the parts that come into contact with the skin (remote control buttons, wires, etc.) need to apply for the German GS safety certification for control.	见附页 6 表一类别 2-其他产品, 穿戴产品见 4.4, 儿童产品见附页 6 表一 See Appendix 6, Table 1, Category 2-Other Products, Wearable Products, see 4.4, and Children's Products, see Appendix 6, Table 1	AfPS GS 2019:01 PAK REACH Annex X VII

6	<p>甲醛 Formaldehyde (成品须标有生产商的名称, 商品的生产日期以及 TSCA 第 VI 章合规声明) Finished goods must be labeled with the producer's name, the date the good was produced, and a statement of TSCA Title VI compliance)</p>	<p>单板芯/复合芯硬木胶合板 Veneer Core (HWPW-VC)/Composite Core (HWPW-CC) hardwood plywood</p>	<0.05 ppm	<p>US/CA CARB Rule (加州降低复合木制品甲醛排放有毒物质空气传播控制措施) US/CA Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products REACH Annex X VII GB 20400-2006</p>
		<p>刨花板 Particle board (PB)</p>	<0.09 ppm	
		<p>中密度纤维板(MDF) Medium density fiberboard</p>	<0.11 ppm	
		<p>薄中密度纤维板(tMDF) thin medium density fiberboard</p>	<0.13 ppm	
		<p>纺织品 Textiles</p>	<75 ppm (婴幼儿 Infant <16 ppm)	
		<p>皮革和毛皮 Leather and Fur</p>	游离甲醛 Free formaldehyde ≤75 ppm (婴幼儿 Infant ≤20 ppm)	
7	<p>富马酸二甲酯(DMF) Dimethyl Fumarate</p>	<p>所有应用 All applications</p>	未检出 Not detected	REACH Annex X VII
8	<p>石棉 Asbestos</p>	<p>所有应用 All applications</p>	未检出 Not detected	REACH Annex X VII
9	<p>全氟烷基和多氟烷基 (PFASs) 物质, 包括但不限于: PFOA 及其盐、PFOA 其前驱体、PFOA 相关物质、PFOS 及其衍生物、PFOS 其前驱体、C<sub>9</sub>-C<sub>14</sub> PFCA 及其盐、C<sub>9</sub>-C<sub>14</sub> PFCA 相关物质、C<sub>9</sub>-C<sub>20</sub> PFCA 其盐及其前驱体、PFHxA 及其盐和相关物质、PFHxS 及其盐和相关物质, 长链全氟羧酸, 其盐类及其前驱体 (共同称为 LC-PFCAs) Perfluoroalkyl and polyfluoroalkyl (PFASs) substances, includes but is not limited to: PFOA and its salts, PFOA and its precursors, PFOA-related substances, PFOS and its derivatives, PFOS and its precursors, C<sub>9</sub>-C<sub>14</sub> PFCA and its salts, C<sub>9</sub>-C<sub>14</sub> PFCA related substances, C<sub>9</sub>-C<sub>20</sub> PFCA and its salts and their precursors, PFHxA and its salts and related substances, PFHxS and its salts and related substances, Long-chain perfluorocarboxylic acids, their salts and their precursors (collectively referred to as LC-PFCAs)</p>	<p>表面活性剂, 薄膜、纺织品、皮革等具有防水防油功能的涂层材料, 润滑油 Surfactants, Coating materials with waterproof and oil-proof functions such as films, textiles, leather, etc. Lubricant</p>	<p>PFOA 及其盐、PFOA 前驱体、PFOA 相关物质、PFOS 及其衍生物、PFOS 前驱体、C<sub>9</sub>-C<sub>20</sub> PFCA 其盐及其前驱体禁止含有, C<sub>9</sub>-C<sub>14</sub> PFCA 及其盐总和、PFHxA 及其盐、PFHxS 及其盐 &lt;25 ppb, C<sub>9</sub>-C<sub>14</sub> PFCA 相关物质总和 &lt;260 ppb, PFHxA 相关物质总和 &lt;1000 ppb, LC-PFCAs 禁止含有 PFOA and its salts, PFOA precursors, PFOA-related substances, PFOS and its derivatives, PFOS precursors, C<sub>9</sub>-C<sub>20</sub> PFCA and its salts and its precursors are prohibited, the total of C<sub>9</sub>-C<sub>14</sub> PFCA and its salts, PFHxA and its salts, PFHxS and its salts &lt;25 ppb, total C<sub>9</sub>-C<sub>14</sub> PFCA-related substances &lt;260 ppb, PFHxA-related substances, PFHxS-related substances &lt;1000 ppb, LC-PFCAs are prohibited from containing</p>	<p>EU POPs REACH Annex X VII CA65 加拿大禁用特定有毒物质控制法 Canada: Prohibits Certain Toxic Substances Control Act 日本化审法 Japanese: Chemical Substance Control Law 瑞士化学品风险减少条例 Swiss: Chemical Risk Reduction Regulation</p>

10	臭氧层消耗物质 (含氢氟碳化合物) Ozone Depleting Substances (ODS) (including HFC、PFC)	所有应用 All applications	未检出 Not Detected	(EC)No.2037/2000 《关于消耗臭氧层物质的蒙特利尔议定书 Montreal Protocol on Substances that Deplete the Ozone Layer》
11	多氯三联苯 (PCTs) Polychlorinated Terphenyls	所有应用 All applications	未检出 Not Detected	REACH Annex X VII
12	多氯联苯 (PCBs) Polychlorinated Biphenyls		未检出 Not Detected	日本化审法 Japan: Chemical Substance Control Law EU POPs
13	多氯化萘 (PCNs) Polychlorinated Naphthalene		未检出 Not Detected	日本化审法 Japan: Chemical Substance Control Law EU POPs
14	2,4,6-三叔丁基苯酚 2,4,6-Tri-Butylphenol	所有应用 All applications	未检出 Not Detected	US: TSCA
15	甲基二氯联苯甲烷 Monomethyl dichlorodiphenyl methane (Ugilec 121 or Ugilec 21)	所有应用 All applications	未检出 Not Detected	REACH Annex X VII
16	甲基四氯联苯甲烷 Monomethyl tetrachlorodiphenyl methane (Ugilec 141)	所有应用 All applications	未检出 Not Detected	REACH Annex X VII
17	甲基二溴联苯甲烷 (DBBT) Monomethyl dibromodiphenyl methane	所有应用 All applications	未检出 Not Detected	REACH Annex X VII
18	镍及其化合物 Nickel and its compounds	直接和长期接触皮肤的应用 Only in direct and prolonged skin contact applications	镍释放 Nickel release <0.5 $\mu\text{g}/\text{cm}^2$ /周 Week	REACH Annex X VII
19	放射性物质 (仅限放射性同位元素) Radioactive substances (only radioactive isotopic elements)	所有应用 All applications	未检出 Not Detected	日本 1986 年《核原料, 核燃料材料和反应堆管理法》 Japan's 1986 "Nuclear Raw Materials, Nuclear Fuel Materials and Reactors Management Act" EU-D 96/29 / Euratom
20	六溴环十二烷 (HBCDD) Hexabromocyclododecane	所有应用 All applications	<75 ppm	EU POPs
21	短链 (C10~13) 氯化石蜡 Short-chain chlorinated paraffins (Alkane 10~13 carbon chain) (SCCP)	所有应用 All applications	<1000 ppm	EU POPs
22	二苯胺、苯乙烯和 2,4,4-三甲基戊烯的反应产物 Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	所有应用 All applications	未检出 Not Detected	加拿大《禁止特定有毒物质条例》 Canada 《Prohibition of certain toxic substances Regulations》

23	红磷 Red phosphorus	所有使用树脂材料（橡胶、硅胶、塑料）的电源零部件，如 AC/DC 插座、适配器、电源线等 All power components using resin materials (rubber, silicone, plastic), such as AC/DC sockets, adapters, power cords, etc.	未检出 Not Detected	客户要求 Customer request
24	三氧化二锑 Antimony Trioxide	除玻璃、陶瓷外的所有材料 All materials except ceramics and glass	<1000 ppm	客户要求 Customer request
25	三(2-氯乙基)磷酸酯 Tris (2-chloroethyl) phosphate (TCEP)	所有应用 All applications	<1000 ppm	2009/48/EC
26	磷酸三(2-氯丙基)酯 Tris (1-chloro-2-propyl) phosphate (TCPP)	所有应用 All applications	<1000 ppm	2009/48/EC
27	磷酸三(1,3-二氯-2-丙基)酯 Tris (1,3-dichloro-2-propyl) phosphate (TDCPP)	所有应用 All applications	<1000 ppm	美国佛蒙特州 85 号法案 U.S Vermont Act 85 2009/48/EC
28	苯 Benzene	玩具或玩具部件 Toys or parts of toys	<5 ppm	REACH Annex X VII
29	甲苯 Toluene	清洁剂、脱脂/脱模剂、粘合剂等 Detergent, degreaser, mold release agent, adhesive, etc.	<1000 ppm	REACH Annex X VII
30	正己烷 n-Hexane	清洁剂、脱脂/脱模剂、粘合剂等 Detergent, degreaser, mold release agent, adhesive, etc.	未检出 Not Detected	ACGIH
31	异丙基化磷酸三苯酯(3:1) Isopropylated phosphate (3:1) (PIP (3:1))	塑料中的阻燃剂 Flame retardant in plastics	未检出 Not Detected	US: TSCA
32	五氯苯硫酚(PCTP) Pentachlorothiophenol	应用于橡胶工业 Used in the rubber industry	<10000 ppm	US: TSCA
33	六氯丁二烯(HCBD) Hexachlorobutadiene	橡胶制造以及液压，传热或变压器流体中的溶剂 Rubber manufacturing and solvent in fluids of the hydraulic, heat transfer or transformer	未检出 Not Detected	US: TSCA
34	三(2,3-二溴丙基)磷酸盐 Tris (2,3 dibromopropyl) phosphate	与皮肤接触的纺织品 Textiles in contact with skin	未检出 Not Detected	REACH Annex X VII
35	三吡啶基氧化磷 Tris (aziridinyl) phosphin oxide	与皮肤接触的纺织品 Textiles in contact with skin	未检出 Not Detected	REACH Annex X VII



36	被归类为致癌，致突变或生殖毒性的物质，类别 1A 或 1B (REACH 附录 X VII 第 72 条) The following substances which are classified as carcinogenic, mutagenic or toxic for reproduction, category 1A or 1B (Entry 72)	纺织品 Textiles	见附页八 See Appendix VIII	REACH Annex X VII
37	纸质品印刷油墨中的矿物油 (法国) Mineral oil in printing inks for paper products (France)	纸质品 (纸箱、说明书、标签等) 的印刷油墨 Printing inks for paper products (Cartons, manuals, labels, etc.)	MOAH C1-C7 10000 ppm (2025 年 1 月起, From January 1, 2025, MOAH C1-C7 1000 ppm, MOAH C3-C7 1 ppm, MOSH C16-C35 1000 ppm)	法国: 2020-105 法案 France: Act 2020-105
38	2-(2H-苯并三唑-2-基)-4,6-二叔戊基苯酚(UV-328) 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	产品表面的紫外线吸收剂 UV absorber on the surface of the product	未检出 Not Detected	客户要求 Customer request

4.1.3 儿童玩具标准 Standard for children's toys

4.1.3.1 EN71-3:2013 玩具中化学元素迁移，根据儿童可能摄取程度，玩具材料被分为以下三类 (见表 1) :  
En71-3:2013 Migration of chemical element in toys, toy materials are divided into the following three categories according to the degree that children may ingest (see table 1):

表 1- 玩具材料类别 Table 1-Toy materials category

玩具材料 Toy materials			
	第一类 Category I	第二类 Category II	第三类 Category III
	干燥、易碎、粉末状或柔韧的玩具材料 Dry, brittle, powdered or pliable toy materials	液体或粘性玩具材料 Liquid or sticky toy materials	可以刮去的玩具材料 Toy materials that can be scraped off
释义 Paraphrase	在玩耍过程中，从固态玩具材料中释放出来的粉末状材料 Powdered material released from solid toy material during play	可能被摄入体内和 (或) 发生皮肤暴露危害的流质或粘性玩具材料 Liquid or sticky toy materials that can be ingested and/or exposed to skin hazards	由于口咬、牙齿撕、吮吸或舔舐而被摄入体内的固体玩具材料 Solid toy materials that are ingested into the body by biting, tearing with teeth, sucking or licking
示例 Example	1. 压缩漆片 Compressed paint tablets 2. 彩色铅笔芯 The cores of colouring pencils 3. 粉笔 Chalk 4. 蜡笔 Crayons 6. 其它意图留下墨迹或笔记的固体材料 Other solid materials intended to leave ink marks or notes 7. 橡皮泥 Plasticine 8. 印模膏 Impression paste	1. 作指画用的水彩颜料 Watercolor paint for finger painting 2. 涂料、清漆 Coatings, varnishes 3. 钢笔墨水 Pen ink 4. 液体粘合剂 Liquid adhesive 5. 胶水 Glue 6. 啫喱状软泥 Jelly-like slime 7. 泡沫溶液 Foaming solution 8. 其它可接触液体材料 Other materials that can come into contact with liquid	1. 表面涂膜(涂料、清漆、油墨等) Surface coating film (paint, varnish, ink, etc.) 2. 塑料、橡胶、硅胶和其他高分子材料 Plastic, rubber, silicone and other polymer materials 3. 纸质、纸板材料 Paper and cardboard materials 4. 纺织类材料 Textile materials 5. 玻璃、陶瓷、金属材料 Glass, ceramics, metal materials 6. 木质、纤维板、骨质、皮质材料 Wood, fiberboard, bone, cortex materials

表 2 – 迁移量限值 Table 2-Migration limit

元素 Element	迁移量限值 (mg/kg)		
	第一类 Category I	第二类 Category II	第三类 Category III
铝 Aluminum (Al)	2250	560	28130
锑 Antimony (Sb)	45	11.3	560
砷 Arsenic (As)	3.8	0.9	47
钡 Barium (Ba)	1500	375	18750
硼 Boron (B)	1200	300	15000
镉 Cadmium (Cd)	1.3	0.3	17
三价铬 Trivalent chromium (Cr <sup>3+</sup> )	37.5	9.4	460
六价铬 Hexavalent chromium (Cr <sup>6+</sup> )	0.02	0.005	0.053
钴 Cobalt (Co)	10.5	2.6	130
铜 Copper (Cu)	622.5	156	7700
铅 Lead (Pb)	2.0	0.5	23
锰 Manganese (Mn)	1200	300	15000
汞 Mercury (Hg)	7.5	1.9	94
镍 Nickel (Ni)	75	18.8	930
硒 Selenium (Se)	37.5	9.4	460
锶 Strontium (Sr)	4500	1125	56000
锡 Tin (Sn)	15000	3750	180000
有机锡 Organic tin	0.9	0.2	12
锌 Zinc (Zn)	3750	938	46000

## 4.1.3.2 ASTM F963-17、ST-2016、AS/NZS ISO 8124、GB6675.4-2014、GB/T39498-2020

No.	物质 Substances	应用 Applications	阈值 Threshold
1	总铅 Total Lead (Pb)	与皮肤接触的产品表面涂层部分 Parts of product surface coating that come into contact with the skin	< 90 ppm
		与皮肤接触的产品基材部分 The parts of the product substrate that comes into contact with the skin	< 100 ppm
2	可溶钡 (Soluble Barium)	与皮肤接触的产品部分 Parts of the product that come into contact with the skin	< 1000 ppm
3	可溶铅 (Soluble Lead)		< 90 ppm
4	可溶镉 (Soluble Cadmium)		< 75 ppm
5	可溶锑 (Soluble Antimony)		< 60 ppm
6	可溶硒 (Soluble Selenium)		< 500 ppm
7	可溶铬 (Soluble Chromium)		< 60 ppm
8	可溶汞 (Soluble Mercury)		< 60 ppm
9	可溶砷 (Soluble Arsenic)		< 25 ppm
10	高锰酸钾消耗量 Potassium permanganate consumption		由聚氯乙烯或聚乙烯 (不包括涂有油漆的部分) 组成的材料制成的部件 Parts made of materials consisting of polyvinyl chloride or polyethylene (Excluding painted parts)
11	蒸发残渣 Evaporation residue	PVC≤50 µg/ml, PE≤10 µg/ml	
12	铅 Lead	< 1 µg/ml	
13	砷 Arsenic	< 0.1 µg/ml	
14	镉 Cadmium	PVC: < 0.5 µg/ml	
15	高锰酸钾消耗量 Potassium permanganate consumption	氯乙烯涂层 Vinyl chloride coating	
16	蒸发残渣 Evaporation residue		≤ 50 µg/ml

17	甲醛 Formaldehyde	纺织品 Textiles	≤24 个月儿童 24 month old children: ≤16 μg/g, >24 个月儿童 24 month old children≤75 μg/g
		3 岁以下儿童玩具可接触纺织品 Toys for children under the age of 3 may come into contact with textiles	游离和可水解甲醛含量 Free and hydrolyzable formaldehyde content≤30 ppm
		玩具可接触材料和树脂胶合木材 Toy accessible materials and resin-laminated wood	释放量 Release amount≤80 mg/kg
18	邻苯二甲酸丁苄酯 Butyl benzyl phthalate (BBP)	塑化材料 Plasticized materials	<1000 ppm
19	邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)	塑化材料 Plasticized materials	<1000 ppm
20	邻苯二甲酸二(2-乙基己基)酯 Di (2-ethylhexyl) phthalate (DEHP)	塑化材料 Plasticized materials	<1000 ppm
21	邻苯二甲酸二异癸酯 Di-isodecyl phthalate (DIDP)	与婴儿口腔直接接触的指定玩具(不包括奶嘴及含聚氯乙烯合成树脂制成的牙胶) Designated toys that come into direct contact with the baby's mouth (excluding pacifiers and teethers made of polyvinyl chloride-containing synthetic resin)	<1000 ppm
22	邻苯二甲酸二异壬酯 Diisononyl phthalate (DINP)		<1000 ppm
23	邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DNOP)		<1000 ppm
24	BBP+DBP+DEHP	塑化材料 Plasticized materials	≤1000 ppm
25	DIDP+DINP+DNOP	塑化材料(可放入口中的产品) Plasticized materials (products that can be placed in the mouth)	≤1000 ppm
26	苯酚 Phenol (CAS No:108-95-2)	3 岁以下儿童玩具或玩具可入口部件 Children's toys or toys for children under 3 years of age in the mouthpiece	聚合物材料迁移量 Polymer materials migration≤5 mg/L
			防腐剂含量 Preservative content≤10 mg/kg
27	双酚 A (CAS No:80-05-7) Bisphenol A	质量小于 150g 的聚合物, 适用于 3 岁以下儿童拿在手上的玩具及可触及玩具部件 Polymers with a mass of less than 150 g, suitable for toys and accessible toy parts held in the hands of children under 3 years of age	迁移量 Migration≤0.1 mg/L
28	邻磷酸三甲酚酯 (CAS No:78-30-8) Tris (2-methylphenyl) phosphate		迁移量 Migration<0.03 mg/L
29	苯乙烯 (CAS No:100-42-5) Styrene		苯乙烯单体迁移量 Styrene monomer migration≤0.75 mg/L
30	磷酸三苯酯 (CAS No:115-86-6) Triphenyl phosphate		迁移量 Migration<0.03 mg/L
31	磷酸三(间甲苯酯) Tri-m-tolyl phosphate (CAS No:563-04-2)		迁移量 Migration<0.03 mg/L
32	磷酸三(对-甲基苯基)酯 Tri-p-tolyl phosphate (CAS No:78-32-0)		迁移量 Migration<0.03 mg/L
33	丙烯酰胺 Acrylamide (CAS No:79-06-1)		迁移量 Migration≤0.02 mg/L

34	苯胺 Aniline (CAS No:62-53-3)	a. 质量小于 150g 的木材、纸, 适用 3 岁以下的儿童拿在手上的玩具以及可能触及的玩具部件; Wood and paper with a mass of less than 150 g, suitable for toys held by children under 3 years old and parts of toys that may be touched b. 材质为纺织品、皮革, 专为 3 岁以下儿童设计的玩具及可拆卸部件 Toys and detachable parts made of textile, leather, designed for children under 3 years old	≤5 mg/kg
35	N-亚硝胺 N-nitrosamines (CAS No:62-75-9 等 et.) N-亚硝基类物质 N-nitroso substances (CAS No:86-30-6 等 et.)	供 3 岁以下儿童使用的拟打算或可能放入口中的弹性体玩具 Elastomeric toys intended or likely to be placed in the mouth for children under 3 years of age	迁移量 Migration≤0.01 mg/kg

## 4.1.3.3 CPSIA、2005/84/EC、CA65、2009/48/EC

No.	物质名称 Substances	应用 Applications	阈值 Threshold
1	总铅 Total Lead (Pb)	与皮肤接触的产品表面涂层部分 Parts of the product surface coating that come into contact with the skin	<90 ppm
		与皮肤接触的产品基材部分 The parts of the product substrate that comes into contact with the skin	<100 ppm
2	邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)	与皮肤接触的产品部分 Parts of the product that come into contact with the skin	<1000 ppm
3	邻苯二甲酸二(2-乙基己基)酯 Di (2-ethylhexyl) phthalate (DEHP)		<1000 ppm
4	邻苯二甲酸丁苄酯 Butyl benzyl phthalate (BBP)		<1000 ppm
5	邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP)		<1000 ppm
6	邻苯二甲酸二正己酯 Dihexyl phthalate (DnHP)	与皮肤接触的产品部分 Parts of the product that come into contact with the skin	<1000 ppm
7	邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP)		<1000 ppm
8	邻苯二甲酸二异壬酯 Diisononyl phthalate (DINP)		<1000 ppm
9	邻苯二甲酸二戊酯 Dipentyl phthalate (DPENP)		<1000 ppm
10	DBP + DEHP + BBP + DIBP	玩具及儿童护肤品 Toys and Children's Skin Care Products	<1000 ppm
11	DINP + DNOP + DIDP	可放入口中的儿童玩具产品 Children's toy products that can be placed in the mouth	<1000 ppm
12	三(2-氯乙基)磷酸酯(TCEP) Tris (2-chloroethyl) phosphate	与皮肤接触的产品部分 Parts of the product that come into contact with the skin	<5 ppm
13	磷酸三(2-氯丙基)酯(TCPP) Tris (2-chloropropyl) phosphate		<5 ppm
14	磷酸三(1,3-二氯-2-丙基)酯 (TDCPP) Tris (1,3-dichloro-2-propyl) phosphate		<5 ppm
15	双酚 A Bisphenol A (BPA)		未检出 Not Detected

**4.1.3.4 美国华盛顿州儿童产品安全法案 (CSPA) 关于铅、镉、邻苯二甲酸酯的限制, 制定儿童高度关注化学物质清单 CHCC (Chemical High Concern to Children), 并要求儿童产品生产商向华盛顿州生态部门通报产品中 CHCC 物质的存在情况。**

The Washington State Children's Product Safety Act (CSPA) has restrictions on lead, cadmium, and phthalates. It has established a Chemical High Concern to Children (CHCC) list, and requires children's product manufacturers to report to The Washington State Department of Ecology notified the presence of CHCC substances in the product.

#### 4.1.3.4.1 受限制的物质 Restricted substances

No.	物质名称 Substances	应用 Applications	阈值 Threshold
1	铅 Lead	12 岁以下所有儿童产品 All products for children under the age of 12	≤90 ppm
2	镉 Cadmium		≤40 ppm
3	邻苯二甲酸丁苄酯 Benzyl butyl phthalate (BBP)		≤1000 ppm (单独或组合 Individually or in combination)
4	邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)		
5	邻苯二甲酸二(2-乙基己基)酯 Di-(2-ethylhexyl) phthalate (DEHP)		
6	邻苯二甲酸二异癸酯 Diisodecyl phthalate (DIDP)		
7	邻苯二甲酸二异壬酯 Diisononyl phthalate (DINP)		
8	邻苯二甲酸二正辛酯 Di-n-Octyl phthalate (DnOP)		

#### 4.1.3.4.2 需申报物质 Declarable substance

当产品中存在有意添加的 CHCC 物质, 只要其含量高于 PQL (实际量化极限), 则需要申报; 当 CHCC 物质是作为污染物非有意添加到产品中的, 其含量大于 0.01% (100 ppm) 时也需要申报。

When there is intentionally added CHCC substance in the product, as long as its content is higher than the PQL (Practical Quantization Limit), it needs to be declared; when the CHCC substance is added to the product as a pollutant unintentionally, its content is greater than 0.01% (100 ppm) Reporting is also required.

No.	物质 Substances	CAS No.	PQL (ppm)
1	甲醛 Formaldehyde	50-00-0	5
2	苯胺 Aniline	62-53-3	1
3	N-亚硝基二甲胺 N-Nitrosodimethylamine (NDMA)	62-75-9	1
4	苯 Benzene	71-43-2	1
5	氯乙烯 Vinyl chloride	75-01-4	0.5
6	乙醛 Acetaldehyde	75-07-0	1
7	二氯甲烷 Methylene chloride (also called dichloromethane)	75-09-2	1
8	二硫化碳 Carbon disulfide	75-15-0	1
9	丁酮 Methyl ethyl ketone (also called MEK or 2-butanone)	78-93-3	1
10	1,1,2,2-四氯乙烷 1,1,2,2-Tetrachloroethane	79-34-5	1
11	四溴双酚 A Tetrabromobisphenol (TBBPA)	79-94-7	50
12	双酚 A Bisphenol A	80-05-7	1
13	双酚 S Bisphenol S	80-09-1	1
14	邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP)	84-61-7	25
15	邻苯二甲酸二乙酯 Diethyl phthalate (DEP)	84-66-2	25

16	邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP)	84-69-5	25
17	邻苯二甲酸二丁酯 Di-n-butyl phthalate (DBP)	84-74-2	25
18	邻苯二甲酸二己酯 Di-n-hexyl phthalate (DnHP)	84-75-3	25
19	邻苯二甲酸丁苄酯 Butyl benzyl phthalate (BBP)	85-68-7	25
20	N-亚硝基二苯胺 N-Nitrosodiphenylamine	86-30-6	1
21	六氯丁二烯 Hexachlorobutadiene (HCDB)	87-68-3	5
22	对羟基苯甲酸丙酯 Propyl paraben	94-13-3	5
23	对羟基苯甲酸丁酯 Butyl paraben	94-26-8	5
24	2-甲基苯胺 2-Aminotoluene (also called ortho-toluidine)	95-53-4	1
25	2,4-二氨基甲苯 2,4-Diaminotoluene	95-80-7	1
26	对羟基苯甲酸甲酯 Methyl paraben	99-76-3	5
27	4-羟基苯甲酸 4-Hydroxybenzoic acid	99-96-7	5
28	乙基苯 Ethylbenzene	100-41-4	1
29	苯乙烯 Styrene	100-42-5	1
30	4-壬基苯酚 4-Nonylphenol	104-40-5	10
31	对氯苯胺 4-Chloroaniline	106-47-8	1
32	丙烯腈 Acrylonitrile	107-13-1	1
33	乙二醇 Ethylene glycol	107-21-1	40
34	甲苯 Toluene	108-88-3	0.5
35	苯酚 Phenol	108-95-2	1
36	乙二醇单甲醚 2-Methoxyethanol	109-86-4	10
37	乙二醇单乙醚 Ethylene glycol monoethyl ether	110-80-5	10
38	邻酸三苯酯 Triphenyl phosphate (TPP)	115-86-6	50
39	三(2-氯乙基)磷酸酯 Tris (2-chloroethyl) phosphate (TCEP)	115-96-8	50
40	邻苯二甲酸二(2-乙基己基)酯 Di-2-ethylhexyl phthalate (DEHP)	117-81-7	25
41	邻苯二甲酸二甲氧乙酯 Di(2-methoxyethyl) phthalate (DMEP)	117-82-8	25
42	邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DnOP)	117-84-0	25
43	六氯苯 Hexachlorobenzene (HCB)	118-74-1	1
44	4,4'-二氨基-3,3'-二甲基联苯 3,3'-Dimethylbenzidine	119-93-7	1
45	对羟基苯甲酸乙酯 Ethylparaben	120-47-8	5
46	1,4-二恶烷 1,4-Dioxane	123-91-1	20
47	磷酸三(2,3-二溴丙基)酯 Tris (2,3-dibromopropyl) phosphate (TDBPP)	126-72-7	50
48	磷酸三丁酯 Tri-n-butyl phosphate (TNBP)	126-73-8	50
49	四氯乙烯 Perchloroethylene	127-18-4	0.5
50	邻苯二甲酸二戊酯 Dipentyl phthalate (DPP)	131-18-0	50
51	2,2',4,4'-四羟基二苯甲酮 Benzophenone-2	131-55-5	5
52	对特辛基苯酚 4-tert-Octylphenol	140-66-9	10
53	4-烯丙基苯甲醚 Estragole	140-67-0	10
54	2-乙基己酸 2-Ethylhexanoic acid (2-EHA)	149-57-5	5
55	全氟辛酸 Perfluorooctanoic acid (PFOA)	335-67-1	0.001
56	五氯苯 Pentachlorobenzene	608-93-5	1
57	4,4'-二羟基二苯甲烷 4,4-Dihydroxydiphenylmethane	620-92-8	1
58	C.I.溶剂黄 14 Solvent Yellow 14	842-07-9	1
59	N-甲基吡咯烷酮 N-methyl pyrrolidone	872-50-4	1
60	十溴二苯醚 Decabromodiphenyl oxide	1163-19-5	50

61	2-乙基己基二苯基磷酸酯 Ethylhexyl diphenyl phosphate (EHDPP)	1241-94-7	50
62	磷酸三甲苯酯 Tricresyl phosphate (TCP)	1330-78-5	50
63	全氟辛烷磺酸盐 Perfluorooctane sulphonic acid (PFOS) and its salts	1763-23-1	0.001
64	对辛基苯酚 4-octylphenol	1806-26-4	10
65	对甲氧基肉桂酸辛酯 2-ethyl-hexyl-4-methoxycinnamate	5466-77-3	5
66	汞及其化合物 Mercury and its compounds	7439-97-6	0.5
67	锑及其化合物 Antimony and its compounds	7440-36-0	1
68	砷及其化合物 Arsenic and its compounds	7440-38-2	1
69	镉及其化合物 Cadmium and its compounds	7440-43-9	1
70	钴及其化合物 Cobalt and its compounds	7440-48-4	1
71	磷酸三(2-氯丙基)酯 Tris (1-chloro-2-propyl) phosphate (TCPP) summary of toxicity	13674-84-5	50
72	磷酸三(1,3-二氯异丙基)酯 Tris (1,3-dichloro-2-propyl) phosphate	13674-87-8	50
73	叔丁基-4-羟基茴香醚 Butylated hydroxyanisole (BHA)	25013-16-5	10
74	壬基酚 Nonylphenol	25154-52-3	25
75	六溴环十二烷 Hexabromocyclododecane (HBCDD)	25637-99-4	50
76	双(2-乙基己基)四溴邻苯二甲酸酯 Bis (2-ethylhexyl) tetrabromophthalate (TBPH)	26040-51-7	50
77	邻苯二甲酸二异癸酯 Diisodecyl phthalate (DIDP)	26761-40-0	25
78	邻苯二甲酸二异壬酯 Diisononyl phthalate (DINP)	28553-12-0	25
79	2,2-双氯甲基-三亚甲基-双[双(2-氯乙基)磷酸酯] Bis(chloromethyl) propane-1,3-diyl tetrakis-(2-chloroethyl) bis (phosphate) (V6)	38051-10-4	50
80	异丙基化磷酸三苯酯 Isopropylated triphenyl phosphate (IPTPP)	68937-41-7	50
81	4-壬基酚(混有异构体) 4-Nonylphenol branched	84852-15-3	25
82	十溴二苯乙烷 Decabromodiphenyl ethane (DBDPE)	84852-53-9	50
83	短链氯化石蜡(C10-13) Short-Chain chlorinated paraffins (SCCP)	85535-84-8	50
84	氯化石蜡 Chlorinated paraffins	108171-26-2	50
85	2-乙基己基-四溴苯甲酸(TBB) 2-ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB)	183658-27-7	50

#### 4.1.4 REACH 法规 REACH Regulation

4.1.4.1 产品中的所有部品，例如电源线、适配器、AV 线、车载线、SCART 线、USB 线、遥控器、彩盒、胶袋、说明书等，除非目前科学技术做不到，否则部品中的 REACH SVHC 含有浓度必须小于 0.1%。当单个部品中含有 REACH SVHC 超出 0.1% (w/w) 时，供应商必须告知。SVHC 候选物质清单以 ECHA 公布的最新信息为准，最新候选物质清单参照 <https://echa.europa.eu/candidate-list-table>

All parts in the product, such as power cords, adapters, AV cables, car lines, SCART lines, USB cables, remote controls, color boxes, plastic bags, manuals, etc., unless the current science and technology can not do, otherwise the REACH SVHC content in the parts must be less than 0.1%. When a single part contains more than 0.1% (w / w) of REACH SVHC, the supplier must inform. The SVHC Candidate List is based on the latest information released by ECHA. The latest list of candidate substances is available at <https://echa.europa.eu/candidate-list-table>.

4.1.4.2 REACH 法规附件 17 中的限制篇中的物质，单个部品中禁止超出每种物质的限值标准。限制物质清单以 ECHA 公布的最新信息为准，最新 REACH 限制物质清单参照 <https://echa.europa.eu/substances-restricted-under-reach>

Substances in the Restrictions in Annex X VII of REACH Regulations are prohibited from exceeding the limit standards of each substance in a single part. The list of restricted substances is subject to the latest information published by ECHA. For the latest REACH list of restricted substances, please refer to <https://echa.europa.eu/substances-restricted-under-reach>.

#### 4.1.5 无卤产品管制物质 Halogen-Free Regulated substances

4.1.5.1 当供应商被告知部品必须符合无卤要求时，即必须符合下表中 1、2、3 条要求，第 4 条为强制要求。

When suppliers are told that their products must meet halogen-free requirements, they must meet the requirements of Articles 1, 2, and 3 in the table below. Article 4 is mandatory.

No.	物质 Substances	应用 Applications	阈值 Threshold	法规 Regulations
1	总溴 Total bromine	非金属材质的所有零部件 All parts of non-metallic materials	<900 ppm	IEC 61249-2-21
2	总氯 Total chlorine	非金属材质的所有零部件 All parts of non-metallic materials	<900 ppm	IEC 61249-2-21
3	总溴+总氯 Total bromine + chlorine	非金属材质的所有零部件 All parts of non-metallic materials	<1500 ppm	IEC 61249-2-21
4	卤化阻燃剂 Halogenated flame retardants	面积大于 100cm <sup>2</sup> 的电子显示屏的外壳和支架 Enclosure and brackets for electronic displays with an area greater than 100 cm <sup>2</sup>	<1000 ppm	(EU) 2019/2021

#### 4.1.6 加州 65 管控物质 California 65 control substances

管控对象为整机外部与皮肤可接触部件，当部品中含有以下物质且超过限值时（禁止含有除外），必须在最终成品上（或包装箱、说明书）加警告标识，详见 <https://www.P65Warnings.ca.gov>

The control object is the skin-accessible part of the whole machine. When the parts contain the following substances and exceed the limit (except Not Detected), a warning mark must be added to the final product (or packing box, instruction manual). For details, see <https://www.P65Warnings.ca.gov>

No.	物质 Substances	应用 Applications	阈值 Threshold
1	总铅 (Total Lead)	油漆和表面涂层部分 Paint and surface coating section	<90 ppm
		其它可接触基材 (非金属) Other accessible substrates (non-metals)	<100 ppm
2	BBP、DBP、DEHP、DIDP、DINP、DnHP	塑胶耳机线材 Plastic headphone cables	DINP<1000 ppm, 其它 Others<100 ppm/项 each
		含 PVC 材料, 包括 PVC 塑料和 PVC 涂层的线材 (耳机线除外) PVC-containing materials, including PVC plastic and PVC-coated cables (excluding headphone cables)	DINP<1000 ppm 其它 Others<600 ppm/项 each
		非 PVC 聚合材料包括非 PVC 塑料和非 PVC 涂层 Non-PVC polymeric materials include non-PVC plastics and non-PVC coatings	<1000 ppm/项 each
3	双酚 A Bisphenol A	与食品接触材料 Materials that come into contact with food	未检出 Not Detected
		热敏纸 Thermal paper	<10 ppm
		直接长时间 (30 秒) 与皮肤接触 Direct prolonged (30 seconds) contact with skin	<3 ppm

#### 4.2 有关包装材料的要求 Requirements for packaging materials

适用于供货给我司的包装类部品，如纸箱、扎线、拉伸膜、包装袋等，以及供货给我司的部品的包装材料。

It is suitable for packaging parts supplied to our company, such as cartons, ties, stretch films, packaging bags, etc., as well as packaging materials for parts supplied to our company.



No.	物质 Substances	阈值 Threshold
1	包装材料中重金属(镉,铅,汞,六价铬) Heavy metals (Cd, Pb, Hg, Cr <sup>6+</sup> ) in packaging materials	总和 Total < 100 ppm
2	全氟烷基和多氟烷基物质 (PFAS) Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	未检出 Not Detected
3	邻苯二甲酸酯类 Phthalates	总和 Total < 100 ppm
4	聚氯乙烯 (不包括最终不随产品出货的包装材料) Polyvinyl chloride (excluding packaging materials that are not ultimately shipped with the product)	未检出 Not Detected

注: REACH、POPs 等法规中的限制物质管控要求也适用于包装材料  
Note: Restricted substance control requirements in REACH, POPs and other regulations also apply to packaging materials

#### 4.3 电池中的限制物质 Restricted substances in batteries

No.	物质 Substances	应用 Applications	阈值 Threshold
1	镉及其化合物 Cadmium and its compounds	所有电池和电池组 All batteries and battery pack	<10 ppm 以电池总重量计算 By total weight of battery
2	汞及其化合物 Mercury and its compounds	所有电池 All batteries	以电池总重量计算 By total weight of battery <1 ppm; 以均质材料计算 By weight of homogenous materials <5 ppm
3	铅及其化合物 Lead and its compounds	便携式电池 Portable batteries	<40 ppm 以电池总重量计算 By total weight of battery
4	高氯酸盐 Perchlorates	所有电池 All batteries	<0.006 ppm 以均质材料计算 By weight of homogenous materials

当电池中汞 (Hg) 含量以电池总重量计算超过1 ppm或以均质材料计算超过5 ppm, 镉 (Cd) 超过10 ppm, 铅 (Pb) 超过40 ppm时, 必须按(EU)2023/1542及其修订指令的要求标注相应的化学符号。  
When batteries with a mercury content exceeding 1 ppm by weight (or 5 ppm of total Hg in homogenous material), a cadmium content exceeding 10 ppm by weight, Lead content exceeding 40 ppm by weight, should mark the relative chemical symbol according to Directive (EU)2023/1542 and its amendments.

#### 4.4 穿戴产品中的限制物质 Restricted substances in wearable products

物质 Substances	阈值 Threshold		
	纺织品 Textile	皮革 Leather	
pH 值 pH value	4.0-7.5 <sup>*1</sup>	3.5-7.5 <sup>*35</sup>	
游离的和可部分释放的甲醛 Formaldehyde, free and partially releasable (mg/kg)	<75 ( I n.d.*2)	<75 ( I <10)	
可萃取重金属 Extractable metals (mg/kg)	锑 Antimony (Sb)	<30	<30
	砷 Arsenic (As)	<1 ( I <0.2)	<1 ( I <0.2)
	铅 Lead (Pb)	<1 <sup>*3</sup> ( I <0.2)	<1 ( I <0.2)
	镉 Cadmium (Cd)	<0.1	<0.1
	铬 Chromium (Cr)	<2 ( I <1)	<200 ( I <2)
	六价铬 Hexavalent chromium(Cr <sup>6+</sup> )	<0.5	<3 <sup>*23</sup>
	钴 Cobalt (Co)	<4 ( I <1)	<4 ( I <1)
	铜 Copper (Cu)	<50 <sup>*4</sup> ( I <25 <sup>*4</sup> )	<50 ( I <25)
	镍 Nickel (Ni)	<4 <sup>*5*7</sup> ( I <1 <sup>*5*6</sup> )	<4 ( I <1)
	汞 Mercury (Hg)	<0.02	<0.02
	钡 Barium (Ba)	<1000	<1000
硒 Selenium (Se)	<100	<100	

重金属总含量 Heavy metals total content (mg/kg)	砷 Arsenic (As)	<100	<100
	镉 Cadmium (Cd)	<40 <sup>*3</sup>	<40
	汞 Mercury (Hg)	<0.5	<0.5
	铅 Lead (Pb)	<90 <sup>*3</sup>	<90
杀虫剂总和 Sum of Pesticides <sup>*8*9</sup> (mg/kg)		<1 ( I <0.5 ) <sup>*9</sup>	<1 ( I <0.5 ) <sup>*9*24</sup>
常规棉中的草甘膦及其盐 Glyphosate and salt for conventional cotton (mg/kg)		<5	/
有机棉中的草甘膦及其盐 Glyphosate and salt for organic cotton (mg/kg)		<1 ( I <0.5 )	/
邻苯二甲酸酯 Phthalates <sup>*9</sup> (mg/kg)		总和 Total<500 <sup>*10</sup>	总和 Total<500
有机锡化合物 Organic tin compounds <sup>*9</sup>	TBT, TPhT (mg/kg)	<1 ( I <0.5 )	<1 ( I <0.5 )
	DBT, DMT, DOT, DPhT, DPT, MBT, MOT, MMT, MPPhT, TeBT, TeET, TCyTH, TMT, TOT, TeOT, TPT (mg/kg)	<2 ( I <1 )	<2 ( I <1 )
氯化苯酚 Chlorinated phenols <sup>*9</sup> (mg/kg)	五氯苯酚 Pentachlorophenol (PCP)	未检出 Not Detected	未检出 Not Detected
	四氯苯酚 Tetrachlorophenols (TeCP)	总计 Sum<0.5 ( I <0.05 )	每个异构体 each isomer <0.5
	三氯苯酚 Trichlorophenols (TrCP)	总计 Sum<2 ( I <0.2 )	每个异构体 each isomer <1 ( I <0.5 )
	二氯苯酚 Dichlorophenols (DCP)	总计 Sum<3 ( I <0.5 )	每个异构体 each isomer <1
	一氯苯酚 Monochlorophenols (MCP)	总计 Sum<3 ( I <0.5 )	每个异构体 each isomer <2
其他残留化学 物 Other chemical residues (mg/kg)	6,6'-二叔丁基-2,2'-亚甲基二对甲酚 6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol	<1000	<1000 <sup>*9</sup>
	三聚氰胺 Melamine	<1000 <sup>*33</sup>	<1000 <sup>*9</sup>
	致癌芳香胺 Cancerogenic Arylamines	<20 <sup>*9*11*12</sup>	<20 <sup>*9*11*12</sup>
	苯胺 Aniline	<50 ( I <20 ) <sup>*9*13</sup>	<100 <sup>*9</sup>
	苯 Benzene	<5 <sup>*9</sup>	<5 <sup>*9</sup>
	双酚 A Bisphenol A	<100 <sup>*9</sup>	<100 <sup>*9</sup>
	双酚 B Bisphenol B	<1000 <sup>*9</sup>	<1000 <sup>*9</sup>
	偶氮二甲酰胺 Diazene-1,2-dicarboxamide (ADCA)	<1000 <sup>*9</sup>	/
	富马酸二甲酯 Dimethyl fumarate (DMFu)	<0.1 <sup>*9</sup>	<0.1 <sup>*9</sup>
	N-(羟甲基)丙烯酰胺 N-(hydroxymethyl) acrylamide	<1000	<1000 <sup>*9</sup>
	乙烯基三(2-甲氧基乙氧基)硅烷 Tris(2-methoxyethoxy)vinylsilane	<1000	<1000 <sup>*9</sup>
	2-巯基苯并噻唑硫磷酸酯 2-Mercaptobenzothiazol	<1000	<1000
	邻苯基苯酚 O-phenylphenol (OPP)	<25 ( <10 ) <sup>*9</sup>	/
	苯酚 Phenol	<50 ( <20 ) <sup>*9</sup>	/
	喹啉 Quinoline	<50 <sup>*9</sup>	<50 <sup>*9</sup>
	戊二醛 Glutaraldehyde	<1000 <sup>*9</sup>	<1000 <sup>*9</sup>
	磷酸三(2-氯乙基)酯(TCEP) Tris (2-chloroethyl) phosphate	<10 <sup>*9</sup>	<10 <sup>*9</sup>

着色剂 (见附页二、四、五) Colorants* <sup>9</sup> (mg/kg) (See Appendix II, IV, V)	可裂解的致癌芳香胺 Cleavable cancerogenic arylamines	<20* <sup>12</sup>	<20* <sup>12</sup>
	可裂解苯胺 Cleavable aniline	<50 ( I <20 ) * <sup>13</sup>	/
	致癌物 Carcinogens	<50	<50
	米氏酮/碱≥0.1%的着色剂 Colourants with ≥ 0.1% Michler's Ketone/Base	<1000	<1000
	致过敏 Allergens	<50	<50
	海军蓝 Navy Blue	未检出 Not Detected	未检出 Not Detected
	其他 Others	<50	<50
氯化苯和氯化甲苯 (见附页三) Chlorinated benzenes and toluenes* <sup>9</sup> (mg/kg) (See appendix III)		总和 Total<1	总和 Total<1
多环芳烃 (见附页六) Polycyclic aromatic hydrocarbons (mg/kg) (See appendix VI)		8 PAHs<1/项 each ( I <0.5/项 each ) * <sup>14</sup> , 24 PAHs 总和 Total<10 ( I 总和 Total<5 )	8 PAHs<1/项 each ( I <0.5/项 each ), 24 PAHs 总和 Total<10 ( I 总和 Total<5 )
生物活性产品 Biological active products		未检出 Not Detected* <sup>15</sup>	未检出 Not Detected* <sup>15</sup>
阻燃产品 Flame retardant products (mg/kg)		<10/项 each, SCCP+MCCP <50* <sup>15*16</sup> , 总和 Sum of all <50	<10/项 each* <sup>15*16</sup> , 总和 Sum of all<50
溶剂残留 Solvent residues* <sup>9</sup> (mg/kg)	N-甲基吡咯烷酮 N-Methylpyrrolidone (NMP)	<500* <sup>17*18</sup> ( <1000* <sup>19</sup> )	<500* <sup>28</sup>
	N,N-二甲基乙酰胺 N,N-Dimethylacetamide (DMAc)	<500* <sup>17*18</sup> ( <1000* <sup>19</sup> )	<500* <sup>28</sup>
	N,N-二甲基甲酰胺 N,N-Dimethylformamide (DMF)	<500* <sup>17*18</sup> ( <1000* <sup>19</sup> )	<500* <sup>28</sup>
	甲酰胺 Formamide	<200	<200* <sup>28</sup>
残余表面活性剂, 润湿剂, 烷基酚 Surfactant wetting agent residues* <sup>9</sup> (mg/kg)	4-叔丁基苯酚 4-tert-butylphenol(BP), 壬基苯酚 Nonylphenol(NP), 辛基苯酚 Octylphenol(OP), 庚基苯酚 Heptylphenol(HpP), 戊基苯酚 Pentylphenol(PeP)	总和 Total<10	总和 Total (不包括 BP Not including BP) <20, BP<1000
	4-叔丁基苯酚 4-tert-butylphenol (BP), 壬基苯酚 Nonylphenol (NP), 辛基苯酚 Octylphenol (OP), 庚基苯酚 Heptylphenol (HpP), 戊基苯酚 Pentylphenol (PeP), 壬基酚聚氧乙烯醚 Nonylphenoethoxylates (NP(EO)), 辛基酚聚氧乙烯醚 Octylphenoethoxylates (OP(EO))	总和 Total<100	总和 Total (不包括 BP Not including BP) <10, BP<1000
紫外线稳定剂 UV stabilizers* <sup>9</sup> : UV320、UV327、UV328、UV350 (mg/kg)		<1000/项 each	<1000/项 each
氯化石蜡 Chlorinated paraffins (SCCP、MCCP) * <sup>9</sup> (mg/kg)		总和 Total<50	SCCP<50, MCCP<100, 总和 Total<100
硅氧烷 Siloxanes (D4、D5、D6) * <sup>9</sup> (mg/kg)		<1000/项 each	<1000/项 each
亚硝胺 N-Nitrosamines (mg/kg) * <sup>9</sup>		<0.5/项 each	<0.5/项 each
亚硝基物质 N-nitrosatable substances (mg/kg)		总和 Total<5	总和 Total<5* <sup>36</sup>

全氟和多氟化合物, 全氟和多氟烷基物质 PFC/PFAS, Per- and polyfluorinated compounds/Per- and polyfluoroalkyl substances*9*20	全氟辛烷磺酸和磺酸盐 PFOS, 全氟辛烷磺酰胺 PFOSA, 全氟辛烷磺酰氟 PFOSE, N-甲基全氟辛烷磺酰胺 N-Me-FOSA, N-Et-FOSA, N-乙基全氟辛烷磺酰胺 N-Me-FOSE, N-甲基全氟辛烷磺酰胺乙醇 N-Et-FOSE ( $\mu\text{g}/\text{m}^2$ )	总和 Total <1	总和 Total <1
	全氟庚酸及其盐 PFHpA, 全氟壬酸及其盐 PFNA, 全氟癸酸及其盐 PFDA, 全氟十一烷酸及其盐 PFUdA, 全氟十二烷酸及其盐 PFDoA, 全氟十三烷酸及其盐 PFTeDA, 全氟十四烷酸及其盐 PFTeDA, 更多的全氟羧酸总和, 根据附页七 Further perfluorinated carboxylic acids sum; according to Appendix VII ( $\mu\text{g}/\text{kg}$ )	<25	<25
	全氟磺酸总和, 根据附页七 Perfluorinated sulfonic acids, sum; according to appendix VII ( $\mu\text{g}/\text{kg}$ )	<250 ( I <50)	<250 ( I <50)
	部分氟化羧酸/磺酸总和, 依据附页七 Partially fluorinated carboxylic / sulfonic acids, sum; according to appendix VII ( $\mu\text{g}/\text{kg}$ )	<250 ( I <50)	<250 ( I <50)
	部分氟化直链醇总和, 依据附页七 Partially fluorinated linear alcohols, sum; according to appendix VII ( $\mu\text{g}/\text{kg}$ )	<250	<250
	氟化醇与丙烯酸的酯 Esters of fluorinated alcohols with acrylic acid, sum; according to appendix VII ( $\mu\text{g}/\text{kg}$ )	<250	<250
	全氟辛酸及其盐总和 PFOA and salts sum ( $\mu\text{g}/\text{kg}$ )	<25	<25*29*30
	PFOA 相关物质总和 PFOA related substances Sum ( $\mu\text{g}/\text{kg}$ )	<250*21	<250*21
	有机氟含量 Organic fluorine content	可萃取有机氟 (EOF) Extractable organic fluorine ( $\text{mg}/\text{kg}$ )	<10*34
可挥发物的释放量 Emission of volatiles ( $\text{mg}/\text{m}^3$ )	甲醛 Formaldehyde	<0.1*22	<0.1*31
	甲苯 Toluene	<0.1*22	<0.1*31
	苯乙烯 Styrene	<0.005*22	<0.005*31
	4-乙烯基环己烷 4-Vinylcyclohexene	<0.002*22	<0.002*31
	4-苯基环己烷 4-Phenylcyclohexene	<0.03*22	<0.03*31
	丁二烯 Butadiene	<0.002*22	<0.002*31
	氯乙烯 Vinyl chloride	<0.002*22	<0.002*31
	芳香烃 Aromatic hydrocarbons	<0.3*22	<0.3*31
有机挥发物 Organic volatiles	<0.5*22	<0.5*31	
禁用纤维-石棉 Banned fibers-Asbestos	未检出 Not Detected	/	

加工过程防腐剂 Process preservative agents*9*25 (mg/kg)	2-苯基苯酚/邻苯基苯酚 2- Phenylphenol/Ortho-phenylphenol (OPP)	/	<750*26*27 ( I <250)
	4-氯-3-甲基苯酚 4-Chloro-3-methylphenol (CMC/CMK)	/	<300*26*27 ( I <150)
	2-(硫氰酸甲基巯基) 苯并噻唑 2-(Thiocyanomethylthio) benzothiazole (TCMTB)	/	<500 ( I <250)
	2-辛基异噻唑-3(2H)-酮 2-Octylisothiazol-3(2H)-on (OIT)	/	<100 ( I <50)
使用无铬和无金 属鞣制皮革 Use of chrome- free and metal- free tanned leather	无铬鞣制 Chrome-free tanned	/	干重时铬总含量 Total content of chromium on dry weight≤0.1%*32
	无金属鞣制 Metal-free tanned	/	干重时所有金属鞣剂 (铬、铝、 钛、锆、铁) 的总含量 Total content of all tanning metals (Cr, Al, Ti, Zr, Fe) on dry weight≤0.1%*32

I : 表示儿童产品 For children's products

\*1 例外情况: 后续加工必须经过湿处理的产品: 4.0-10.5; 海绵制品: 4.0-9.0; 非直接接触皮肤的含有碳酸氢钙/碳酸盐或滑石的膜材料 (例如聚烯烃薄膜): 4.0-10.0; 除湿巾外, 可接受的 pH 值范围为 3.5-7.5

Exceptions for products which must be treated wet during the further processing: 4.0-10.5; for foams: 4.0-9.0; for film materials (e.g. polyolefin films) with incorporated Calcium bicarbonate/carbonate or talc, which do not have directly contact to skin: 4.0-10.0; Exception for wet wipes, the accepted pH range is from 3.5 to 7.5.

\*2 此处不得检出 (n.d.) 是指使用“日本法 112”中规定的吸收测试法应小于 0.05 吸收率单位, 即应少于 16 mg/kg.  
n.d. corresponds according to “Japanese Law 112” test method with an absorbance unit less than 0.05 resp.16 mg/kg.

\*3 对于用玻璃制成的辅料: 1000 mg/kg.  
For accessories made from glass:1000 mg.kg.

\*4 对无机材料制成的辅料和纱线, 无生物活性产品相关要求。

No requirement for accessories and yarns made from inorganic materials, respecting the requirements regarding biological active products.

\*5 包括 REACH 法规附录 X VII 第 27 条的要求。

Including the requirement by REACH-Regulation Annex X VII, Entry 27.

\*6 只适用于金属辅料及经金属处理的表面: 0.5 mg/kg.

For metallic accessories and metallized surfaces: 0.5 mg/kg.

\*7 只适用于金属辅料及经金属处理的表面: 1.0 mg/kg.

For metallic accessories and metallized surfaces: 1.0 mg/kg.

\*8 仅适用于天然纤维。

For natural fibers only.

\*9 具体物质列于附页七。

The individual substances are listed in appendix 7.

\*10 适用于涂层产品: 胶浆印花, 柔软海绵和塑料材质辅料。

For coated articles, plastisol prints, flexible foams, and accessories made from plastics.

\*11 适用于所有包含聚氨酯的材料或其他可能含有游离致癌芳香胺的材料。

For all materials containing polyurethane or other materials which may contain free carcinogenic arylamines.

\*12 可裂解的致癌芳香胺和可能以化学残留物存在的游离致癌 (相同) 芳香胺的总量也必须为 20 mg/kg.

The sum of cleavable cancerogenic arylamine and of possibly also as chemical residue present free cancerogenic (same) arylamine has to be also 20 mg/kg.

\*13 可裂解的苯胺和可能以化学残留物存在的游离苯胺的总量也必须 50 mg/kg (儿童产品 20 mg/kg) .

The sum of cleavable aniline and of possibly also as chemical residue present free aniline has to be also 50 mg/kg (children's products 20 mg/kg).

\*14 适用于所有合成纤维、纱线或股线以及塑料材料。

For all synthetic fibers, yarns, or threads and for plastic materials.

\*15 除了 OEKO-TEX® 认可的处理方法外 (请参见 <http://www.oeko-tex.com> 网站上发布的实际列表) .

With exception of treatments accepted by OEKO-TEX® (see actual list on <http://www.oeko-tex.com>).

\*16 认可的阻燃产品不应含任何附页七活性剂中所列的禁用阻燃物质。

Accepted flame retardant products do not contain any of the banned flame retardant substances listed in Appendix VII as active agent.

\*17 适用于在生产过程中使用溶剂的纤维、纱线、面料和涂层产品 (如人造革) 以及海绵 (EVA、PVC) .

For fibers, yarns, fabrics and coated articles (e.g. artificial leather) as well as foams (EVA, PVC), where solvents are used during production.

\*18 例外情况: 后续加工必须经过进一步工业化生产阶段 (湿热或干热处理, 但也可能采用其他处理步骤): 最大 3.0%.

Exception for products which must undergo further industrial production stages (heat process in wet or dry stage preferred, but also other steps are possible): Maximal 3.0 %.

\*19 适用于由丙烯酸 (PAN)、氨纶 (EL) / 聚氨酯、聚酰亚胺和芳香族聚酰胺以及涂层 (PU-、PVC-、PVC-增塑溶胶、PVDC-以及 PVC-共聚物) 制成的纺织品材料。

For materials made of acrylic (PAN), elastane (EL) / polyurethane, polyimide and aramides as well as coated (PU-, PVC-plastisol-, PVDC-, PVC-copolymer) textiles.

\*20 适用于所有经防水、防污或防油整理或涂层的材料。

For all materials with a water, soil or oil repellent finish or coating.

\*21 任何其他可降解为 PFOA 的物质, 包括具有线性或支链式全氟庚基衍生物的物质 (也包括盐和聚合物), 其分子式 (C7F15) C 为结构元素。除分子式为 C8F17-X 的衍生物, 其中 X=F、Cl、Br 和含 CF3[CF2]n-R' 的氟聚合物, 其中 R'=任意基团、n>16 和含 8 个全氟碳的全氟烷基羧酸 (包括其盐、酯、卤化物和酞) 除外。同样被排除的还有全氟烷烃磺酸和全氟膦酸 (包括其盐、酯、卤化物和酞) 与 ≥9 个全氟碳或全氟辛烷磺酸及其衍生物 (全氟辛烷磺酸及其衍生物), 它们列于 VO(EU)2019/1021 条例的附录 I A 部分。

Any other substance, which can degrade to PFOA, including substances (also salts and polymers) having linear or branched perfluoroheptyl derivatives with the formula (C7F15) C as a structural element. Except those derivatives with the formula C8F17-X, where X=F, Cl, Br, and fluoropolymers that are covered by CF3[CF2] n-R', where R'=any group, n>16, and perfluoroalkyl carboxylic acids (including their salts, esters, halides and anhydrides) with ≥8 perfluorinated carbons. Also excluded are perfluoroalkane sulfonic acids and perfluoro phosphonic acids (including their salts, esters, halides and anhydrides) with ≥9 perfluorinated carbons or, perfluorooctanesulfonic acid and its derivatives (PFOS), which are listed in the Appendix I Part A of the regulation VO (EU) 2019/1021.

\*22 适用于纺织地毯、床垫、泡绵以及不用于服装的大型涂层产品。

For textile carpets, mattresses as well as foams and large coated articles not being used for clothing.

\*23 检测在热老化前后进行。

The test is performed before and after a heat aging.

\*24 仅适用于带有毛发的皮革 (例如皮)。

Only for leather with hairs (e.g skins).

\*25 加工过程防腐剂的独有衍生产品; 不作为生物活性整理。

Exclusively descendent from process preservation; not as a biological active finishing.

\*26 CMC 可接受的最大浓度是 600 ppm, 同时 OPP 浓度从 750 ppm 处开始降低 (例如 CMC 最大浓度为 500 ppm, 则 OPP 可接受浓度为 550 ppm; CMC 最大浓度为 600 ppm, 则 OPP 可接受浓度 450 ppm)。

CMC concentrations up to 600 ppm are acceptable if the concentration of OPP at the same time is decreasing from 750 ppm (e.g 500 ppm CMC means max. 550 ppm OPP acceptable; 600 ppm CMC means max. 450 ppm OPP acceptable).

\*27 对半成品皮革, 即蓝湿皮、白湿皮、棕湿皮、绿湿皮的要求: OPP 1000 ppm, CMC 600 ppm: CMC 可接受的最大浓度是 1000 ppm, 同时 OPP 的最大浓度为 600 ppm (例如 CMC 最大浓度为 800 ppm, 则 OPP 可接受浓度为 800 ppm; CMC 最大浓度为 1000 ppm, 则 OPP 可接受浓度为 600 ppm)。

For the Semi-finished leather Wet-blue, Wet-white, Wet-brown and Wet-green is demanded: OPP 1000 ppm, CMC 600 ppm, CMC concentrations up to 1000 ppm are acceptable if the concentration of OPP at the same time is 600 ppm at maximum (e.g 800 ppm CMC means max. 800 ppm OPP acceptable or e.g 1000 ppm CMC means max. 600 ppm acceptable).

\*28 适用于在生产过程中使用溶剂的涂层产品。

For coated articles, where solvents are used during production.

\*29 涂层为 >1.5mm 的覆膜革, 当涂层不能与皮革分离时, 基极限值 <1 μg/m<sup>2</sup>。涂覆革, 涂覆层为 >0.15mm, 可与革面分离, 涂覆革极限值为 <1 μg/m<sup>2</sup>。

For coated leather with a coating >0.15 mm, where the coating cannot be separated from the leather, the limit value is <1 μg/m<sup>2</sup>.

For coated leather with a coating >0.15mm, where the coating can be separated from the leather, the limit value for the coating is <1 μg/m<sup>2</sup>.

\*30 对于皮革或涂层 ≤0.15mm 的覆膜革有效。涂覆革, 涂覆层为 >0.15mm, 涂层可与革面分离, 以 mg/kg 计量的限量值是针对皮革部分, 且涂覆革限量值为 <1 μg/m<sup>2</sup>。

Valid for leather or coated leather with a coating ≤0.15mm. For coated leather (coating >0.15mm), where the coating can be separated from the leather, the limit value in ppm is valid for the leather part and for the coating the limit is <1 μg/m<sup>2</sup>.

\*31 仅适用于大规模使用的皮革 (例如家具用皮革)。

Only for leather which is used in large scale (e.g. leather for furniture).

\*32 在鞣制过程中考虑到 ISO 15115 (2019) 对“无铬鞣制皮革”和/或“无金属鞣制皮革”的定义, 并满足其要示。

The definition of “chrome-free tanned leather” and/or “metal-free tanned leather” according to ISO 15115(2019) has been considered in tanning process and fulfills the requirements of the ISO 15115(2019).

\*33 对于泡棉产品有过渡期。如果泡棉中的三聚氰胺超过 1000 mg/kg, 则必须在证书中说明。

There is a transition period for foams. If the foam contains more than 1000 mg/kg melamine, this must be stated on the certificate.

\*34 产品的过渡期至 2024 年 1 月 1 日结束, I 级产品无过渡期。

The transition period for product ends on the 01.01.2024, there is no transition period for product class I.

\*35 作为清洁用辅料的麂皮除外: 3.5-10.

Exception for chamois leather as cleaning accessory: 3.5-10.

\*36 用于涂层 >0.15 mm 的涂层皮革。

For coated leather with a coating > 0.15 mm.

#### 4.5 涂料、胶粘剂、油墨、清洗剂中的挥发性有机化合物 (VOCs) 及有害物质限量要求 Limits of VOCs and harmful substances in coatings, adhesives, inks and cleaning agents

##### 4.5.1 涂料中有害物质、VOC含量限值要求 Limits of harmful substances of coatings

除特殊功能性涂料以外的各类工业防护涂料中VOC含量的限量值应符合下表要求。特殊功能性涂料是指绝缘涂料、触摸屏和光学塑料片用耐指纹涂料、150℃以上高温烧结成膜的聚四氟乙烯类涂料（耐化学介质、耐磨、润滑、不粘等特殊功能）、弹性体用氟硅涂料、电镀银效果漆（辐射固化型）、标志漆、电子元器件用保护涂料（防酸雾、防尘、防湿等特殊功能）等。

The limit value of VOC content in various industrial protective coatings except for special functional coatings should meet the requirements of the following table. Special functional coatings refer to insulating coatings, fingerprint-resistant coatings for touch screens and optical plastic sheets, PTFE coatings (special functions such as chemical resistance, wear resistance, lubrication, non-sticking, etc.) that are sintered at a high temperature above 150°C Fluorosilicon paint for elastomers, silver electroplating effect paint (radiation curing type), sign paint, protective paint for electronic components (special functions such as acid mist, dust, and humidity), etc.

水性涂料 Water-based coatings				
产品类别 Product category	主要产品类型/施涂方式 Product type/Application method		阈值 Threshold	
包装涂料 Packaging coating	不粘涂料 Non-stick coating	底漆 Base coating	≤480 g/L	
		中涂 Floating coating	≤350 g/L	
		面漆 Finishing coating	≤300 g/L	
	其他 Others	辊涂（片材） Roller coating (sheet)	≤480 g/L	
		喷涂 Spraying	≤400 g/L	
型材涂料 Profile coating	电泳涂料 Electrophoretic coating		≤250 g/L	
	氟树脂涂料 Fluororesin coating		≤350 g/L	
	其他 Others		≤300 g/L	
电子电器涂料 Electrical and electronic coating	底漆 Base coating		≤420 g/L	
	色漆 Color paint		≤420 g/L	
	清漆 Varnish		≤420 g/L	
溶剂型涂料 Solvent based coatings				
预涂卷材涂料 Pre coated coil coating	氟树脂涂料 Fluororesin coating	-		≤780 g/L
	其他 Others	底漆 Base coating		≤650 g/L
		背漆 Back coating		≤700 g/L
		面漆 Finishing coating		≤600 g/L
		清漆 Varnish		≤600 g/L
包装涂料 Packaging coating	不粘涂料 Non-stick coating		-	≤420 g/L
	其他 Others	辊涂 Roller coating	卷材 Coiled material	≤780 g/L
			片材 Sheet	≤680 g/L
		喷涂 Spraying		≤750 g/L
型材涂料 Profile coating	氟树脂涂料 Fluororesin coating		-	≤780 g/L
	其他 Others	底漆 Base coating		≤520 g/L
		面漆 Finishing coating		≤600 g/L
		清漆 Varnish		≤550 g/L
电子电器涂料 Electrical and electronic coating	底漆 Base coating		≤600 g/L	
	色漆 Color paint		≤700 g/L	
	清漆 Varnish		≤650 g/L	

无溶剂涂料 Solvent free coating		
VOC		≤100 g/L
辐射固化涂料 Radiation curing coating		
水性 Aqueous	喷涂 Spraying	≤400 g/L
	其他 Others	≤150 g/L
非水性 Nonaqueous	喷涂 Spraying	≤550 g/L
	其他 Others	≤200 g/L
其他有害物质含量限值 Limits value of other harmful substances		
苯含量*a (限溶剂型涂料、非水性辐射固化涂料) Benzene content *a (Solvent based coatings and non-aqueous radiation curing coatings only)		≤0.3 %
甲苯与二甲苯 (含乙苯) 总和含量*a (限溶剂型涂料、非水性辐射固化涂料) Total content of toluene and xylene (Including ethylbenzene) *a (Solvent based coatings and non-aqueous radiation curing coatings only)		≤35 %
卤代烃总和含量 a (限溶剂型涂料、非水性辐射固化涂料) (限二氯甲烷、三氯甲烷、四氯甲烷、1,1-二氯乙烷、1,2-二氯乙烷、1,1,1-三氯乙烷、1,1,2-三氯乙烷、1,2-二氯丙烷、1,2,3-三氯丙烷、三氯乙烯、四氯乙烯) Total halogenated hydrocarbon content*a (Solvent based coatings and non-aqueous radiation curing coatings only) (Only dichloromethane, trichloromethane, tetrachloromethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,2-dichloropropane, 1,2,3-trichloropropane, trichloroethylene, tetrachloroethylene)		≤1 %
多环芳烃总和含量*a (限溶剂型涂料、非水性辐射固化涂料) (限萘、蒽) Total content of polycyclic aromatic hydrocarbons *a (Solvent based coatings and non-aqueous radiation curing coatings only) (Naphthalene and anthracene only)		≤500 ppm
甲醇含量*a (限无机类涂料) Methanol content *a (Inorganic coatings only)		≤1 %
乙二醇醚及醚酯总含量*a (限水性涂料、溶剂型涂料、辐射固化涂料) (限乙二醇甲醚、乙二醇甲醚醋酸酯、乙二醇乙醚、乙二醇乙醚醋酸酯、乙二醇二甲醚、乙二醇二乙醚、二乙二醇二甲醚、三乙二醇二甲醚) Total content of ethylene glycol ether and ether ester *a (Only waterborne coatings, solvent based coatings, radiation curing coatings) (Only ethylene glycol methyl ether, ethylene glycol methyl ether acetate, ethylene glycol ether, ethylene glycol ether acetate, ethylene glycol dimethyl ether, ethylene glycol diethyl ether, diethylene glycol dimethyl ether, triethylene glycol dimethyl ether)		≤1 %
重金属含量 (限色漆*b、粉末涂料、醇酸清漆) Heavy metal content ((Limited color paint *b, powder coating, alkyd varnish)	铅 (Pb) 含量 Lead content	≤1000 ppm
	镉 (Cd) 含量 Cadmium content	≤100 ppm
	六价铬 (Cr <sup>6+</sup> ) 含量 Hexavalent chromium content	≤1000 ppm
	汞 (Hg) 含量 Mercury content	≤1000 ppm
*a: 按产品明示的施工状态下的施工配比混合后测定, 如多组分的某组分的使用量为某一范围时, 应按照产品施工状态下的施工配比规定的最大比例混合后进行测定, 水性涂料和水性辐射固化涂料所有项目均不考虑水的稀释比例。 The mixture shall be measured according to the construction ratio in the construction state indicated by the product. If the usage amount of a component of multiple components is within a certain range, the mixture shall be measured in accordance with the maximum proportion specified in the construction ratio in the construction of the product. The dilution ratio of water shall not be considered in all the projects of water-based coatings and water-based radiation curing coatings.		
*b: 指含有颜料、体质颜料、染料的一类涂料。 Refers to a type of paint containing pigments, extender pigments, and dyes.		



木器涂料 Wood coating									
项目 Items	阈值 Threshold								
	溶剂型涂料 (含腻子) Solvent based coatings (Containing putty)*a				水性涂料 (含腻子) Waterborne coatings (Containing putty)*b		辐射固化涂料 (含腻子) Radiation curing coating (Containing putty)		粉末涂料 Powder coating
	聚氨酯类 polyurethanes	硝基类(限工厂化涂装使用) Nitro group (Only for factory coating)	醇酸类 Alkyd	不饱和聚酯类 Unsaturated polyester	色漆 Color paint	清漆 Varnish	水性 Waterborne *b	非水性 Nonaqueous *b	
甲醛 Formaldehyde/(ppm)	-				≤ 100		≤ 100	-	-
总铅含量 Total lead content (限色漆 paint *c、腻子和醇酸清漆 putty and alkyd varnish only) / (ppm)	≤ 90								
可溶性重金属含量 Soluble heavy metals (限色漆 Paint *c、腻子和醇酸清漆 putty and alkyd varnish only) / (ppm)	镉 Cadmium	≤ 75							
	铬 Chromium	≤ 60							
	汞 Mercury	≤ 60							
烷基酚聚氧乙烯醚总含量 {限辛基酚聚氧乙烯醚 [C <sub>8</sub> H <sub>17</sub> -C <sub>6</sub> H <sub>4</sub> -(OC <sub>2</sub> H <sub>4</sub> ) <sub>n</sub> OH, 简称 OP <sub>n</sub> EO] 和壬基酚聚氧乙烯醚 [C <sub>9</sub> H <sub>19</sub> -C <sub>6</sub> H <sub>4</sub> -(OC <sub>2</sub> H <sub>4</sub> ) <sub>n</sub> OH, 简称 NP <sub>n</sub> EO], n=2~16} Total content of alkylphenol polyoxyethylene ether {Octylphenol polyoxyethylene ether [C <sub>8</sub> H <sub>17</sub> -C <sub>6</sub> H <sub>4</sub> -(OC <sub>2</sub> H <sub>4</sub> ) <sub>n</sub> OH, (OP <sub>n</sub> EO for short), nonylphenol polyoxyethylene ether [C <sub>9</sub> H <sub>19</sub> -C <sub>6</sub> H <sub>4</sub> -(OC <sub>2</sub> H <sub>4</sub> ) <sub>n</sub> OH, n=2~16, (NP <sub>n</sub> EO for short) only} / (ppm)	-				≤ 1000		≤ 1000	-	-

VOC 含量 VOC content	面漆 Finishing coating[光泽 gloss (60°) $\geq$ 80 单位值 unit value]: 550									
	涂料 Coating / (g/L) [光泽 gloss(60°) $<$ 80 单位值 unit value]: 650	$\leq 700$	$\leq 450$	$\leq 420$	$\leq 250$	$\leq 300$	$\leq 250$	$\leq 420$		
	底漆 Base coating: 600									
	溶剂型腻子 Solvent putty/(g/L)	$\leq 400$		$\leq 300$	-		-			
	水性和辐射固化腻子 Waterborne and radiation curing putty/(g/kg)	-			$\leq 60$		$\leq 60$			
乙二醇醚及醚酯总含量 (限乙二醇甲醚、乙二醇甲醚醋酸酯、乙二醇乙醚、乙二醇乙醚醋酸酯、乙二醇二甲醚、乙二醇二乙醚、二乙二醇二甲醚、三乙二醇二甲醚) Total content of glycol ether and ether ester (only ethylene glycol methyl ether, ethylene glycol ether acetate, ethylene glycol ether, glycol ether acetate, ethylene glycol methyl ether, ethylene glycol diethyl ether, diethylene glycol dimethyl ether, triethylene glycol dimethyl ether) / (ppm)		$\leq 300$								

苯含量 Benzene content/%	≤ 0.1				-	-	≤ 0.1	-
甲苯与二甲苯 (含乙苯) 总和含量 Total content of toluene and xylene (including ethylbenzene)/%	≤ 20	≤ 20	≤ 5	≤ 10	-	-	≤ 5	-
苯系物总和含量[限苯、甲苯、二甲苯 (含乙苯)] Total benzene series content [only benzene, toluene and xylene (including ethylbenzene)] (ppm)	-				≤ 250	≤ 250	-	-
多环芳烃总和含量 (限萘、蒽) Total content of polycyclic aromatic hydrocarbons (Naphthalene and anthracene only) / (ppm)	≤ 200				-	-	≤ 200	-
游离二异氰酸酯总和含量*d [限甲苯二异氰酸酯 (TDI)、六亚甲基二异氰] Total content of free diisocyanate *d [Toluene diisocyanate (TDI), hexamethylene diisocyanate only]/%	潮(湿)气固化型 Hygroscopic type: 0.4	-			-	-	-	-
	其他 Others: 0.2	-			-	-	-	-
甲醇含量 Methanol content /%	-	≤ 0.3	-	-	-	-	≤ 0.3	-
卤代烃总和含量 (限二氯甲烷、三氯甲烷、四氯化碳、1,1-二氯乙烷、1,2-二氯乙烷、1,1,1-三氯乙烷、1,1,2-三氯乙烷、1,2-二氯丙烷、1,2,3-三氯丙烷、三氯乙烯、四氯乙烯) Total halogenated hydrocarbon content*a (Only dichloromethane, trichloromethane, tetrachloromethane, 1,1-dichloroethane, 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,2-dichloropropane, 1,2,3-trichloropropane, trichloroethylene, tetrachloroethylene)/%	≤ 0.1				-	-	≤ 0.1	-

邻苯二甲酸酯总和含量[限邻苯二甲酸二丁酯、邻苯二甲酸丁苯酯、邻苯二甲酸二异辛酯、邻苯二甲酸二辛酯、邻苯二甲酸二异壬酯、邻苯二甲酸二异癸酯] Total phthalate content (Only BBP, DBP, DEHP, DNOP, DINP, DIDP) /%	-	≤ 0.2	-	-	-	-	-
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\*a: 按产品明示的施工状态下的施工配比混合后测定，如多组分的某组分的使用量为某一范围时，应按照产品施工状态下的施工配比规定的最大比例混合后进行测定。

The mixture shall be measured according to the construction ratio under the explicit construction state of the product. If the usage amount of a component of multiple components is within a certain range, the mixture shall be measured according to the maximum proportion specified in the construction ratio under the construction state of the product.

\*b: 涂料产品所有项目均不考虑水的稀释比例。膏状腻子及仅以水稀释的粉状腻子所有项目均不考虑水的稀释配比；粉状腻子（除仅以水稀释的粉状腻子外）除总铅、可溶性重金属项目直接测试粉体外，其余项目按产品明示的施工状态下的施工配比将粉体与水、胶粘剂等其他液体混合后测试。如施工状态下的施工配比为某一范围时，应按照水用量最小、胶粘剂等其他液体用量最大的配比混合后测试。

The dilution ratio of water is not considered in all items of coating products. For paste putty and powder putty only diluted with water, the dilution ratio of water is not considered for all items; for powder putty (except for powder putty diluted only with water), in addition to the direct test powder for total lead and soluble heavy metal items, the other items are tested after mixing the powder with water, adhesive and other liquids according to the construction proportion indicated by the product under the construction state. If the construction ratio under the construction condition is a certain range, it should be tested after mixing according to the ratio of the minimum water consumption and the largest amount of other liquid such as adhesive.

\*c: 指含有颜料、体质颜料、染料的一类涂料

It refers to a kind of coatings containing pigments, constitution pigments and dyes.

d: 如聚氨酯类涂料和腻子规定了稀释比例或由双组分或多组分组成时，应先测定固化剂（含游离二异氰酸酯预聚物）中的含量，再按产品明示的施工状态下的施工配比计算混合后涂料中的含量。如稀释剂的使用量为某一范围时，应按照产品施工状态下的施工配比规定的最小稀释比例进行计算；如固化剂的使用量为某一范围时，应按照产品施工状态下的施工配比规定的最大比例进行计算。

If the dilution ratio of polyurethane coating and putty is specified or it is composed of two or more components, the content of curing agent (including free diisocyanate prepolymer) shall be determined first, and then the content of mixed coating shall be calculated according to the construction proportion specified in the product. If the dosage of diluent is within a certain range, the calculation shall be carried out according to the minimum dilution ratio specified in the construction ratio of the product under construction; if the usage amount of the curing agent is within a certain range, the calculation shall be conducted according to the maximum proportion specified in the construction proportion of the product under the construction state.

#### 4.5.2 胶粘剂挥发性有机化合物的限量 Limits of VOCs content in adhesives

胶粘剂产品中苯系（苯、甲苯和二甲苯）、卤代烃（二氯甲烷、1,2-二氯乙烷、1,1,1-三氯乙烷、1,1,2-三氯乙烷）、甲苯二异氰酸酯、游离甲醛等单个挥发有机化合物含量，应满足下表鞋和箱包、建筑胶粘剂中有害物质限量的规定。胶粘剂产品明示用于多种用途时，取各要求中的最低限量。本要求不适用于用作中间体未进入流通领域用作生产原料的胶粘剂，用于任何研究与开发、质量保证或分析实验室中试验或评估的胶粘剂，脲醛、酚醛、三聚氰胺甲醛胶粘剂及材料粘接时应用的特殊功能性表面处理剂。

The content of benzene series (benzene, toluene and xylene), halogenated hydrocarbons (dichloromethane, 1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane), toluene diisocyanate, free formaldehyde and other single volatile organic compounds in adhesive products shall meet the requirements of the following table on the limits of harmful substances in shoes, bags and building adhesives. When the adhesive product is explicitly used for multiple purposes, the minimum limit in each requirement shall be taken. This requirement does not apply to adhesives used as intermediates that have not entered the circulation field and used as production raw materials, adhesives used in any research and development, quality assurance or analysis laboratory test or evaluation, urea formaldehyde, phenolic, melamine formaldehyde adhesives and special functional surface treatment agents used in material bonding.

溶剂型胶粘剂 Solvent based adhesives									
应用 Applications	限量值 Threshold≤ (g/L)								
	氯丁橡胶类 Polychloroprene rubbers	苯乙烯-丁二烯-苯乙烯嵌段共聚物橡胶类 Styrene butadiene styrene block copolymer rubbers			聚氨酯类 Polyurethanes	丙烯酸酯类 Acrylates	其他 Others		
木工与家具 Carpentry and furniture	600	500			400	510	400		
装配业 Assembly industry	600	550			250	510	250		
包装 Packaging	600	500			400	510	500		
其他 Others	600	500			250	510	250		
水基型胶粘剂 Water-based adhesives									
应用 Applications	限量值 Thresholds≤ (g/L)								
	聚乙酸乙烯酯类 Polyvinyl acetates	聚乙烯醇类 Polyvinyl alcohols	橡胶类 Rubbers	聚氨酯类 Polyurethanes	醋酸乙烯-乙烯共聚乳液类 Vinyl acetate ethylene copolymer emulsions	丙烯酸酯类 Acrylates	其他 Others		
木工与家具 Carpentry and furniture	100	-	100	50	50	50	50		
装配 Assembly industry	100	-	100	50	50	50	50		
包装 Packaging	50	-	50	50	50	50	50		
其他 Others	50	50	50	50	50	50	50		
本体型胶粘剂 Adhesives of this type									
应用 Applications	限量值 Thresholds≤ (g/L)								
	有机硅 Organosilicons	MS	聚氨酯 Polyurethanes	聚硫类 Polysulfides	丙烯酸酯类 Acrylates	环氧树脂类 Epoxy resins	α-氰基丙烯酸类 α-Cyanoacrylic acids	热塑类 Thermoplastics	其他 Others
卫材、服装与纤维加工 Sanitary, clothing and fiber processing	-	50	50	-	-	-	-	50	50
纸加工及书本装订 Paper processing and book binding	-	50	50	-	-	-	-	50	50
装配业 Assembly industry	100	100	50	50	200	100	20	50	50
包装 Packaging	100	50	50	-	-	-	-	50	50
其他 Others	100	50	50	50	200	50	50	50	50

MS 指以硅烷改性聚合物为主体材料的胶粘剂；热塑类指热塑性聚烯烃或热塑性橡胶。

MS: It refers to the adhesive with silane modified polymer as the main material.

Thermoplastics: Refers to thermoplastic polyolefin or thermoplastic rubber.

鞋和箱包用胶粘剂 Adhesives for shoes and bags							
项目 Items	指标 Index						
	溶剂型 Solvent			水基型 Water-based			
苯 Benzene/ (g/kg)	≤5			-			
甲苯+二甲苯 Toluene and xylene/ (g/kg)	≤200			-			
游离甲苯二异氰酸酯 (聚氨酯胶粘剂需测试) Free toluene diisocyanate (polyurethane adhesive to be tested) / (g/kg)	≤10			-			
正己烷 n-hexane/ (g/kg)	≤150			-			
1,2-二氯乙烷 1,2-dichloroethane/ (g/kg)	≤5			-			
总卤代烃 (含 1,2-二氯乙烷、二氯甲烷、1,1,1-三氯乙烷、1,1,2-三氯乙烷) Total halogenated hydrocarbons (containing 1,2-dichloroethane, dichloromethane, 1,1,1-trichloroethane and 1,1,2-trichloroethane) / (g/kg)	≤50			-			
总挥发性有机物 Total VOCs/ (g/L)	≤750			≤100			
溶剂型建筑胶粘剂 Solvent based building adhesives							
项目 Items	指标 Index						
	氯丁橡胶胶 粘剂 Neoprene adhesives	SBS 胶粘剂 SBS adhesives	聚氨酯类胶粘 剂 Polyurethanes adhesives	丙烯酸酯类 胶粘剂 Acrylates adhesives	其他胶粘剂 Others adhesives		
苯 Benzene/(g/kg)	≤5						
甲苯+二甲苯 Toluene and xylene/(g/kg)	≤200	≤80	≤150				
甲苯二异氰酸酯 Toluene diisocyanate/(g/kg)	-		≤10	-			
二氯甲烷 Dichloromethane/(g/kg)	≤200				总量≤50		
1,2-二氯乙烷 1,2-dichloroethane/(g/kg)	总量≤5						
1,1,1-三氯乙烷 1,1,1-trichloroethane/(g/kg)							
1,1,2-三氯乙烷 1,1,2-trichloroethane/(g/kg)	总量≤5						
总挥发性有机物 Total VOCs/(g/L)	≤680	≤630	≤680	≤600	≤680		
水基型建筑胶粘剂 Water-based building adhesives							
项目 Items	指标 Index						
	聚乙酸乙烯酯 类 Polyvinyl acetate	缩甲醛 类 Formal	橡胶类 Rubbers	聚氨酯类 Polyurethan es	VAE 乳液类 VAE emulsions	丙烯酸酯 类 Acrylates	其他类 Others
游离甲醛 Free formaldehyde/(g/kg)	≤0.5	≤1.0	≤1.0	-	≤0.5	≤0.5	≤1.0
总挥发性有机物 Total VOCs/(g/L)	≤100	≤150	≤150	≤100	≤100	≤100	≤150

本体型建筑胶粘剂 This type of building adhesives					
项目 Items	指标 Index				
	有机硅类 (含 MS) Organosilicon (Including MS)	聚氨酯类 Polyurethanes	聚硫类 Polysulfides	环氧类 Epoxy	
				A 组分 Component A	B 组分 Component B
总挥发性有机物 Total VOCs/ (g/kg)	≤100	≤50	≤50	≤50	-
甲苯二异氰酸酯 (g/kg) Toluene diisocyanate/	-	≤10	-	-	-
苯 Benzene/ (g/kg)	-	≤1	-	≤2	≤1
甲苯 Toluene/ (g/kg)	-	≤1	-	-	-
甲苯+二甲苯 (g/kg) Toluene and xylene/	-	-	-	≤50	≤20

#### 4.5.3 油墨中可挥发性有机化合物的限量及不应人为添加的物质 Limits of VOCs in inks and substances that should not be added artificially 油墨中可挥发性有机化合物的限量 Limits of VOCs in inks

油墨品种 Ink varieties			VOCs 限值 VOCs limits %		
溶剂油墨 Solvent based ink	凹印油墨 Gravure ink		≤75		
	柔印油墨 Flexible printing ink		≤75		
	喷墨印刷油墨 Inkjet printing ink		≤95		
	网印油墨 Screen printing ink		≤75		
水性油墨 Water-based ink	凹印油墨 Gravure ink	吸收性承印物 Absorbent substrates	≤15		
		非吸收性承印物 Non-absorbent substrates	≤30		
	柔印油墨 Flexible printing ink	吸收性承印物 Absorbent substrates	≤5		
		非吸收性承印物 Non-absorbent substrates	≤25		
	喷墨印刷油墨 Inkjet printing ink		≤30		
网印油墨 Screen printing ink		≤30			
胶印油墨 Offset printing ink	单张胶印油墨 Single sheet offset printing ink		≤3		
	冷固轮转油墨 Cold set rotary ink		≤3		
	热固轮转油墨 Thermoset rotary ink		≤10		
雕刻凹印油墨 Engraving gravure ink			≤20		
能量固化油墨 Energy curing ink	胶印油墨 Offset printing ink		≤2		
	柔印油墨 Flexible printing ink		≤5		
	网印油墨 Screen printing ink		≤5		
	喷墨印刷油墨 Inkjet printing ink		≤10		
	凹印油墨 Gravure ink		≤10		
油墨中不应人为添加的物质 Substances that should not be artificially added					
No.	物质名称 Substance	CAS No.	No.	物质名称 Substance	CAS No.
1	乙苯 Ethylbenzene	101-41-4	2	环氧丙烷 Propylene oxide	75-56-9
3	苯乙烯 Styrene	100-42-5	4	苯 Benzene	71-43-2
5	亚硝酸异丙酯 Isopropyl nitrite	541-42-4	6	亚硝酸丁酯 Butyl nitrite	544-16-1
7	乙二醇单乙醚 Ethylene glycol monoether	110-80-5	8	乙二醇乙醚乙酸酯 Ethylene glycol ether acetate	111-15-9
9	乙二醇单甲醚 Ethylene glycol monomethyl ether	109-86-4	10	乙二醇甲醚乙酸酯 Ethylene glycol methyl ether acetate	110-49-6
11	2-硝基丙烷 2-nitropropane	79-46-9	12	N-甲基 2-吡咯烷酮 N-methyl 2-pyrrolidone	872-50-4
13	三甘醇二甲醚 Triglyme	112-49-2	14	乙二醇二甲醚 Ethylene glycol dimethyl ether	110-71-4
15	乙二醇二乙醚 Ethylene glycol diethyl ether	629-14-1	16	甲苯 Toluene	108-88-3
17	二甲苯 Xylene	1330-20-7	18	卤代烃 Halogenated hydrocarbon	-

**4.5.4 清洗剂VOC含量及特定挥发性有机物的限量 Limits of VOCs content in cleaning agents**

清洗剂 VOC 含量及特定挥发性有机物 Content of VOCs in cleaning agents and limits of specific VOCs			
项目 Items	阈值 Threshold		
	水基清洗剂 Water-based	半水基清洗剂 Semi-aqueous	有机溶剂清洗剂 Organic solvent
VOC 含量 VOCs Content/ (g/L)	≤50	≤300	≤900
二氯甲烷、三氯甲烷、三氯乙烯、四氯乙烯总和 Sum of dichloromethane, trichloromethane, trichloroethylene and tetrachloroethylene/%	≤0.5	≤2	≤20
甲醛 Formaldehyde/ (g/kg)	≤0.5	≤0.5	—
苯、甲苯、乙苯和二甲苯总和 Sum of benzene, toluene, ethylbenzene and xylene/%	≤0.5	≤1	≤2
低 VOC 含量半水基清洗剂 Low VOCs content semi-aqueous cleaning agent			
项目 Items	阈值 Threshold		
VOC 含量 VOCs content/ (g/L)	≤100		
二氯甲烷、三氯甲烷、三氯乙烯、四氯乙烯总和 Sum of chloroform, trichloromethane, trichloroethylene and tetrachloroethylene/%	≤0.5		
甲醛 Formaldehyde/ (g/kg)	≤0.5		
苯、甲苯、乙苯和二甲苯总和 Sum of benzene, toluene, ethylbenzene and xylene/%	≤0.5		

**4.6 冲突矿产**

禁止使用来自冲突矿区的锡、钨、金、钽。根据美国《多德·弗兰克华尔街改革和消费者保护法》，在美国上市的电子公司，需每年向美国证券和交易委员会以文件披露及报告其产品中金、钨、锡、钽的矿产来源，供应商应在供应链中作尽职调查，并提供金、钨、锡、钽的最初矿产商的详细信息。

The use of Tin, Tungsten, Gold and Tantalum from conflict mining areas is prohibited. According to the US Dodd-Frank Wall Street Reform and Consumer Protection Act, electronics companies listed in the United States are required to disclose and report to the US Securities and Exchange Commission documents each year on the source of gold, tungsten, tin, and tantalum in their products. Suppliers should conduct due diligence in the supply chain and provide details of the original miners of gold, tungsten, tin and tantalum.

**4.7 三星机型环境物质管理标准****Samsung Electronics Standards for Control of Substances used in products****4.7.1 限制物质 Restricted substances**

物质 Substances	适用范围 Applications		限值 Threshold
镉及其化合物 Cadmium and its compounds	所有部件 All parts		80 ppm
	聚合物产品的皮肤接触部件 Skin contact parts of polymer products *7	其他 Others	75 ppm
	皮肤接触部件 Skin contact parts *1	纤维 Fiber *16	1 mg/L
铅及其化合物 Lead and its compounds	所有部件 All parts		800 ppm
	儿童产品 Children's product *2 聚合物产品的可接触部件 Skin contact parts of polymer products *7		90 ppm
	皮肤接触部件 Skin contact parts *1	纤维 Fiber *16	1 mg/L
	显示器/笔记本电脑的电线电缆 Cable & Cord of Monitor/Note PC	表面涂层材料 Surface coating material	300 ppm
汞及其化合物 Mercury and its compounds	所有部件 All parts		800 ppm



六价铬及其化合物 Hexavalent chromium and its compounds	所有部件 All parts		800 ppm
	皮肤接触部件 Skin contact parts *1	天然皮革 Natural leather	3 ppm
		纤维 Fiber *16	1 mg/L
穿戴产品皮肤接触部件 Skin contact parts of wearables *3	聚合物 Polymer *4	0.5 ppm	
多溴联苯 Polybrominated biphenyls	所有部件 All parts	有机物 Organic	800 ppm
多溴联苯醚 Polybrominated diphenyl ethers	所有部件 All parts	有机物 Organic	800 ppm
BBP、DBP、DEHP、DIBP	所有部件 All parts 医疗设备 Medical equipment	有机物 Organic	800 ppm/项each
DEHP、DBP、BBP	聚合物产品的皮肤接触部件 Skin contact parts of polymer products *7	有机物 Organic	总和 Total 1000 ppm
DINP、DIDP、DnOP、DnHP、DMEP、DIPP、nPIPP、DnPP、DCHP	儿童产品可触及部件 Skin contact parts of children's product *2	有机物 Organic	800 ppm/项each
	所有部件 All parts		
DIHP	皮肤接触部件 Skin contact parts *1	纤维 Fiber *16	1 mg/L
DEP、DMP、DIHP、DHUNP、DPP	手机 Mobile *5笔记本电脑 Note PC *除了电源线/适配器 Excl. powercable/adapter 电视机/显示器机内线TV/Mon Iner Cable *除了面板Excl. panel	有机物 Organic	800 ppm/项each
	AI & IoT*6 *PVC安全要求时除外 Exp. PVC safety required		
Σ19 (BBP、DBP、DEHP、DIBP、DINP、DIDP、DnOP、DnHP、DMEP、DIPP、nPIPP、DnPP、DCHP、DEP、DMP、DIHP、DHUNP、DPP、DPHP)	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber *16, 天然皮革, 聚合物 Natural leather, polymer *4	总和Total 1000 ppm
DIDP、DINP	显示器/笔记本电脑 Monitor/Note PC	有机物 Organic	不使用 Non-use
多氯联苯Polychlorinated biphenyls (PCBs), 多氯三联苯polychlorinated terphenyls (PCTs), 多氯化萘polychlorinated naphthalenes (PCNs)	所有部件 All parts		不使用 Non-use
甲醛 Formaldehydes *10	木材部件 Wood parts	HWPW-CC/VC	0.05 ppm
		PB	0.09 ppm
		MDF	0.11 ppm
		Thin MDF (≤8 mm)	0.13 ppm
	纤维 Fiber *16		0.1 ppm
穿戴产品皮肤接触部件 Skin contact parts of wearables *3	天然皮革, 聚合物 Natural leather, polymer *4	75 ppm	
石棉及其化合物 Asbestos and its compounds	所有部件 All parts		不使用 Non-use
中链氯化石蜡(MCCP)	所有部件 All parts		1000 ppm

臭氧层消耗物质/温室气体 Ozone depleting substance/greenhouse gas	氟氯化碳、氟氯烃、哈龙 CFCs, HCFCs, Halons	制冷剂、发泡剂、灭火剂 Refrigerant, foam blowing agent, extinguish	不使用 Non-use
	氢氟碳化合物 HCFCs (GWP>150)	欧洲向冰箱制冷剂 Refrigerant in refrigerator for EU	
	氢氟碳化合物、全氟化碳、六氟化硫 HFCs, PFCs, SF6	奥地利、瑞士、丹麦向冰箱中的制冷剂、发泡剂 Refrigerant in refrigerator, foam blowing agent for Austria, Swiss, Denmark	
短链氯化石蜡: 烷烃10~13 碳链(SCCPs) Alkane 10~13 Carbon chain	所有部件 All parts		1000 ppm
偶氮染料 Azo colorants	直接和长时间与皮肤接触的纤维和皮革 Fiber, leather for direct and prolonged skin contact *16 (如皮带、表带等 e.g. belt, strap etc.)		30 ppm
	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber *16, 天然皮革, 聚合物Natural leather, polymer *4	
镍及其化合物 Nickel and its compounds	直接和长时间接触皮肤的金属表面处理和外部金属(如外装天线、外装壳、表带、皮带、耳机等) Resurfacing & external metal for direct & prolonged skin contact (e.g. external antenna/case, belt, strap, earphone etc.)		0.5 $\mu\text{g}/\text{cm}^2/\text{week}$ *9
	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	表面处理和外部金属 Resurfacing & external metal *4	0.2 $\mu\text{g}/\text{cm}^2/\text{week}$ *9
有机锡化合物 Organic tin compounds	三丁基锡 Tributyltin(TBT), 三苯基锡Triphenyltin(TPT), 二丁基锡Dibutyltin (DBT)化合物compound	所有部件 All parts	1000 ppm/项 each
	二辛基锡(DOT)化合物 Diocetyl tin compound	皮肤接触的纤维(如小袋), 儿童保护产品 Fiber for skin contact (e.g. pouches), Child protection products	
砷及其化合物(As) Arsenic and its compounds	木材, 浸在水里的部件 Wooden, submerged parts		不使用 Non-use
	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber *16, 天然皮革, 聚合物Natural leather, polymer *4	
全氟辛烷磺酸(PFOS)及其化合物 Perfluorooctane sulfonates and its compounds *10	所有部件 All parts		100 ppm
	纤维和涂层材料, 天然皮革 Fiber, coated materials, natural leather		1 $\mu\text{g}/\text{m}^2$
富马酸二甲酯 Dimethylfumarate (DMF)	所有部件 All parts		0.1 ppm
五氯苯酚及其化合物(PCP) Pentachlorophenol and its compounds	纤维和天然皮革Fiber and natural leather *16		5 ppm
	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber *16, 天然皮革, 聚合物Natural leather, polymer*4	0.5 ppm
四氯苯酚(TeCP) Tetrachlorophenol	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber*16, 天然皮革, 聚合物natural leather, polymer*4	总和 Total 5 ppm
三氯苯酚(TriCP) Trichlorophenol			总和Total 5 ppm

苯酚 Phenol	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	聚合物 Polymer *4	5 mg/L
全氟辛酸(PFOA)及其化合物 Perfluoro caprylic acid and its compounds *13	纤维和涂层材料, 天然皮革 Fiber and coated materials, natural leather		1 $\mu\text{g}/\text{m}^2$
	所有部件 All parts		0.025 ppm
全氟羧酸(PFCA)及其化合物 Perfluorinated carboxylic acid	所有部件 All parts		25 ppb, 总和 Total 260 ppb
多环芳烃(PAHs) Polycyclic aromatic hydrocarbon	皮肤接触部件Skin contact parts (8项Items *1)		1 ppm/项 each
	儿童产品中与皮肤接触部件 Skin contact parts of children's product (8项Items *2)		0.5 ppm/项 each
	穿戴产品皮肤接触部件 Skin contact parts of wearables *3 (24项Items)		1 ppm/项, 总和 total 10 ppm
双酚A Bisphenol A	食物接触部件 Food contact parts		不使用Non-use
	儿童产品皮肤接触部件 Skin contact parts of children's product *2		0.1 mg/L
	穿戴产品皮肤接触部件 Skin contact parts of wearables *3		0.04 mg/L
	热敏纸 Thermal paper		200 ppm
双酚S Bisphenol S	热敏纸 Thermal paper		200 ppm
壬基酚, 壬基酚聚氧乙烯醚 Nonylphenol, Nonylphenol ethoxylate	皮革, 纤维, 纸张Leather, fiber, paper *12*16 *医疗器材除外Excl. medical equipment		1000 ppm/项 each
烷基酚 Alkylphenols	穿戴产品皮肤接触部件Skin contact parts of wearables *3	纤维Fiber *16, 天然皮革, 聚合物Natural leather, polymer *4	总和Total 100 ppm
烷基酚聚氧乙烯醚 Alkylphenol ethoxylates			总和Total 100 ppm
4-叔丁基苯酚 4-tert-Butylphenol	穿戴产品皮肤接触部件 Skin contact parts of wearables *3		不使用 Non-use
磷酸三(2-氯乙基)酯 Tris(2-chloroethyl) phosphate (TCEP), 磷酸三(1,3-二氯-2-丙基)酯 Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	所有部件 All parts	有机物 Organic	1000 ppm/项 each
聚六亚甲基胍盐(磷)酸盐 Polyhexamethyleneguanidine hydrochloride/Polyhexamethyleneguanidine phosphate (PHMG), 油(2-)乙氧基乙氧基乙基胍氯化物 Oilgo (2-) ethoxy ethoxyethyl guanidine chloride (PGH), 聚六亚甲基双胍盐酸盐 Poly(hexamethylenebiguanide) hydrochloride (PHMB)	空气过滤器(空调和家用空气净化器), 清净产品, 空气清新产品 Air-filter (home AC, Air-purifier), Cleaners, Aroma		不使用 Non-use
氯甲基异噻唑啉酮 (CMIT) Chloromethylisothiazolione, 甲基异噻唑啉酮 Methylisothiazolinon(MIT)			
卤化阻燃剂 Halogenated flame retardants	电视、显示器、标牌的外壳和支架Enclosure & stand of TV/Monitor/Signage	有机物 Organic	总和 Total 1000 ppm
溴系阻燃剂 Brominated flame retardants	手机Mobile *5, 笔记本电脑 Note PC *电源线、适配器除外 Excl. powercable/required	有机物 Organic	溴Br 900 ppm
	AI & IoT*6 *PVC安全要求除外 Exp. PVC safety required		

异丙基化磷酸三苯酯 (3:1) Phenol, Isopropylated phosphate (3:1)	所有部件All parts *医疗设备除外Excl. medical equipment	有机物 Organic	不使用 Not-use
氯化阻燃剂 Chloride flame retardants	手机Mobile *5	有机物 Organic	不使用 Not-use
	AI & IoT*6 *PVC安全要求除外 PVC safety required	有机物 Organic	氯Cl 900 ppm
	显示器/笔记本电脑 Monitor/Note PC		
聚氯乙烯 (PVC) Polyvinyl chloride	手机Mobile *5, 笔记本电脑 Note PC *电源线、适配器除外 Excl. powercable/adapter 电视机、显示器的机内线TV/Mon Iner cable *除了面板 Excl. panel	有机物 Organic	氯900 ppm
	AI & IoT *6 *PVC安全要求除外 Excl. PVC safety required		
锑及其化合物 Antimony and its compounds	手机Mobile*5, 笔记本电脑Note PC *电源线、适配器除外 Excl. powercable/adapter 电视机、显示器的机内线TV/Mon Iner cable *除了面板 Excl. panel		700 ppm
	AI & IoT*6 *PVC安全要求除外 PVC safety required		
四溴双酚A (TBBP-A) Tetrabromosisphenol A	所有部件 All parts	有机物 Organic	900 ppm
六溴环十二烷 (HBCDD) Hexabromocyclododecane	所有部件 All parts		不使用 Non-use
磷酸三苯酯 (TPHP) Triphenyl phosphate	穿戴产品接触皮肤部件 Skin contact parts of wearables *3		不使用 Non-use
铍及其化合物 Beryllium and its compounds	所有部件 All parts		1000 ppm
	AI & IoT*6 *PVC安全要求除外 Exp. PVC safety required		
二氯化钴 Cobalt dichloride	所有部件 All parts		不使用Non-use (Co 1000 ppm)
挥发性有机化合物 Volatile organic compounds (VOCs)	甲苯 Toluene	手机 Mobile *5, AI & IoT*6	包装 package
	甲醛 Formaldehyde		
	苯 Benzene	半导体 SDC Semicon SDS *13	不使用 Non-use
铜 Copper	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维 Fiber*16	5 ppm
			纤维Fiber*16, 天然皮革, 聚合物 Natural leather, polymer *4
致过敏染料 Allergenic dyestuffs	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber *16, 天然皮革, 聚合物 Natural leather, polymer *4	50 ppm
致癌染料 Carcinogenic dyestuffs			
邻苯基苯酚 (OPP) o-phenylphenol	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	纤维Fiber *16	100 ppm
4-氯-3-甲基苯酚 (CMC/CMK) 4-Chlro-3-methylphenol			天然皮革 Natural leather
2-(硫氰酸甲硫基)苯并噻唑(TCMTB) 2-(Thiocyanomethylthio)benzothiazol	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	天然皮革 Natural leather	500 ppm
2-辛基异噻唑-3-(2H)-酮 2-octylisothiazol-3(2H)-on (OIT)			100 ppm

氯化苯 Chlorinated benzenes			1 ppm	
残留溶剂 Solvent residues	皮肤接触部件 Skin contact parts *1	纤维 Fiber*16	3000 ppm	
其他芳香胺 Other arylamines			30 ppm	
喹啉 Quinoline			50 ppm	
POPs (六氯丁二烯Hexachlorobutadiene、多氯二苯并二恶英Polychlorinated dibenzo-p-dioxins、多氯二苯并呋喃Polychlorinated dibenzofurans、六氯苯Hexachlorobenzene、五氯苯Pentachlorobenzene)	所有部件 All parts		不使用 Non-use	
皮肤过敏 Skin sensitising	硅 Silicon	穿戴产品皮肤接触部件 Skin contact parts of wearables *3	橡胶 Rubber	40 ppm
	铬 Chromium		天然皮革中 Natural leather	200 ppm
	苯并噻唑-2-硫醇 Benzothiazole-2-thiol			270 ppm
	对苯二胺 p-phenylenediamine			330 ppm
钕及其化合物 Neodymium and its compounds	显示器/笔记本电脑 Monitor/Note PC		不使用 Non-use	
放射性物质 Radioactive substances	显示器/笔记本电脑 Monitor/Note PC		不使用 Non-use	
欧盟REACH授权物质 EU REACH Authorisation list *18	显示器/笔记本电脑 Monitor/Note PC		不使用 Non-use	
全氟己烷磺酸 (PFHxS) 及其盐和相 关物质 Perfluorohexane sulfonic acid (PFHxS), its salts and related substances	所有部件 All parts		25 ppb, 总 和Total 1000 ppb	
矿物油芳香烃 (MOAH) Mineral Oil Aromatic Hydrocarbon	纸上印刷油墨 Printing ink in papers *19		10000 ppm	

\*1 部件在正常或合理可预见的使用条件下, 与人体皮肤的接触程度与衣服相似

Parts are under normal or reasonably foreseeable conditions of use, come into contact with human skin to an extent similar to clothing

\*2 部件适用于制造商设计或打算供 12 岁或以下儿童使用的消费品

Parts are intended for consumer products designed or intended by the manufacturer for use by children 12 years or younger

\*3 穿戴产品: 旨在长时间与皮肤直接接触的产品 (例如手表、耳机、护目镜等) 及与皮肤接触的部件

Wearable: Products intended to be in direct contact with skin for prolonged periods (e.g. watch, headset, goggle etc.) and the parts that are contact with skin.

\*4 穿戴产品下的聚合物: 合成革、塑料、橡胶、硅胶等

Polymer under wearable: Synthetic leather, plastic, rubber, silicon etc.

\*5 手机: 手机、平板电脑、穿戴产品, 包括配件

Mobile: Mobiles phones, tablets, wearables including accessories\*6 AI & IoT: AI 音响、物联网、无线路由器等  
AI & IoT: AI Speaker, Internet of things, Wireless router etc.

\*7 指韩国电器和家庭安全管理法中定义的合成树脂产品。(例如手机/平板电脑壳、耳机、Bidget)

Refers to the synthetic resin products defined in Korea Electrical Appliances and Household Safety Management Act. (e.g. Mobile phone/Tablet case, Ear phone, Bidget)

\*8 面向美国市场的产品只要符合 TSCA (不包括用于包装的复合木材, 例如托盘) 规定的甲醛阈值限制, 则认为它们符合该标准

Products for the U.S. Market are considered in compliance with this standard provided they meet the formaldehyde threshold limit set under 'TSCA' (Excl. composite woods for packaging, ex. pallets)

\*9 对于阈值  $0.5 \mu\text{g-Ni}/\text{cm}^2\text{-周}$ , 根据 EN 1811:2011+A1:2015, 低于  $0.88 \mu\text{g-Ni}/\text{cm}^2\text{-周}$  是可以接受的。(如果阈值  $0.2 \mu\text{g-Ni}/\text{cm}^2\text{-周}$  低于  $0.35 \mu\text{g-Ni}/\text{cm}^2\text{-周}$  是可以接受的), 镍管理根据分析报告进行。参见 e-CIMS 或审批表

For threshold  $0.5 \mu\text{g-Ni}/\text{cm}^2\text{-week}$ , below  $0.88 \mu\text{g-Ni}/\text{cm}^2\text{-week}$  are acceptable according to EN 1811:2011+A1:2015. (In case, threshold  $0.2 \mu\text{g-Ni}/\text{cm}^2\text{-week}$  is acceptable below  $0.35 \mu\text{g-Ni}/\text{cm}^2\text{-week}$ ), Nickel management is carried out based on analysis report. (Refer to e-CIMS or Approval sheet)

\*10 PFOS 化学式:  $\text{C}_8\text{F}_{17}\text{SO}_2\text{X}$  [X = OH, 金属盐 (O-M+)], 卤化物质, 包括聚合物和酰胺衍生物

PFOS Chemical formula:  $\text{C}_8\text{F}_{17}\text{SO}_2\text{X}$  [X = OH, Metal salt (O-M+)], Halogenated substances, including polymers and amide derivatives

\*11 不包括植入式医疗器械

Implantable medical devices are excluded

\*12 这不适用于非消费类产品

This don't apply to non-consumer products

- \*13 SDG : 三星显示器有限公司  
SDG: Samsung Display Co., Ltd.
- \*14 一级验证: 在零部件审批过程中通过 MSDS、自检表确认无苯, 二级验证 (所含物质): 通过第三方机构精确分析  
Primary verification: During parts approval process, confirm the absence of benzene with MSDS, Self-Checksheets, Secondary verification (substances contained): precise analysis through third party institution
- \*15 仅适用于实施日期后新开发的型号  
Applies only to newly developed models after the implement date
- \*16 纤维包括天然纤维和合成纤维  
Fibers include natural and synthetic fibers
- \*17 如果产品在欧盟以外销售, 则仅适用于实施日期后的新开发型号  
If products sold outside EU, it applies only to newly developed models after the implement date
- \*18 <https://echa.europa.eu/authorisation-list>
- \*19 仅用于向消费者提供包装材料和印刷材料 (手册、保修单等) 的纸张  
Only paper from packaging materials and printed material (manuals, warranties, etc.) for consumers

**4.7.2 RoHS 物质以外的优先管理物质 Priority Management Substances other than RoHS Substances**

以下 24 种非欧盟 RoHS 指令规定的限制性物质必须根据以下应用目标进行精确的分析数据检查。注:不包括医疗设备和网络设备产品。

The following 24 Restricted Substances that regulated other than EU RoHS Directive must be checked for precise analysis data in accordance with the following application targets. Note, Medical equipment and network equipment products are excluded.

物质 Substances	应用 Applications	物质 Substances	应用 Applications
多氯联苯 (PCBs) Polychlorinated biphenyls	电视/显示器的 LCD 面板 LCD Open cell of TV/Monitor	偶氮染料 Azo colorants	穿戴产品长时间皮肤接触部件 Prolonged Skin Contact part of wearables
全氟辛酸磺酸及其化合物 Perfluorooctane sulfonic acid and its compounds		富马酸二甲酯 DMF Dimethylfumarate	
全氟辛酸及其化合物 Perfluorooctanoic acid and its compounds		四氯苯酚 Tetrachlorophenol	
短链氯化石蜡 (SCCPs) Short chain chlorinated paraffins	电源线&Acc 线缆 Power cord & ACC cable	三氯苯酚 Trichlorophenol	
六溴环十二烷 (HBCDD) Hexabromocyclododecane	EPS 包装 EPS packaging	壬基酚, 壬基酚聚氧乙烯醚 Nonylphenol, Nonylphenol Ethoxylate	
甲醛 Formaldehyde	音响的木材部件 Wood parts of speakers	氯化苯 Chlorinated benzenes	
二丁基锡 Dibutyltin, 二辛基锡 Dioctyl tin, 三丁基锡 Tributyltin, 三苯基锡 Triphenyl tin	PCB 和适配器中的硅胶 Silicone in PCB & Adapter	溶剂残留 Solvent residues	
双酚 A Bisphenol A	热敏纸和食品接触部件 Thermal paper & Food contact part	其他芳香胺 Other arylamines	
氯甲基异噻唑酮 CMIT Chloromethylisothiazolione	空调/空气过滤器的抗菌过滤器 Antibacterial Filter of AC/Air Purifier	喹啉 Quinoline	
甲基异噻唑啉酮 MIT Methylisothiazolinon		砷及其化合物 Arsenic and its compounds	
卤化阻燃剂 Halogenated flame retardants	电视/显示器/标牌的外壳和支架 Enclosure & Stand of TV/Monitor/Signage	PAHs (24 种 Types)	
五氯苯酚 Pentachlorophenol	穿戴产品长时间皮肤接触部件 Prolonged Skin Contact part of wearables	镍及其化合物 Nickel and its compounds	

### 4.7.3 潜在风险物质 Potentially Risk Substances

预计未来将对以下物质清单进行监管。因此，如果物质含量超过阈值，则需要对基进行监测。

Substance lists below are expected to be regulated in the future. Thus, if a substance contains over threshold, it needs to be monitored.

物质 Substances	应用 Applications	备注 Remarks
放射性物质 Radioactive Substances	所有部件 All parts	-
中链氯化石蜡 (MCCPs) Medium Chain Chlorinated Paraffins		-
磷化铟 Indium Phosphide		-
氯化钴和硫酸钴 Cobalt dichloride and cobalt sulphate		-
三氯生 Triclosan		-
磷酸三苯酯 (PFRs) Triphenyl phosphate		-
EU REACH SVHC 候选清单 Candidate list *1)		<a href="http://echa.europa.eu/web/guest/candidate-list-table">http://echa.europa.eu/web/guest/candidate-list-table</a>
EU REACH 限制物质 Restricted substances		<a href="https://echa.europa.eu/substances-restricted-under-reach">https://echa.europa.eu/substances-restricted-under-reach</a>
EU REACH 授权物质 Authorised substances		<a href="https://echa.europa.eu/authorisation-list">https://echa.europa.eu/authorisation-list</a>
持久性有机污染物 (POPs) Persistent Organic Pollutants		<a href="http://chm.pops.int/TheConvention/ThePOPs/AllPOPs/tabid/2509/Default.aspx">http://chm.pops.int/TheConvention/ThePOPs/AllPOPs/tabid/2509/Default.aspx</a>
内分泌干扰物 Endocrine Disruptors		-
溴, 氯, 磷化合物 Br, Cl, P Compounds	塑胶、PCB Plastics, PCB	瑞典化学税 Sweden chemical tax *2)
IEC 62474 物质 Substances *3)	所有部件 All parts	<a href="https://std.iec.ch/iec62474.nsf/Index?open&amp;q=060313">https://std.iec.ch/iec62474.nsf/Index?open&amp;q=060313</a>
长链全氟烷基羧酸酯(LC-PFCA) Long-chain perfluoroalkyl carboxylate	表面涂层 Surface coating	US EPA TSCA SNUR
全氟及多氟烷基物质 PFAS(Per and polyfluoroalkyl substances)	所有部件 All parts	<a href="https://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/">https://www.oecd.org/chemicalsafety/portal-perfluorinated-chemicals/</a>
德克隆 Dechlorane plus		-
UV-328		-

\*1) 欧盟 REACH SVHC 候选清单中的物质每年更新两次，请参阅 ECHA 网站上的最新清单

Substances in EU REACH SVHC Candidate lists are updated twice a year, refer to the latest list in ECHA site

※ REACH SVHC 候选清单(SVHC: 高度关注物质) REACH SVHC candidate list (SVHC: Substances of Very High Concern)

在欧盟 REACH 法规中，物质被定期发布，因为它们被认为具有 CMRs、PBT、vPvB 的高风险，如果物品中重量含量超过 0.1%，则需要告知。

In EU REACH regulation, substances are published regularly as they are considered having high risk of CMRs, PBT, vPvB, and notification is required if the article contains more than 0.1% by weight

CMRs (致癌 Carcinogenic、致突变 Mutagenic、生物毒性 Reproductive toxicity)、PBT (难降解 Persistent、生物蓄积

Bioaccumulative、有毒 Toxicity)、vPvB (高度难降解 very Persistent、高生物蓄积 very Bioaccumulative)

\*2) 根据上文的目标扣除比率，GBM 应禁止塑料 (超过 25 克) 和 PCB 部件中的物质。

According to the target deduction rate, Substances in plastic (more than 25g) and PCB parts should be prohibited by GBM

- 减税 50%: 物品应包含按重量计低于 0.1% 的添加型的 Br、Cl 化合物

Tax 50% deduction: Article should contain additive Br, Cl Compounds below than 0.1% by weight

- 减税 90%: 物品应包含按重量计低于 0.1% 的添加型的 Br、Cl、P 化合物和反应型的 Br、Cl 化合物

Tax 90% deduction: Article should contain additive Br, Cl, P Compounds & Reactive Br, Cl Compounds below than 0.1% by weight

\*3) IEC 62474 中列出的物质需要报告。物质及其报告阈值可在 IEC 62474 网站上找到。

The substances listed in the IEC 62474 are requested to reporting. Substances and their reporting thresholds can be found in the IEC 62474 website

#### 4.7.4 包装材料中的限制物质标准 Standard for Control of Substances in Packaging Materials

物质名称 Substances	适用范围 Applications	阈值 Threshold
镉、铅、汞、六价铬 Cd, Pb, Hg and Cr <sup>6+</sup>	所有包装材料 All packaging materials	总和 Total 80 ppm
消耗臭氧层物质(ODSs) Ozone depleting substances		不使用 Non-use
聚氯乙烯(PVC) Polyvinyl chloride		不使用 Non-use
溴化阻燃剂(BFRs) Brominated flame retardant		Br 900 ppm
二氯化钴(CoCl <sub>2</sub> ) Cobalt dichloride	干燥剂(硅胶)、湿度指示剂 Desiccant (Silica gel), Humidity Indicator	不使用 Non-use

#### 4.7.5 电池中的限制物质基准 Standard for Control of Substances in batteries

物质名称 Substances	适用范围 Applications	阈值 Threshold
镉及其化合物 Cadmium and its compounds	电池和蓄电池 Batteries and accumulators	10 ppm
铅及其化合物 Lead and its compounds		40 ppm
汞及其化合物 Mercury and its compounds	显示器,笔记本电脑 Monitor, Note PC	1 ppm
		氧化银纽扣电池, 碱性电池, 锌碳电池 Silver-oxide button cells, Alkaline batteries, Zinc carbon batteries
高氯酸盐 Perchlorate	锂电池, 纽扣电池 Lithium, Button cells	6 ppb
钴及其化合物 Cobalt and its compounds	用于计算机服务器和在线数据存储产品的电池 Batteries used in computer servers and online data storage products	不使用 Non-use

#### 5 参考资料 Reference material (包括但不限于如下清单 Including but not limited to following list)

2011/65/EU (RoHS) 及其修订指令 RoHS and its revised directives

IEC 61249-2-21

EC NO 1907/2006/ (REACH) 及其修订法规 REACH and its amendments

EU 2009/251/EC

EC NO 2037/2000

蒙特利尔议定书 Montreal protocol

AfPS GS 2019:01 PAK

US TPCH

US Public Law 104-142

美国加利福尼亚州第 65 号法案 US California Proposition 65

TSCA 美国有毒物质控制法案 US Toxic Substances Control Act

US/CA CARB Rule

日本化学物质审查法 Japanese Chemical Substance Control Law

关于限制电池产品汞含量的规定 Provisions on limiting mercury content in battery products

电子电气产品中限用物质的限量要求 Requirements of concentration limits for certain restricted substances in electrical and electronic products



零部件和材料中的环境管理物质的管理规定 (SS-00259) 最新版 Management Regulations for the Environment-Related Substances to be Controlled which are Included in Parts and Materials (SS-00259), The latest version  
LG 产品有害物质管理标准 最新版 The standard of hazardous substance management for product, The latest version

Toshiba 绿色采购方针 最新版 Toshiba Green procurement policy, The latest version

WOOX 管制物质清单 最新版 Regulated Substances List, the latest version

Panasonic 化学物质管理等级准则 最新版 Panasonic Group Management level of Chemical Substances, the latest version

华为采购物料环保规范 最新版 Specifications of Restricted Substances for Huawei Purchasing Materials, the latest version

HJ507-2009 《环境标志产品技术要求—皮革和合成革》 Technical requirement for environmental labeling products-Leather and synthetic leather

三星电子产品中所用物质控制标准 最新版 Samsung Electronics Standards for Control of Substances used in products, the latest version

Google 限用物质规范 最新版 Restricted Substances Specification, the latest version

多德·弗兰克华尔街改革和消费者保护法 Dodd-Frank Wall Street Reform and Consumer Protection Act

国际纺织和皮革生态学研究 and 检测协会 标准 100 by OEKO-TEX 最新版 International Association for Research and Testing in the Field of Textile and Leather Ecology Standard 100 by OEKO-Tex, the latest version

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工业防护涂料中有害物质限量 最新版 Limit of harmful substances of industrial protective coatings, the latest version

胶粘剂挥发性有机化合物限量 最新版 Limit of volatile organic compounds content in adhesive, the latest version

油墨中可挥发性有机化合物含量的限值 最新版 Limit of volatile organic compounds in printing ink, the latest version

清洗剂挥发性有机化合物含量限值 最新版 Limit for volatile organic compounds content in cleaning agents, the latest version

建筑胶粘剂有害物质限量 最新版 Limit of hazardous substances in construction adhesive, the latest version

鞋和箱包用及粘剂 最新版 Adhesives for footwear and case and bag, the latest version

木器涂料中有害物质限量 最新版 Limit of harmful substances of woodenware coatings, the latest version

消费品中重点化学物质使用控制指南 Guidelines for the use and control of key chemical substances in consumer product

(EU) 2017/821

94/62/EC

(EU)2023/1542

2005/84/EC

2009/48/EC

EN71-3-特定元素迁移 最新版 EN71-3-Migration of certain elements, the latest version

日本玩具安全标准 最新版 Japan Toy Safety Standard, the latest version

国家玩具安全技术规范 最新版 National safety technical code for toys, the latest version

法国 2020-105 法案 France 2020-105 Act

## 6 附页 Appendix

## 附页一: 欧盟 RoHS 指令豁免条款 (以欧盟公布的最新信息为准)

Appendix I :EU RoHS Directive Exemptions (Subject to the latest information published by the European Union)

No.	豁免 Exemptions	范围和应用日期 Scope and dates of applicability
1	单端 (紧凑型) 荧光灯中的汞含量不得超过 (每灯): Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
<del>1(a)</del>	用于一般照明用途, 功率 < 30 W: 2.5 mg For general lighting purposes < 30 W: 2.5 mg	2023年2月24日到期 Expires on 24 February 2023
<del>1(b)</del>	用于一般照明用途, 30 W ≤ 功率 < 50 W: 3.5 mg For general lighting purposes ≥ 30 W and < 50 W: 3.5 mg	2023年2月24日到期 Expires on 24 February 2023
<del>1(c)</del>	用于一般照明用途, 50 W ≤ 功率 < 150 W: 5 mg For general lighting purposes ≥ 50 W and < 150 W: 5 mg	2023年2月24日到期 Expires on 24 February 2023
<del>1(d)</del>	用于一般照明用途, 功率 ≥ 150 W: 15 mg For general lighting purposes ≥ 150 W: 15 mg	2023年2月24日到期 Expires on 24 February 2023
<del>1(e)</del>	用于一般照明用途, 管直径 ≤ 17 mm 的圆形或者方形灯: 5 mg For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm: 5 mg	2023年2月24日到期 Expires on 24 February 2023
1(f)- I	对于主要发射紫外光谱的灯: 5 mg For lamps designed to emit mainly light in the ultraviolet spectrum: 5 mg	2027年2月24日到期 Expires on 24 February 2027
1(f)- II	特殊用途: 5 mg For special purposes: 5 mg	2025年2月24日到期 Expires on 24 February 2025
<del>1(g)</del>	用于一般照明用途, 功率 < 30 W, 寿命 ≥ 20000 h: 3.5 mg For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3.5 mg	2023年8月24日到期 Expires on 24 August 2023
2(a)	用于一般照明用途的双端直型荧光灯中汞的含量不超过 (每灯): Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
<del>2(a)(1)</del>	正常使用寿命、管直径 < 9 mm 的三基色荧光灯 (如 T2): 4 mg Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2): 4 mg	2023年2月24日到期 Expires on 24 February 2023
<del>2(a)(2)</del>	正常使用寿命、9 mm ≤ 管直径 ≤ 17 mm 的三基色荧光灯 (如 T5): 3 mg Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5): 3 mg	2023年8月24日到期 Expires on 24 August 2023
<del>2(a)(3)</del>	正常使用寿命、17 mm < 管直径 ≤ 28 mm 的三基色荧光灯 (如 T8): 3.5 mg Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8): 3.5 mg	2023年8月24日到期 Expires on 24 August 2023
<del>2(a)(4)</del>	正常使用寿命、管直径 > 28 mm 的三基色荧光灯 (如 T12): 3.5 mg Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12): 3.5 mg	2023年2月24日到期 Expires on 24 February 2023
<del>2(a)(5)</del>	长寿命 (≥ 25000 小时) 的三基色荧光灯: 5 mg Tri-band phosphor with long lifetime (≥ 25,000 h): 5 mg	2023年2月24日到期 Expires on 24 February 2023
2(b)	其他类型荧光灯中汞含量不得超过 (每灯): Mercury in other fluorescent lamps not exceeding (per lamp):	

2(b)(3)	管直径 > 17 mm 的非直型三基色荧光灯 (如 T9): 10 mg Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e. g. T9): 10 mg	<del>2023年2月24日到期;</del> 2023年2月25日到2025年2月24日可使用10 mg/灯 <del>Expires on 24 February 2023;</del> 10 mg/lamp can be used from 25 February 2023 to 24 February 2025
2(b)(4) - I	用于其他一般照明用途或特殊照明用途的灯 (如感应灯): 15 mg Lamps for other general lighting and special purposes (e. g. induction lamps): 15 mg	2025年2月24日到期 Expires on 24 February 2025
2(b)(4) - II	主要发射紫外光的灯: 15 mg Lamps emitting mainly light in the ultraviolet spectrum: 15 mg	2027年2月24日到期 Expires on 24 February 2027
2(b)(4) - III	应急灯: 15 mg Emergency lamps: 15 mg	2027年2月24日到期 Expires on 24 February 2027
3	特殊用途的冷阴极荧光灯和外置电极荧光灯 (CCFL和EEFL) 中汞的含量不得超过 (每灯): Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes used (per lamp):	
3(a)	较短长度 ( $\leq 500$ mm): 3.5 mg Short length ( $\leq 500$ mm): 3.5 mg	2025年2月24日到期 Expires on 24 February 2025
3(b)	中等长度 ( $500$ mm < 长度 $\leq 1500$ mm): 5 mg Medium length ( $> 500$ mm and $\leq 1500$ mm): 5 mg	2025年2月24日到期 Expires on 24 February 2025
3(c)	较长长度 ( $> 1500$ mm): 13 mg Long length ( $> 1500$ mm): 13 mg	2025年2月24日到期 Expires on 24 February 2025
4(a)-	<del>其他低压放电灯中汞的含量: 15 mg/灯 Mercury in other low pressure discharge lamps (per lamp): 15 mg</del>	<del>2023年2月24日到期 Expires on 24 February 2023</del>
4(a)- I	低压无磷涂层放电灯中的汞, 灯光用途主要为输出紫外光谱: 15 mg/灯 Mercury in low pressure non-phosphor coated discharge lamps (per lamp), where the application requires the main range of the lamp-spectral output to be in the ultraviolet spectrum: 15 mg	2027年2月24日到期 Expires on 24 February 2027
4(b)	用于一般照明用途的高压钠蒸气灯中的汞含量不超过 (每个灯头) 在具有改进显色指数 $R_a > 80$ , $P \leq 105$ W 的灯中, 每个灯头可使用 16 mg Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $R_a > 80$ : $P \leq 105$ W: 16 mg may be used per burner	2027年2月24日到期 Expires on 24 February 2027
<del>4(b) - I</del>	<del>用于一般照明用途的高压钠蒸气灯中的汞含量不超过 (每个灯头) 在具有改进显色指数 <math>R_a &gt; 60</math>, 功率 <math>\leq 155</math> W: 30 mg/灯 Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index <math>R_a &gt; 60</math>: <math>P \leq 155</math> W: 30 mg may be used per burner</del>	<del>2023年2月24日到期 Expires on 24 February 2023</del>
4(b) - II	用于一般照明用途的高压钠蒸气灯中的汞含量不超过 (每个灯头) 在具有改进显色指数 $R_a > 60$ , $155$ W < 功率 $\leq 405$ W: 40 mg/灯 Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $R_a > 60$ : $155$ W < $P \leq 405$ W: 40 mg may be used per burner	2023年2月24日到期 Expires on 24 February 2023

4(b) III	用于一般照明用途的高压钠蒸气灯中的汞含量不超过（每个灯头）在具有改进显色指数 $R_a > 60$ ，功率 $> 405\text{ W}$ ：40 mg/灯 Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $R_a > 60$ : $P > 405\text{ W}$ : 40 mg may be used per burner	2023年2月24日到期 Expires on 24 February 2023
4(c)	一般照明用途的其他高压钠（蒸汽）灯中的汞含量不超过（每个灯头） Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	
4(c)- I	功率 $\leq 155\text{ W}$ ：20 mg $P \leq 155\text{ W}$ : 20 mg	2027年2月24日到期 Expires on 24 February 2027
4(c)- II	$155\text{ W} < \text{功率} \leq 405\text{ W}$ ：25 mg $155\text{ W} < P \leq 405\text{ W}$ : 25 mg	2027年2月24日到期 Expires on 24 February 2027
4(c)-III	功率 $> 405\text{ W}$ ：25 mg $P > 405\text{ W}$ : 25 mg	2027年2月24日到期 Expires on 24 February 2027
4(e)	金属卤化物灯（MH）中的汞 Mercury in metal halide lamps (MH)	2027年2月24日到期 Expires on 24 February 2027
4(f)- I	本附件未特别提及的其它特殊用途的放电灯中的汞 Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	2025年2月24日到期 Expires on 24 February 2025
4(f)- II	要求输出 $\geq 2000$ 流明ANSI的投影仪中使用的高压汞蒸汽灯中的汞 Mercury in high pressure mercury vapour lamps used in projectors where an output $\geq 2000$ lumen ANSI is required	2027年2月24日到期 Expires on 24 February 2027
4(f)-III	用于园艺照明的高压钠蒸汽灯中的汞 Mercury in High Pressure Sodium vapour lamps used for horticulture lighting	2027年2月24日到期 Expires on 24 February 2027
4(f)-IV	发出紫外光谱的灯中的汞 Mercury in lamps emitting light in the ultraviolet spectrum	2027年2月24日到期 Expires on 24 February 2027
5(a)	阴极射线管玻璃所含的铅 Lead in glass of cathode ray tubes	适用于第8类体外诊断设备，2023年7月21日到期；第9类工业监控设备和第11类，2024年7月21日到期 Applies to Category 8 In vitro diagnostic medical devices, expires on 21 July 2023; Category 9 Industrial monitoring and control instruments and Category 11, expires on 21 July 2024.
5(b)	荧光灯玻璃内的铅含量不得超过其重量的 0.2% Lead in glass of fluorescent tubes not exceeding 0.2% by weight	适用于第8类体外诊断设备和第9类工业监控设备 Applies to Category 8 In vitro diagnostic medical devices and Category 9 Industrial monitoring and control instruments
6(a)	机械加工用钢中作为合金元素的铅，以及镀锌钢中的铅含量小于0.35% Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight	适用于第8、9、11类设备 Applies to Categories 8,9 and 11 devices
6(a)- I	机械加工用钢中作为合金元素的铅，含量小于0.35%，以及批量热处理镀锌钢组件中铅含量不超过0.2% Lead as an alloying element in steel for machining purposes containing up to 0,35 % lead by weight and in batch hot dip galvanized steel components containing up to 0.2% lead by weight	适用于第1-7、10类设备 Applies to Categories 1-7 and 10 devices

6(b)	铝中作为合金元素的铅, 含量小于0.4% Lead as an alloying element in aluminium containing up to 0.4% lead by weight	适用于第8、9、11类设备 Applies to categories 8,9 and 11 devices
6(b)-I	铝中作为合金元素的铅, 含量小于0.4%, 铅来自含铅铝废料的回收 Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling	适用于第1-7类、10类设备 Applies to categories 1-7 and 10 devices
6(b)-II	用于机械加工目的, 铅作为一种合金, 在铝合金中含量不超过0.4% Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight	适用于第1-7类、10类设备 Applies to categories 1-7 and 10 devices
6(c)	铜合金中的铅, 含量小于4% Copper alloy containing up to 4% lead by weight	
7(a)	高熔化温度型焊料中的铅 (铅含量≥ 85% 的铅基合金) Lead in high melting temperature type solders (i. e. lead-based alloys containing 85% by weight or more lead)	适用于所有类别设备; 第1-7、10类, 第24条中的应用除外 Applies to all categories, for categories 1-7 and 10, applications covered by point 24 are excluded
7(b)	用于服务器、存储器和存储阵列系统的焊料中的铅, 用于交换、信号和传输, 以及电信网络管理的网络基础设施设备中焊料中的铅 Lead in solders for servers, storage array systems, network infrastructure equipment for switching, signaling, transmission, and network management for telecommunications	适用于第8类体外诊断设备, 2023年7月21日到期; 第9类工业监控设备和第11类设备2024年7月21日到期 <del>Applies to Category 8 In vitro diagnostic medical devices, expires on 21 July 2023; Category 9 Industrial monitoring and control instruments and Category 11, expires on 21 July 2024</del>
7(c)-I	电子电气元件中玻璃或陶瓷材料 (电容中陶瓷介质除外) 所含的铅, 如压电设备或玻璃/陶瓷复合元件 Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e. g. piezoelectronic devices, or in a glass or ceramic matrix compound	适用于所有类别设备; 第1-7、10类, 第34条中的应用除外 Applies to all Categories, for categories 1-7 and 10 applications covered by point 34 are excluded
7(c)-II	额定电压为交流125 V或者直流250 V及以上的电容中陶瓷介质所含的铅 Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	不适用于本附录7(c)-I和7(c)-IV条中的应用 Does not apply to applications covered by point 7(c)- I and 7(c)-IV of this Annex
7(c)-IV	集成电路或离散半导体中的电容器, 其锆钛酸铅 (PZT) 介电陶瓷中的铅 Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	适用于第8类中的体外诊断医疗设备, 2023年7月21日到期。第9类中的工业监控设备和第11类, 2024年7月21日到期 <del>Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices;</del> Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
8(b)	电触点中的镉及其化合物 Cadmium and its compounds in electrical contacts	适用于第8、9、11类设备 Applies to categories 8, 9 and 11 devices

<p>8(b)-I</p>	<p>用于以下电触点中的镉及其化合物：                      -断路器；                      -热感控制器；                      -除密封电机热保护器以外的电机热保护器；                      -交流开关：                          --与额定交流电压250 V及以上配套的额定电流6 A及以上；                          --与额定交流电压125 V及以上配套的额定电流12 A及以上；                      -与额定直流电压18 V及以上配套的额定电流20 A及以上的直流开关；                      -电压供电频率≥200 Hz的开关                      Cadmium and its compounds in electrical contacts used in:                      - circuit breaker                      - thermal sensing controls                      -thermal motor protector (excluding hermetic thermal motor protector)                      - AC switch rated at:                          -- 6 A and more at 250 V AC and more, or                          -- 12 A and more at 125 V AC and more,                      -DC switches rated at 20 A and more at 18 V DC and more, and                      - Switches for use at voltage supply frequency≥ 200 Hz.</p>	<p>适用于第1-7、10类设备                      Applies to categories 1-7 and 10 devices</p>
<p>9</p>	<p>吸收式电冰箱中作为碳钢冷却系统防腐剂的六价铬，其在冷却液中的含量不得超过0.75%                      Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75 % by weight in the cooling solution</p>	<p>适用于第9、11类设备。第8类中的体外诊断医疗设备，2023年7月21日到期。第9类中的工业监控设备和第11类，2024年7月21日到期                      Applies to categories 9 and 11 devices. <del>Expires 21 July 2023 for category 8 in vitro diagnostic medical devices.</del> Expires 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11</p>
<p>9(a)- II</p>	<p>吸收式电冰箱中用作碳钢冷却系统防腐剂的六价铬，其含量不得超过0.75%：                      -恒定运行条件下平均输入功率≥75 W，设计完全或部分与电加热器一起运行；                      -设计完全与非电加热器一起运行                      Up to 0.75% hexavalent chromium by weight, used as an anticorrosion agent in the cooling solution of carbon steel cooling systems of absorption refrigerators:                      -designed to operate fully or partly with electrical heater, having an average utilized power input ≥ 75 W at constant running conditions.                      -designed to fully operate with non-electrical heater.</p>	<p>适用于第1-7、10类设备                      Applies to categories 1-7 and 10 devices</p>
<p>9(b)</p>	<p>用于采暖、通风、空调和制冷（HVACR）的含制冷剂的压缩机轴瓦和轴承衬套中的铅                      Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications</p>	<p>适用于第9、11类设备，第8类中的体外诊断医疗设备，2023年7月21日到期。第9类中的工业监控设备和第11类，2024年7月21日到期                      Applies to categories 9 and 11 devices; <del>Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices;</del> Expires on 21 July 2024 for category 9 industrial monitoring and control instruments and for category 11</p>

13(a)	光学仪器中使用的白玻璃中的铅 Lead in white glasses used for optical applications	
13(b)	滤光玻璃及反射率标准玻璃片中的镉和铅 Cadmium and lead in filter glasses and glasses used for reflectance standards	适用于第8、9、11类设备 Applies to categories 8, 9 and 11 devices
13(b)-(I)	离子彩色滤光玻璃中的铅 Lead in ion coloured optical filter glass types	适用于第1-7、10类设备 Applies to categories 1-7 and 10 devices
13(b)-(II)	光学滤光玻璃中的镉；不包括本附件第39条豁免的设备 Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	适用于第1-7、10类设备 Applies to categories 1-7 and 10 devices
13(b)-(III)	反射率标准片中釉料中的镉和铅 Cadmium and lead in glazes used for reflectance standards	适用于第1-7、10类设备 Applies to categories 1-7 and 10 devices
15	集成电路倒装芯片封装中半导体芯片及载体之间形成可靠连接所用焊料中的铅 Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	适用于第8、9、11类设备 Applies to categories 8,9 and 11 devices
15(a)	集成电路倒装芯片封装中半导体芯片及载体之间形成可靠连接所用焊料中的铅，应用于以下至少一种条件： -90 nm或更大的半导体技术节点； -任意半导体技术节点的单独芯片为300 mm <sup>2</sup> 及以上； -带300 mm <sup>2</sup> 及以上的芯片，或300 mm <sup>2</sup> 以上硅中介层的堆叠芯片封装 Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: - a semiconductor technology node of 90 nm or larger; - a single die of 300 mm <sup>2</sup> or larger in any semiconductor technology node; - stacked die packages with die of 300 mm <sup>2</sup> or larger, or silicon interposers of 300 mm <sup>2</sup> or larger	适用于第1-7、10类设备 Applies to categories 1-7 and 10 devices
17	用于专业复印设备的高强度放电灯 (HID) 中用作发光剂的卤化铅 Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	适用于第9、11类设备。第8类体外诊断设备，2023年7月21日到期；第9类工业监控设备和第11类设备，2024年7月21日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
18(b)	仿日晒放电灯中含磷荧光粉触媒（如BSP(BaSi <sub>2</sub> O <sub>5</sub> :Pb)）中的铅，其含量在1% 以下 Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> : Pb)	
18(b)-(I)	医疗光学设备放电灯中含磷荧光粉触媒（如BSP(BaSi <sub>2</sub> O <sub>5</sub> :Pb)）中的铅，其含量在1%以下 Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> : Pb) when used in medical phototherapy equipment	适用于第5类 Applies to category 5

21	用于玻璃（如硼硅玻璃及钠钙玻璃）瓷釉上印刷油墨中的铅和镉 Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses.	适用于第9、11类设备。第8类中的体外诊断医疗设备，2023年7月21日到期；第9类中的工业监控设备和第11类，2024年7月21日到期。 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11.
24	通孔盘状和平面阵列的多层陶瓷电容中焊料里的铅 Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	
25	表面传导式电子发射显示器 (SED) 构件所用的氧化铅，特别是密封玻璃和玻璃环 Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	适用于第9、11类设备。第8类体外诊断设备，2023年7月21日到期；第9类工业监控设备和第11类设备，2024年7月21日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
29	69/493/EEC 指令附录 I（1、2、3和4 类）中限定的水晶玻璃中的铅 Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	适用于第8类中的体外诊断医疗设备和第9类中的工业监控设备 Applies to category 8 in vitro diagnostic medical devices and category 9 industrial monitoring and control instruments.
30	用于位于音量大于或等于100 分贝的大功率扩音器音圈上的电导体的电气或机械焊点中的镉合金 Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB and more	适用于第9、11类设备。第8类体外诊断设备，2023年7月21日到期；第9类工业监控设备和第11类设备，2024年7月21日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
31	用于无汞平面荧光灯(如：用于液晶显示器、设计或工业照明)的焊料中的铅 Lead in soldering materials in mercury free flat fluorescent lamps (which e. g. are used for liquid crystal displays, design or industrial lighting)	适用于第9、11类设备。第8类体外诊断设备，2023年7月21日到期；第9类工业监控设备和第11类设备，2024年7月21日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
32	用于氩和氪激光管防护窗组合件的封装玻璃料里的铅的氧化物 Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	
33	电源变压器中直径100 um 及以下细铜线所用焊料中的铅 Lead in solders for the soldering of thin copper wires of 100 um diameter and less in power transformers.	适用于第9、11类设备。第8类体外诊断设备，2023年7月21日到期；第9类工业监控设备和第11类设备，2024年7月21日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
34	金属陶瓷质的微调电位计中的铅 Lead in cermet-based trimmer potentiometer elements	



37	<p>基于硼酸锌玻璃体的高压二极管的电镀层中的铅 Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body.</p>	<p>适用于第9、11类设备。第8类中的体外诊断医疗设备，2023年7月21日到期。第9类中的工业监控设备和第11类，2024年7月21日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11</p>
38	<p>铝结合氧化铍的厚膜浆料中的镉和氧化镉 Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide</p>	<p>适用于第9、11类设备。第8类中的体外诊断医疗设备，2023年7月21日到期；第9类工业监控设备和第11类设备，2024年7月22日到期 Applies to categories 9 and 11 devices. Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; Expires on 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11</p>
39(a)	<p>用于显示照明设备中降低镉基半导体纳米晶量子点的硒化镉（镉含量<math>&lt;0.2 \mu\text{g}/\text{mm}^2</math>显示屏） Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (<math>&lt; 0,2 \mu\text{g Cd per mm}^2</math> of display screen area)</p>	
41	<p>由于技术原因必须直接安装在手持式内燃机的曲轴箱或气缸（指令97/68/EC 中的类别SH: 1、SH: 2、SH: 3）内的点火模块和其他电子电气引擎控制系统，其电子电气元件所含焊料和最终涂层、印刷电路板的最终涂层中的铅 Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council)</p>	<p>第8类中的体外诊断医疗设备，2023年7月21日到期；第9类中的工业监控设备，2024年7月21日到期 Expires on 21 July 2023 for category 8 in vitro diagnostic medical devices; 21 July 2024 for category 9 industrial monitoring and control instruments</p>
42	<p>用于非道路专用设备的柴油或气体燃料内燃机轴承和衬套中的铅： -发动机总排量<math>\geq 15</math>升；或 -发动机总排量<math>&lt; 15</math>升，并设计为在引擎启动至满载时间需要低于10秒的应用中运转；或通常在恶劣和较脏的户外环境进行定期维护的，例如矿业、建筑、农业应用中 Lead in bearings and bushes of diesel or gaseous fuel powered internal combustion engines applied in non-road professional use equipment: - with engine total displacement <math>\geq 15</math> litres; or - with engine total displacement <math>&lt; 15</math> litres and the engine is designed to operate in applications where the time between signal to start and full load is required to be less than 10 seconds; or regular maintenance is typically performed in a harsh and dirty outdoor environment, such as mining, construction, and agriculture applications</p>	<p>适用于第11类设备（本附录第6(c)条中的应用除外），2024年7月21日到期 Applies to category 11 devices, excluding applications covered by entry 6(c) of this Annex. Expires on 21 July 2024</p>

<p>43</p>	<p>发动机系统中的橡胶部件，设计用于不仅供消费者使用的设备，并且塑化材料不会与人体粘膜接触或长时间接触人体皮肤（指持续性接触超过10分钟或每天间歇性接触超过30分钟），其中的邻苯二甲酸二（2-乙基己基）酯（DEHP），浓度不超过：                  (a) 橡胶重量的30%，用于以下用途：                  (i) 垫圈涂层；                  (ii) 固体橡胶垫圈；或                  (iii) 由至少三个部件构成的组件中的橡胶部件，该组件使用电能，机械或液压能来进行工作，并且附接到发动机                  (b) 橡胶重量的10%，未在(a)点中提及到的用途                  Bis(2-ethylhexyl) phthalate in rubber components in engine systems, designed for use in equipment that is not intended solely for consumer use and provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin and the concentration value of bis(2-ethylhexyl) phthalate does not exceed:                  (a) 30 % by weight of the rubber for                  (I) gasket coatings;                  (II) solid-rubber gaskets; or                  (III) rubber components included in assemblies of at least three components using electrical, mechanical or hydraulic energy to do work, and attached to the engine.                  (b) 10 % by weight of the rubber for rubber-containing components not referred to in point (a).                  For the purposes of this entry, 'prolonged contact with human skin' means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day</p>	<p>适用于第11类设备，2024年7月21日到期                  Applies to category 11 devices, expires on 21 July 2024.</p>
<p>44</p>	<p>安装于运行时在固定位置使用的设备中，为专业用途设计，也可由非专业用户使用的欧盟法规（EU）2016/1628 范围内的内燃机中的传感器、执行器和发动机控制单元焊料中的铅                  Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council, installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users</p>	<p>适用于第11类设备，2024年7月21日到期                  Applies to category 11 devices, expires on 21 July 2024</p>
<p>45</p>	<p>民用（专业）炸药电气和电子起爆器中的二噁铅、苯乙炔酸铅、二氨基甲酸铅、橙铅（四氧化铅）、二氧化铅，以及民用（专业）长时间延时炸药电起爆器中的铬酸钡                  Lead diazide, lead styphnate, lead dipicramate, orange lead (lead tetroxide), lead dioxide in electric and electronic initiators of explosives for civil (professional) use and barium chromate in long time pyrotechnic delay charges of electric initiators of explosives for civil (professional) use</p>	<p>适用于第11类设备，2026年4月20日到期                  Applies to category 11 devices, expires on 20 April 2026</p>

## 附页二 Appendix II: 致癌芳香胺 Carcinogenic Aromatic Amines

No.	物质 Substances	CAS No.	No.	物质 Substances	CAS No.
<b>MAK III, 第一类别</b>					
1	4-氨基联苯 4-aminodiphenyl	92-67-1	3	4-氯-邻-氨基甲苯 4-chloro-o-toluidine	95-69-2
2	联苯胺 benzidine	92-87-5	4	2-萘胺 2-naphthylamine	91-59-8
<b>MAK III, 第二类别</b>					
5	邻氨基偶氮甲苯 o-amino-azotoluene	97-56-3	15	4,4'-并甲基-二(2-氯苯胺) 4,4'-methylene-bis-(2-chloroaniline)	101-14-4
6	2-氨基-4-硝基甲苯 2-amino-4-nitrotoluene	99-55-8	16	4,4'-二氨基二苯醚 4,4'-oxideaniline	101-80-4
7	4-氯苯胺 p-chloroaniline	106-47-8	17	4,4'-二氨基二苯硫醚 4,4'-diaminodiphenylsulfide	139-65-1
8	2,4-二氨基苯甲醚 2,4-diaminoanisole	615-05-4	18	邻氨基甲苯 o-toluidine	95-53-4
9	4,4'-二氨基联苯甲烷 4,4'-diaminodiphenylmethane	101-77-9	19	2,4-二氨基甲苯 2,4-toluylenediamine	95-80-7
10	3,3'-二氯联苯胺 3,3'-dichlorobenzidine	91-94-1	20	2,4,5-三甲基苯胺 2,4,5-trimethylaniline	137-17-7
11	3,3'-二甲氧基联苯胺 3,3'-dimethoxybenzidine	119-90-4	21	邻氨基苯甲醚 o-anisidine	90-04-0
12	3,3'-二甲基联苯胺 3,3'-dimethylbenzidine	119-93-7	22	2,4-二甲苯胺 2,4-xylidine	95-68-1
13	4,4'-二氨基-3,3'-二甲基联苯甲烷 4,4'-diamino-3,3'-diphenylmethane	838-88-0	23	2,6-二甲苯胺 2,6-xylidine	87-62-7
14	3-氨基对甲苯甲醚 p-cresidine	120-71-8	24	4-氨基偶氮苯 4-aminoazobenzene	60-09-3

## 附页三 Appendix III:氯化苯及氯化甲苯 Chlorinated Benzenes and Toluene

物质 Substances	CAS No.	物质 Substances	CAS No.
<b>氯化苯 Chlorobenzenes</b>			
氯苯 Chlorobenzene	108-90-7	1,2-二氯苯 1,2-Dichlorobenzene	95-50-1
二氯苯 Dichlorobenzenes	25321-22-6	1,3-二氯苯 1,3-Dichlorobenzene	541-73-1
1,4-二氯苯 1,4-Dichlorobenzene	106-46-7	1,2,3-三氯苯 1,2,3-Trichlorobenzene	87-61-6
三氯苯 Trichlorobenzenes	12002-48-1	1,2,4-三氯苯 1,2,4-Trichlorobenzene	120-82-1
1,3,5-三氯苯 1,3,5-Trichlorobenzene	108-70-3	1,2,3,4-四氯苯 1,2,3,4-Tetrachlorobenzene	634-66-2
四氯苯 Tetrachlorobenzenes	12408-10-5	1,2,3,5-四氯苯 1,2,3,5-Tetrachlorobenzene	634-90-2
1,2,4,5-四氯苯 1,2,4,5-Tetrachlorobenzene	95-94-3	五氯苯 Pentachlorobenzene	608-93-5
1,2,3,4(或 1,2,4,5)-四氯苯 1,2,3,4(or 1,2,4,5)-Tetrachlorobenzene	84713-12-2	六氯苯 Hexachlorobenzene	118-74-1
<b>氯化甲苯 Chlorotoluenes</b>			
2-氯甲苯 2-Chlorotoluene	95-49-8	4-氯甲苯 4-Chlorotoluene	106-43-4
2,5-二氯甲苯 2,5-Dichlorotoluene	19398-61-9	3,4-二氯甲苯 3,4-Dichlorotoluene	95-75-0
2,4-二氯甲苯 2,4-Dichlorotoluene	95-73-8	2,6-二氯甲苯 2,6-Dichlorotoluene	118-69-4
2,3,4-三氯甲苯 2,3,4-Trichlorotoluene	7359-72-0	2,3,6-三氯甲苯 2,3,6-Trichlorotoluene	2077-46-5
3,5-二氯甲苯 3,5-Dichlorotoluene	25186-47-4	2,3,5-三氯甲苯 2,3,5-Trichlorotoluene	56961-86-5
2,4,6-三氯甲苯 2,4,6-Trichlorotoluene	23749-65-7	2,3,4,5-四氯甲苯 2,3,4,5-Tetrachlorotoluene	1006-32-2, 76057-12-0
2,4,5-三氯甲苯 2,4,5-Trichlorotoluene	6639-30-1	3,4,5-三氯甲苯 3,4,5-Trichlorotoluene	21472-86-6
2,3,5,6-四氯甲苯 2,3,5,6-Tetrachlorotoluene	1006-31-1, 29733-70-8	氯化苄 Benzyl chloride	100-44-7
2,3,4,6-四氯甲苯 2,3,4,6-Tetrachlorotoluene	875-40-1	2,3,4,5,6-五氯甲苯 2,3,4,5,6-Pentachlorotoluene	877-11-2
三氯甲苯 Benzotrichloride	98-07-7	4-氯三氯甲苯 4-Chlorobenzotrichloride	5216-25-1
3-氯甲苯 3-Chlorotoluene	108-41-8	2,3-二氯甲苯 2,3-Dichlorotoluene	32768-54-0
$\alpha$ -取代的氯甲苯 $\alpha$ -substituted-Chlorotoluenes	各种 Various		

## 附页四 Appendix IV: 致癌的染料 Carcinogenic dyes

物质 Substances	C.I.索引号 Index No.	CAS No.	物质 Substances	C.I.索引号 Index No.	CAS No.
C.I.酸性红 26 C.I. Acid Red 26	C.I.16150	3761-53-3	C.I.直接棕 95 C.I. Direct Brown 95		16071-86-6
C.I.酸性红 114 C.I. Acid Red 114		6459-94-5	C.I.直接红 28 C.I. Direct Red 28	C.I.22120	573-58-0
C.I.碱性蓝 26 C.I. Basic Blue 26		2580-56-5	C.I.分散蓝 1 C.I. Disperse Blue 1	C.I.64500	2475-45-8
C.I.碱性红 9 C.I. Basic Red 9	C.I.42500	569-61-9	C.I.分散橙 11 C.I. Disperse Orange 11	C.I.60700	82-28-0
C.I.碱性紫 3 C.I. Basic Violet 3		548-62-9	C.I.分散黄 3 C.I. Disperse Yellow 3	C.I.11855	2832-40-8
C.I.碱性紫 14 C.I. Basic Violet 14	C.I.42510	632-99-5	C.I.溶剂黄 1 C.I. Solvent Yellow 1	C.I.11100	60-09-3
C.I.直接黑 38 C.I. Direct Black 38	C.I.30235	1937-37-7	C.I.溶剂黄 3 C.I. Solvent Yellow 3		97-56-3
C.I.直接蓝 6 C.I. Direct Blue 6	C.I.22610	2602-46-2	C.I.颜料红 104 C.I. Pigment Red 104	C.I.77605	12656-85-8
C.I.直接蓝 15 C.I. Direct Blue 15		2429-74-5	C.I.颜料黄 34 C.I. Pigment Yellow 34	C.I.77603	1344-37-2

## 附页五 Appendix V: 致敏的染料 Allergen dyes

物质 Substances	C.I.索引号 Index No.	CAS No.	物质 Substances	C.I.索引号 Index No.	CAS No.
C.I.分散蓝 1 C.I. Disperse Blue 1	C.I.64500	2475-45-8	C.I.分散橙 37 (=59/=76) C.I. Disperse Orange 37 (=59/=76)	C.I.11132	12223-33-5, 13301-61-6, 51811-42-8
C.I.分散蓝 3 C.I. Disperse Blue 3	C.I.61505	2475-46-9	C.I.分散橙 59 C.I. Disperse Orange 59	C.I.11132	
C.I.分散蓝 7 C.I. Disperse Blue 7	C.I.62500	3179-90-6	C.I.分散橙 76 C.I. Disperse Orange 76	C.I.11132	
C.I.分散蓝 26 C.I. Disperse Blue 26	C.I.63305	3860-63-7	C.I.分散红 1 C.I. Disperse Red 1	C.I.11110	2872-52-8
C.I.分散蓝 35 C.I. Disperse Blue 35		12222-75-2	C.I.分散红 11 C.I. Disperse Red 11	C.I.62015	2872-48-2
C.I.分散蓝 102 C.I. Disperse Blue 102		12222-97-8, 69766-79-6	C.I.分散红 17 C.I. Disperse Red 17	C.I.11210	3179-89-3
C.I.分散蓝 106 C.I. Disperse Blue 106		12223-01-7, 68516-81-4	C.I.分散黄 1 C.I. Disperse Yellow 1	C.I.10345	119-15-3
C.I.分散蓝 124 C.I. Disperse Blue 124		61951-51-7, 15141-18-1	C.I.分散黄 3 C.I. Disperse Yellow 3	C.I.11855	2832-40-8
C.I.分散棕 1 C.I. Disperse Brown 1		23355-64-8	C.I.分散黄 9 C.I. Disperse Yellow 9	C.I.10375	6373-73-5
C.I.分散橙 1 C.I. Disperse Orange 1	C.I.11080	2581-69-3	C.I.分散黄 39 C.I. Disperse Yellow 39		12236-29-2
C.I.分散橙 3 C.I. Disperse Orange 3	C.I.11005	730-40-5	C.I.分散黄 49 C.I. Disperse Yellow 49		54824-37-2

附页六 Appendix VI: 表一 Table 1 15 种多环芳烃管控限值 15 Polycyclic Aromatic Hydrocarbons Control limits (mg/kg)

项目 Items	1 类 Category 1	2 类 Category 2		3 类 Category 3		
	设计意图为放入口中的材料或与皮肤长期接触 (>30 秒) 的 2009/48/EC 定义的玩具材料和 3 岁以下儿童使用的产品 Design toy materials defined as 2009/48/EC with intent to put into the mouth or long-term contact with the skin (more than 30 seconds) and Products for children under 3 years of age	不属于第 1 类, 设计意图或可预见与皮肤长期接触(>30 秒)或短期反复接触的材料 Materials that do not fall into category 1, designed for or foreseeable long-term skin contact (more than 30s) or short-term repeated contact	供儿童(<14 岁)使用的产品(主动或被动直接接触) Products for children (<14 years) (active or passive direct contact)	其他产品 Other products	不属于第 1 和 2 类, 设计意图或可预见与皮肤短期接触 (<30 秒)的材料 Materials that do not fall into categories 1 and 2 and are intended or foreseeable for short-term contact with the skin (less than 30s)	供儿童(<14 岁)使用的产品(主动或被动直接接触) Products for children (<14 years) (active or passive direct contact)
苯并[a]芘 Benzo[a]pyrene	<0.2	<0.2	<0.5	<0.5	<1	
苯并[e]芘 Benzo[e]pyrene	<0.2	<0.2	<0.5	<0.5	<1	
苯并[a]蒽 Benzo[a]anthracene	<0.2	<0.2	<0.5	<0.5	<1	
苯并[b]荧蒽 Benzo[b]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1	
苯并[j]荧蒽 Benzo[j]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1	
苯并[k]荧蒽 Benzo[k]fluoranthene	<0.2	<0.2	<0.5	<0.5	<1	
蒽 Chrysene	<0.2	<0.2	<0.5	<0.5	<1	
二苯并[a,h]蒽 Dibenzo[a,h]anthracene	<0.2	<0.2	<0.5	<0.5	<1	
苯并[g,h,i]二苯并[a,h]蒽 Benzo[g,h,i]perylene	<0.2	<0.2	<0.5	<0.5	<1	
茚并[1,2,3-cd]芘 Indeno[1,2,3-cd] pyrene	<0.2	<0.2	<0.5	<0.5	<1	
菲, 芘, 蒽, 荧蒽 Phenanthrene, Pyrene, Anthracene, Fluoranthene	总和 Sum<1	总和 Sum<5	总和 Sum<10	总和 Sum<20	总和 Sum<50	
萘 Naphthalene	<1	<2		<10		
15 种 PAHs 总和 Sum of 15 PAHs	<1	<5	<10	<20	<50	

表二 Table 2: PAHs 8/24 项清单 PAHs 8/24 items list

项目 Items	物质 Substances	CAS No.	物质 Substances	CAS No.	
Σ24	Σ8	苯并[a]芘 (BaP) Benzo[a]pyrene	50-32-8	苯并[j]荧蒹 (BjFA) Benzo[j]fluoranthene	205-82-3
		二苯并[a,h]蒽 (DBA <sub>h</sub> A) Dibenzo[a,h]anthracene	53-70-3	苯并[b]荧蒹 (BbFA) Benzo[b]fluoranthene	205-99-2
		苯并[a]蒽 (BaA) Benzo[a]anthracene	56-55-3	苯并[k]荧蒹 (BkFA) Benzo[k]fluoranthene	207-08-9
		蒽 (CHR) Chrysen	218-01-9	苯并[e]芘 (BeP) Benzo[e]pyrene	192-97-2
	Σ24	芘 Acenaphthene	83-32-9	苯并[g,h,i]二萘嵌苯 Benzo[g,h,i]perylene	191-24-2
		芘烯 Acenaphthylene	208-96-8	二苯并[a,e]芘 Dibenzo[a,e]pyrene	192-65-4
		蒽 Anthracene	120-12-7	二苯并[a,h]芘 Dibenzo[a,h]pyrene	189-64-0
		茚并[1,2,3-cd]芘 Indeno[1,2,3-cd] pyrene	193-39-5	二苯并[a,i]芘 Dibenzo[a,i]pyrene	189-55-9
		1-甲基芘 1-Methylpyrene	2381-21-7	二苯并[a,l]芘 Dibenzo[a,l]pyrene	191-30-0
		萘 Naphthalene	91-20-3	荧蒹 Fluoranthene	206-44-0
		菲 Phenanthrene	85-01-8	芴 Fluorene	86-73-7
		环戊并[c,d]芘 Cyclopenta[c,d]pyrene	27208-37-3	芘 Pyrene	129-00-0

## 附页七 Appendix VII: 穿戴产品限制物质附页 Attachment of Restricted Substances for Wearable Products

杀虫剂 Pesticides			
物质 Substances	CAS No.	物质 Substances	CAS No.
2,4,5-涕 2,4,5-T	93-76-5	异狄氏剂 Endrine	72-20-8
2,4-滴 2,4-D	94-75-7	高效氰戊菊酯 Esfenvalerate	66230-04-4
啉虫脒 Acetamiprid	135410-20-7, 160430-64-8	氰戊菊酯 Fenvalerate	51630-58-1
涕灭威 Aldicarb	116-06-3	七氟 Heptachlor	76-44-8
艾氏剂 Aldrine	309-00-2	环氧七氯 Heptachloroepoxide	1024-57-3, 28044-83-9
益棉磷/乙基谷硫磷 Azinophosethyl	2642-71-9	六氯代苯 Hexachlorobenzene	118-74-1
保棉磷/谷硫磷 Azinophosmethyl	86-50-0	$\alpha$ -六六六 Hexachlorocyclohexane, $\alpha$ -	319-85-7
乙基溴硫磷 Bromophos-ethyl	4824-78-6	$\beta$ -六六六 Hexachlorocyclohexane, $\beta$ -	319-85-7
敌菌丹 Captafol	2524-06-1	$\delta$ -六六六 Hexachlorocyclohexane, $\delta$ -	319-86-8
甲萘威 Carbaryl	63-25-2	吡虫啉 Imidacloprid	105827-78-9, 138261-41-3
多菌灵 Carbendazim	10605-21-7	异艾氏剂 Isodrine	465-73-6
乙酯杀螨醇 Chlorbenzilate	510-15-6	克来范 Kelevane	4234-79-1
氯丹 Chlordane	57-74-9	十氯酮 Kepone	143-50-0
毒虫畏 Chlorfenvinphos	6164-98-3	林丹 Lindane	58-89-9
克死螨 Chlordimeform	470-90-6	马拉硫磷 Malathion	121-75-5
百菌清 Chlorothalonil	1897-45-6	2-甲-4-氯(苯氧)乙酸 MCPA	94-74-6
可尼丁 Clothianidin	210880-92-5	2-甲-4-氯(苯氧)丁酸 MCPB	94-81-5
香豆磷/蝇毒磷 Coumaphos	56-72-4	2-甲-4-氯(苯氧)丙酸 Mecoprop	93-65-2
氟氯氰菊酯 Cyfluthrin	68359-37-5	甲胺磷 Metamidophos	10265-92-6
$\lambda$ -氯氟氰菊酯 Cyhalothrin	91465-08-6	甲氧滴滴涕 Methoxychlor	72-43-5
氯氰菊酯 Cypermethrin	52315-07-8	灭蚁灵 Mirex	2385-85-5
脱叶磷 DEF	78-48-8	久效磷 Monocrotophos	6923-22-4
溴氰菊酯 Deltamethrin	52918-63-5	烯啉虫胺 Nitenpyram	150824-47-8, 120738-89-8
米托坦 DDD	53-19-0, 72-54-8	对硫磷 Parathion	56-38-2
滴滴伊 DDE	3424-82-6, 72-55-9	甲基对硫磷 Parathion-methyl	298-00-0



滴滴涕 DDT	50-29-3, 789-02-6	乙滴滴 Perthane	72-56-0
二嗪农 Diazinon	333-41-5	速灭磷/磷君 Phosdrin / Mevinphos	7786-34-7
双氯酚 Dichlorophene	97-23-4	磷胺 Phosphamidone	13171-21-6
2,4-滴丙酸 Dichlorprop	120-36-5	烯虫磷/胺丙畏 Propethamphos	31218-83-4
三氯杀螨醇 Dicofol	115-32-2	丙溴磷 Profenophos	41198-08-7
白治磷 Dicrotophos	141-66-2	氟硅菊酯 Silafuofen	10524-66-6
狄氏剂 Dieldrine	60-57-1	毒杀芬 Strobane	8001-50-1
乐果 Dimethoate	60-51-5	喹硫磷 Quinalphos	13593-03-8
地乐酚, 及其盐和醋酸盐 Dinoseb, its salts and acetate	88-85-7 et.	碳氯灵 Telodrine	297-78-9
呋虫胺 Dinotefuran	165252-70-0	噻虫啉 Thiacloprid	111988-49-9
DTTB DTTB	63405-99-2	噻虫嗪 Thiamethoxam	153719-23-4
硫丹 Endosulfan	115-29-7	对甲抑菌灵 Tolyfluanide	731-27-1
$\alpha$ -硫丹 Endosulfan, $\alpha$ -	959-98-8	毒杀芬 Toxaphene	8001-35-2
$\beta$ -硫丹 Endosulfan, $\beta$ -	33213-65-9	氟乐灵 Trifluralin	1582-09-8
<b>草甘膦及其盐 Glyphosate and salts (仅适用于纺织品 applies textiles only)</b>			
<b>物质 Substances</b>		<b>CAS No.</b>	
例.草甘膦异丙胺盐, 钾盐, 胺盐 e.g. Isopropylammonium-salt, potassium salt, ammonium salt		1071-83-6, 38641-94-0, 70901-12-1, 40465-66-5 et.	
<b>氯化苯酚 Chlorinated phenols</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
2,3,4-三氯苯酚 (TriCP) 2,3,4-Trichlorophenol	15950-66-0	2,3,5,6-四氯苯酚 (TeCP) 2,3,5,6-Tetrachlorophenol	935-95-5
2,4,6-三氯苯酚 (TriCP) 2,4,6-Trichlorophenol	88-06-2	2,5-二氯苯酚 2,5-Dichlorophenol	583-78-8
2,3,5-三氯苯酚 (TriCP) 2,3,5-Trichlorophenol	933-78-8	五氯苯酚 (PCP) Pentachlorophenol	87-86-5
3,4,5-三氯苯酚 (TriCP) 3,4,5-Trichlorophenol	609-19-8	2,6-二氯苯酚 2,6-Dichlorophenol	87-65-0
2,3,6-三氯苯酚 (TriCP) 2,3,6-Trichlorophenol	933-75-5	2,3-二氯苯酚 2,3-Dichlorophenol	576-24-9
2,3,4,5-四氯苯酚 (TeCP) 2,3,4,5-Tetrachlorophenol	4901-51-3	3,4-二氯苯酚 3,4-Dichlorophenol	95-77-2
2,4,5-三氯苯酚 (TriCP) 2,4,5-Trichlorophenol	95-95-4	2,4-二氯苯酚 2,4-Dichlorophenol	120-83-2
2,3,4,6-四氯苯酚 (TeCP) 2,3,4,6-Tetrachlorophenol	58-90-2	3,5-二氯苯酚 3,5-Dichlorophenol	591-35-5
2-氯苯酚 2-Chlorophenol	95-57-8	3-氯苯酚 3-Chlorophenol	108-43-0
4-氯苯酚	106-48-9		

4-Chlorophenol			
<b>其他禁用染料 Other banned dyestuffs</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
C.I. 碱性绿 4 (草酸盐) C.I. Basic Green 4(oxalate)	2437-29-8, 18015-76-4	C.I. 碱性绿 4 (氯化物) C.I. Basic Green(chloride)	569-64-2
C.I. 碱性绿 4 (游离) C.I. Basic Green(free)	10309-95-2	C.I. 分散橙 149 C.I. Disperse Orange 149	85136-74-9
C.I. 分散黄 23 C.I. Disperse Yellow 23	6250-23-3	海军蓝 Navy Blue (Index-Nr.611-070-00-2; EG-Nr.405-665-4)	--
C.I. 碱性黄 2/溶剂黄 34 (盐酸和游离碱) C.I. Basic Yellow 2 / Solvent Yellow 34 (hydrochloride and free base)	2465-27-2/ 492-80-8		
<b>米氏酮或米氏碱≥0.1%的着色剂 Colourants with ≥0.1% Michler's Ketone/Base</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
4,4'-双(二甲氨基)-4''-(甲氨基)三苯甲醇 4,4'-bis(dimethylamino)-4''-(methylamino) trityl alcohol	561-41-1	C.I. 溶剂蓝 4 C.I. Solvent Blue 4	6786-83-0
<b>亚硝胺,亚硝基物质 N-Nitrosamines; N-nitrosatable substances</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
N-亚硝基二甲胺 (NDMA) N-Nitrosodimethylamine	62-75-9	N-亚硝基吗啉 (NMOR) N-Nitrosomorpholine	59-89-2
N-亚硝基二丁胺 (NDBA) N-Nitrosodibutylamine	924-16-3	N-亚硝基二异丙胺 (NDiPA) N-Nitrosodiisopropylamine	601-77-4
N-硝基联苄基胺 (NDBZA) N-Nitrosodibenzylamine	5336-53-8	N-亚硝基二丙胺 (NDPA) N-Nitrosodipropylamine	621-64-7
N-二乙基亚硝胺 (NDEA) N-Nitrosodiethylamine	55-18-5	N-亚硝基-N-甲基苯胺 (NMPHA) N-Nitroso-N-methyl-N-phenylamine	614-00-6
N-亚硝基哌啶 (NPIP) N-Nitroso-piperidine	100-75-4	N-亚硝基甲基乙胺 (NMEA) N-Nitrosomethylethylamine	10595-95-6
N-二乙醇亚硝胺 (NDELA) N-Nitrosodiethanolamine	1116-54-7	N-亚硝基二异丁胺 (NDiBA) N-Nitrosodiisobutylamine	997-95-5
N-亚硝基二异壬胺 (NDiNA) N-Nitrosodiisononylamine	1207995-62-7	N-亚硝基-N-乙基苯胺 (NEPHA) N-Nitroso-N-ethyl-N-phenylamine	612-64-6
N-亚硝基吡咯烷 (NPNR) N-Nitroso-pyrrolidine	930-55-2		
<b>有机锡化合物 Organic tin compounds</b>			
<b>物质 Substances</b>	<b>缩写 Acronym</b>	<b>物质 Substances</b>	<b>缩写 Acronym</b>
三苯基锡 Triphenyltin	TPhT	三丁基锡 Tributyltin	TBT
单丁基锡 Monobutyltin	MBT	二辛基锡 Diocetyl tin	DOT
单辛基锡 Monoocetyl tin	MOT	三甲基锡 Trimethyltin	TMT
单甲基锡 Monomethyltin	MMT	三丙基锡 Tripropyltin	TPT
单苯基锡 Monophenyltin	MPhT	三辛基锡 Triocetyl tin	TOT
二甲基锡 Dimethyltin	DMT	三环己基锡 Tricyclohexyltin	TCyHT
二丙基锡 Dipropyltin	DPT	四乙基锡 Tetraethyltin	TeET

二丁基锡 Dibutyltin	DBT	四丁基锡 Tetrabutyltin	TeBT
二苯基锡 Diphenyltin	DPhT	四辛基锡 Tetraoctyltin	TeOT
<b>全氟及多氟化合物 PFCs, Per-and polyfluorinated compounds</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
全氟辛烷磺酸和磺酸盐 (PFOS) Perfluorooctane sulfonic acid and sulfonates	1763-23-1 等 et.	全氟辛烷磺酰氟 (PFOSF/POSF) Perfluorooctane sulfonyl fluoride	307-35-7
全氟辛烷磺酰胺 (PFOSA) Perfluorooctane sulfonamide	754-91-6	N-甲基全氟辛烷磺酰胺(N-Me-FOSA) N-Methyl perfluorooctane sulfonamide	31506-32-8
N-乙基全氟辛烷磺酰胺(N-Et-FOSA) N-Ethyl perfluorooctane sulfonamide ethanol	4151-50-2	全氟壬酸及其盐(PFNA) Perfluorononanoic acid and salts	375-95-1 等 et.
N-甲基全氟辛烷磺酰胺乙醇(N-Me-FOSE) N-Methyl perfluorooctane sulfonamide ethanol	24448-09-7	全氟庚酸及其盐(PFHpA) Perfluoroheptanoic acid and salts	375-85-9 等 et.
N-乙基全氟辛烷磺酰胺乙醇(N-Et-FOSE) N-Ethyl perfluorooctane sulfonamide ethanol	1691-99-2	全氟辛酸及其盐(PFOA) Perfluorooctanoic acid and salts	335-67-1 等 et.
全氟十一烷酸及其盐(PFUdA) Henicosafuoroundecanoic acid and salts	2058-94-8 等 et.	全氟十三烷酸及其盐(PFTrDA) Pentacosafuorotridecanoic acid and salts	72629-94-8 等 et.
全氟癸酸及其盐(PFDA) Perfluorodecanoic acid and salts	335-76-2 等 et.	全氟十二烷酸及其盐(PFDoA) Tricosafuorododecanoic acid and salts	307-55-1 等 et.
全氟十四烷酸及其盐(PFTEdA) Heptacosafuorotetradecanoic acid and salts	376-06-7 等 et.		
<b>全氟辛烷磺酸 Perfluorinated sulfonic acids</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
全氟丁烷磺酸(PFBS)及其盐 Perfluorobutane sulfonic acid salts	375-73-5, 59933-66-3 等 et.	全氟庚烷磺酸(PFHpS)及其盐 Perfluoroheptane sulfonic acid and salts	375-92-8 等 et.
全氟己烷磺酸(PFHxS)及其盐 Perfluorohexane sulfonic acid and salts	355-46-4 等	二十一氟癸烷磺酸(PFDS)及其盐 Henicosafuorodecane sulfonic acid and salts	335-77-3 等 et.
<b>部分氟化的羧酸/磺酸 Partially fluorinated carboxylic/sulfonic acids</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
7H-全氟庚酸(7HPFHpA)及其盐 7H-Perfluoro heptanoic acid and salts	1546-95-8 等 et.	2H,2H,3H,3H-全氟十一烷酸(4HPFUnA) 及其盐/ 2H,2H,3H,3H-Perfluoroundecanoic acid and salts	34598-33-9 等 et.
1H,1H,2H,2H-全氟辛烷磺酸 (1H,1H,2H,2H-PFOS)及其盐 1H,1H,2H,2H-Perfluorooctane sulfonic acid and salts	27619-97-2 等 et.		
<b>部分氟化直链醇 Partially fluorinated linear alcohols</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
1H,1H,2H,2H-全氟-1-己醇(4:2 FTOH) 1H,1H,2H,2H-Perfluoro-1-hexanol	2043-47-2	1H,1H,2H,2H-全氟-1-癸醇(8:2 FTOH) 1H,1H,2H,2H-Perfluoro-1-decanol	678-39-7
1H,1H,2H,2H-全氟-1-辛醇(6:2 FTOH) 1H,1H,2H,2H-Perfluoro-1-octanol	647-42-7	1H,1H,2H,2H-全氟-1-十二烷醇(10:2 FTOH) 1H,1H,2H,2H-Perfluoro-1-dodecanol	865-86-1

<b>氟化醇与丙烯酸形成的酯 Esters of fluorinated alcohols with acrylic acid</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
1H,1H,2H,2H-全氟辛基丙烯酸酯((6:2 FTA) 1H,1H,2H,2H-Perfluorooctyl acrylate	17527-29-6	1H,1H,2H,2H-全氟癸基丙烯酸酯(8:2 FTA) 1H,1H,2H,2H-Perfluorodecyl acrylate	27905-45-9
1H,1H,2H,2H-全氟十二烷基丙烯酸酯(10:2 FTA) 1H,1H,2H,2H-Perfluorododecyl acrylate	17741-60-5		
<b>更多全氟羧酸 Further Perfluorinated carboxylic acids</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
全氟丁酸(PFBA)及其盐/ Perfluorobutanoic acid and salts	375-22-4 等 et.	全氟己酸(PFHxA)及其盐 Perfluorohexanoic acid and salts	307-24-4 等 et.
全氟戊酸(PFPeA)及其盐 Perfluoropentanoic acid and salts	2706-90-3 等 et.	全氟-3,7-二甲基辛酸(PF-3,7-DMOA)及其盐 Perfluoro(3,7-dimethyloctanoic acid) and salts	172155-07-6 等 et.
<b>PFOA 相关物质 PFOA related Substances</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
1H,1H,2H,2H-全氟十二烷基丙烯酸酯(8:2 FTA) 1H,1H,2H,2H-Perfluorodecyl acrylate	27905-45-9	1H,1H,2H,2H-全氟-1-癸酸(8:2 FTOH) 1H,1H,2H,2H-Perfluoro-1-decanol	678-39-7
1H,1H,2H,2H-全氟辛烷磺酸及其盐(8:2 FTS) 1H,1H,2H,2H-Perfluorodecanesulphonic acid and its salts	39108-34-4 等 et.		
<b>邻苯二甲酸酯 Phthalates</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
邻苯二甲酸二异壬酯(DINP) Di-isononylphthalate	28553-12-0, 68515-48-0	邻苯二甲酸二乙酯(DEP) Diethylphthalate	84-66-2
邻苯二甲酸丁苄酯(BBP) Benzylbutylphthalate	85-68-7	邻苯二甲酸二异辛酯(DIOP) Di-isooctylphthalate	27554-26-3
(癸基, 己基和辛基)酯与1,2-苯二甲酸的混合物 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1	邻苯二甲酸二(2-甲氧基乙基)酯(DMEP) Di-(2-methoxyethyl) phthalate	117-82-8
邻苯二甲酸二-C7-11 支链和直链烷基酯(DHNUP) Di-C7-11-branched and linear alkylphthalates	68515-42-4	邻苯二甲酸二甲酯(DMP) Dimethylphthalate	131-11-3
邻苯二甲酸二丁酯(DBP) Dibutylphthalate	84-74-2	邻苯二甲酸己酯(支链与直链) Dihexylphthalates, branched and linear (DHxP)	68515-50-4
邻苯二甲酸二(2-乙基己基)酯 Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	邻苯二甲酸二环己酯(DCHP) Dicyclohexylphthalate	84-61-7
邻苯二甲酸二异丁酯(DIBP) Di-isobutylphthalate	84-69-5	邻苯二甲酸二戊酯(正-, 异-或其混合)(DPP) Di-pentylphthalate	131-18-0, 605-50-5, 776297-69-9, 84777-06-0
邻苯二甲酸二壬酯(DNP) Di-n-nonylphthalate	84-76-4	邻苯二甲酸二丙酯(DPrP) Di-n-propylphthalate	131-16-8
邻苯二甲酸二异癸酯(DIDP) Di-isodecylphthalate	26761-40-0, 68515-49-1	邻苯二甲酸二异己酯(DIHxP) Di-iso-hexylphthalate	71850-09-4

邻苯二甲酸二己酯 (DHP) Di-n-hexylphthalate	84-75-3	邻苯二甲酸二-C6-10 烷基酯 1,2-Benzenedicarboxylic acid, di-C6-10 alkyl esters	68515-51-5
邻苯二甲酸二-C6-8 支链烷基酯, 富含 C7 (DIHP) Di-C6-8-branched alkylphthalates, C7 rich	71888-89-6	邻苯二甲酸二正辛酯 (DNOP) Di-n-octylphthalate	117-84-0
<b>其他芳香胺, 可裂解芳香胺, 胺盐 Other Arylamines, cleavable arylamines; amine salts</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
2,4-二氨基苯甲醚硫酸盐 2,4-Diaminoanisole sulphate	39156-41-7	2,4,5-三甲基苯胺盐酸盐 2,4,5-Trimethylaniline hydrochloride	21436-97-5
2-萘胺乙酸盐 2-Naphthylammoniumacetate	553-00-4	4-氯-邻甲苯胺盐酸盐 4-Chloro-o-toluidinium chloride	3165-93-3
苯胺 Aniline	62-53-3	2,5-二氨基甲苯/2-甲基对苯二胺 2,5-Diaminotoluene/2-methyl-p-phenylenediamine	95-70-5
3,3-二氨基联苯胺 3,3-Diaminobenzidin	91-95-2	4-乙氧基苯胺/对乙氧基苯胺 4-Ethoxyaniline/p-phenetidine	156-43-4
<b>禁用阻燃物质 Forbidden flame retardant substances</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
多溴联苯 (PBBs) Polybromobiphenyls	59536-65-1	一溴联苯 (MonoBB) Monobromobiphenyls	各种 Various
二溴联苯 (DiBB) Dibromobiphenyls	各种 Various	三溴联苯 (TriBB) Tribromobiphenyls	各种 Various
四溴联苯 (TetraBB) Tetrabromobiphenyls	各种 Various	五溴联苯 (PentaBB) Pentabromobiphenyls	各种 Various
六溴联苯 (HexaBB) Hexabromobiphenyls	各种 Various	七溴联苯 (HeptaBB) Heptabromobiphenyls	各种 Various
八溴联苯 (OctaBB) Octabromobiphenyls	各种 Various	九溴联苯 (NonaBB) Nonabromobiphenyls	各种 Various
十溴联苯 (DecaBB) Decabromobiphenyl	13654-09-6	多溴二苯醚 (PBDEs) Polybrominated diphenyl ethers	各种 Various
一溴二苯醚 (MonoBDEs) Monobromodiphenylethers	各种 Various	二溴二苯醚 (DiBDEs) Dibromodiphenylethers	各种 Various
三溴二苯醚 (TriBDEs) Tribromodiphenylethers	各种 Various	四溴二苯醚 (TetraBDEs) Tetrabromodiphenylethers	各种 Various, 40088-47-9
五溴二苯醚 (PentaBDEs) Pentabromodiphenylethers	各种 Various, 32534-81-9	六溴二苯醚 (HexaBDEs) Hexabromodiphenylethers	各种 Various, 36483-60-0
七溴二苯醚 (HeptaBDEs) Heptabromodiphenylethers	各种 Various, 68928-80-3	八溴二苯醚 (OctaBDEs) Octabromodiphenylethers	各种 Various, 32536-52-0
九溴二苯醚 (NonaBDEs) Nonabromodiphenylethers	各种 Various, 63936-56-1	十溴二苯醚 (DecaBDEs) Decabromodiphenylether	1163-19-5
磷酸三(二甲苯)酯 (TXP) Trixylylphosphate	25155-23-1	三(2,3-二溴丙基)磷酸酯 (TRIS) Tri(2,3-dibromopropyl) phosphate	126-72-7
磷酸三(2-氯乙基)酯 (TCEP) Tris(2-chloroethyl) phosphate	115-96-8	偏硼酸钡 Barium diboron tetraoxide	13701-59-2
四溴双酚 A (TBBPA) Tetrabromobisphenol A	79-94-7	二(2,3-二溴丙基)磷酸酯 (BIS) Bis(2,3-dibromopropyl) phosphate	5412-25-9
2,2-双(溴甲基)-1,3-丙二醇 (BBMP) 2,2-Bis(bromomethyl)-1,3-propanediol	3296-90-0	三-(1,3-二氯-2-丙基)磷酸酯 (TDCPP) Tris(1,3-dichloro-iso-propyl) phosphate	13674-87-8
三(吡啶基)氧化磷 (TEPA) Tris(aziridinyl) phosphinoxide	545-55-1	硼酸 Boric acid	10043-35-3, 11113-50-1

硼酸锌盐 Zinc borate salts	1332-07-6, 12767-90-7	三氧化二硼 Diboron trioxide	1303-86-2
无水四硼酸钠 Disodium tetraborate, anhydrous	1303-96-4, 1330-43-4, 12179-04-3	八硼酸钠 Disodium octaborate	12008-41-2
七水合四硼酸钠 Tetraboron disodium heptaoxide, hydrate	12267-73-1	短链氯化石蜡 (C10-C13) Short chain chlorinated paraffins (C10-C13) (SCCP)	85535-84-8
中链氯化石蜡 (C14-C17) (MCCP) Medium chain chlorinated paraffins (C14-C17)	85535-85-9, 198840-65-2, 1372804-76-6	1,2-双(2,4,6-三溴苯氧基)乙烷 1,1'-[ethane-1,2-diylbisoxo]bis [2,4,6-tribromobenzene]	37853-59-1
六溴环十二烷及其所有已鉴定的主要非对映异构体 ( $\alpha, \beta, \gamma$ ) (HBCDD) Hexabromocyclododecane and all main diastereomeres identified ( $\alpha$ -, $\beta$ -, $\gamma$ -)	各种 various 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8, 25637-99-4	四溴邻苯二甲酸二(2-乙基己)酯, 任何单独的异构体和/或其组合 Bis (2-ethylhexyl) tetrabromophthalate, any of the individual isomers and/or combinations thereof	各种 Various
<b>溶剂残留 Solvent residues</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
N-甲基吡咯烷酮 (NMP) 1-Methyl-2-pyrrolidone	872-50-4	N,N-二甲基甲酰胺 (DMFa) N,N-Dimethylformamide	68-12-2
N,N-二甲基乙酰胺 (DMAc) N,N-Dimethylacetamide	127-19-5	甲酰胺 Formamide	75-12-7
<b>残留表面活性剂, 润湿剂, 烷基酚 Surfactant, wetting agent residues, alkyl phenols</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
壬基苯酚 (NP) Nonylphenol	各种 various	辛基苯酚 (OP) Octylphenol	各种 various
庚基苯酚 (HpP) Heptylphenol	各种 various	戊基苯酚 (PeP) Pentylphenol	各种 various
壬基酚聚氧乙烯醚[NP(EO)] Nonylphenoethoxylates	各种 various	4-叔丁基苯酚 (BP) 4-tert-butylphenol	98-54-4
辛基酚聚氧乙烯醚[OP(EO)] Octylphenoethoxylates	各种 various		
<b>其他残留化学物 Other chemical residues (*仅适用于纺织品 *applies to textiles only)</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
苯胺 Aniline	62-53-3	苯 Benzene	71-43-2
双酚 A (4,4'-亚异丙基二苯酚)(BPA) Bisphenol A	80-05-7	双酚 B (4,4'-(1-甲基丙基)双酚)(BPB) Bisphenol B	77-40-7
富马酸二甲酯 (DMFu) Dimethylfumarate	624-49-7	磷酸三(2-氯乙基)酯* Tris (2-chloroethyl) phosphate*	115-96-8
苯酚* Phenol*	108-95-2	喹啉(胆碱/苯并[b]吡啶) Quinoline (Chinoline/Benzo[b]pyridine)	91-22-5
邻苯基苯酚 (OPP)* o-Phenylphenol*	90-43-7	戊二醛 Glutaraldehyde	111-30-8
三(4-壬基苯基)亚磷酸酯, 含有 $\geq 0.1\%$ 的 4-壬基酚 (支链与直链) (TNPP) Tris (4-nonylphenyl, branched and linear) phosphite with 0.1% w/w of 4-nonylphenol, branched and linear	各种 various	偶氮二甲酰胺(ADCA)* Diazene-1,2-dicarboxamide*	123-77-3

6,6'-二叔丁基-2,2'-亚甲基二对甲酚 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	双酚 S(4,4'-磺酰基二苯酚)(BPS)* Bisphenol S(4,4'-Sulfonyldiphenol)*	80-09-1
三聚氰胺 Melamine	108-78-1	N-(羟甲基)丙烯酰胺 N-(hydroxymethyl)acrylamide	924-42-5
乙烯基三(2-甲氧基乙氧基)硅烷 Tris(2-methoxyethoxy)vinylsilane	1067-53-4	2-巯基苯并噻唑(2-MTB) 2-Mercaptobenzothiazol	149-30-4
<b>紫外线稳定剂</b> <b>UV stabilizers</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
2-苯并三唑-2-基-4,6-二叔丁基苯酚 (UV 320) 2-Benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	2-(2H-苯并三唑-2-基)-4,6-二叔戊基苯酚 (UV 328) 2-(2H-Benzotriazol-2-yl)-4,6-di-tert-pentylphenol	25973-55-1
2,4-二叔丁基-6-(5-氯苯并三唑-2-基)苯酚(UV-327) 2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl) phenol	3864-99-1	2-(2H-苯并三唑-2-基)-4-(叔丁基)-6-(仲丁基)苯酚 (UV-350) 2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol	36437-37-3
<b>硅氧烷 Siloxanes</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
八甲基环四硅氧烷 (D4) Octamethylcyclotetrasiloxane	556-67-2	十甲基环五硅氧烷 (D5) Decamethylcyclopentasiloxane	541-02-6
十二甲基环六硅氧烷 (D6) Dodecamethylcyclohexasiloxane	540-97-6		
<b>加工防腐剂 / CAS No.</b>			
<b>物质 Substances</b>	<b>CAS No.</b>	<b>物质 Substances</b>	<b>CAS No.</b>
2-苯基苯酚/邻苯基苯酚 (OPP) 2-Phenylphenol/ortho-Phenylphenol	90-43-7	2-(硫氰酸甲基巯基)苯并噻唑 (TCMTB) 2-(Thiocyanomethylthio)benzothiazol	21564-17-0
4-氯-3-甲基苯酚 (CMC/CMK) 4-Chloro-3-methylphenol	59-50-7	2-辛基异噻唑-3(2H)-酮 (OIT) 2-Octylisothiazol-3(2H)-on	26530-20-1

## 附页八 Appendix VIII: REACH 附录 17 第 72 条 REACH Annex XVII Entry 72

物质 Substances	CAS No.	EC No.	重量浓度限值 Concentration limit by weight
镉及其化合物 (列在附录 17 第 28, 29, 30 条款附录 1-6) Cadmium and its compounds (listed in Annex XVII, Entry 28,29,30, Appendices 1-6)	-	-	萃取后 1 mg/kg (表示为可以从材料中提取的镉金属) 1 mg/kg after extraction (expressed as Cd metal that can be extracted from the material)
六价铬化合物 (列在附录 17 第 28, 29, 30 条附录 1-6) Chromium VI compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	-	-	萃取后 1 mg/kg (表示为可以从材料中提取的六价铬) 1 mg/kg after extraction (expressed as Cr VI that can be extracted from the material)
砷化合物 (列在附录 17 第 28, 29, 30 条附录 1-6) Arsenic compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	-	-	萃取后 1 mg/kg (表示为可以从材料中提取的砷金属) 1 mg/kg after extraction (expressed as Arsenic metal that can be extracted from the material)
铅及其化合物 (列在附录 17 第 28, 29, 30 条附录 1-6) Lead and its compounds (listed in Annex XVII, Entry 28, 29, 30, Appendices 1-6)	-	-	萃取后 1 mg/kg (表示为可以从材料中提取的铅金属) 1 mg/kg after extraction (expressed as Lead metal that can be extracted from the material)
苯 Benzene	71-43-2	200-753-7	5 mg/kg
苯并[a]蒽 Benz[a]anthracene	56-55-3	200-280-6	1 mg/kg
苯并[b]荧蒽 Benz[e]acephenanthrylene	205-99-2	205-911-9	1 mg/kg
苯并[a]芘; 苯并[def] 蒽 Benzo[a]pyrene; Benzo[def]chrysene	50-32-8	200-028-5	1 mg/kg
苯并[e]芘 Benzo[e]pyrene	192-97-2	205-892-7	1 mg/kg
苯并[j]荧蒽 Benzo[j]fluoranthene	205-82-3	205-910-3	1 mg/kg
苯并[k]荧蒽 Benzo[k]fluoranthene	207-08-9	205-916-6	1 mg/kg
蒽 Chrysene	218-01-9	205-923-4	1 mg/kg
二苯并[a,h]蒽 Dibenz[a,h]anthracene	53-70-3	200-181-8	1 mg/kg
4-氯三氯甲苯; 对氯三氯甲苯 $\alpha, \alpha, \alpha, 4$ -tetrachlorotoluene; p-chlorobenzotrichloride	5216-25-1	226-009-1	1 mg/kg
$\alpha, \alpha, \alpha$ -三氯甲苯; 三氯化苯 $\alpha, \alpha, \alpha$ -trichlorotoluene; benzo-trichloride	98-07-7	202-634-5	1 mg/kg
$\alpha$ -氯甲苯; 苄基氯 $\alpha$ -chlorotoluene; benzyl chloride	100-44-7	202-853-6	1 mg/kg
甲醛 Formaldehyde	50-00-0	200-001-8	75 mg/kg



1,2-苯二甲酸; 富含 C7 的双 C6-8 支链烷基酯 (DIHP) 1,2-benzenedicarboxylic acid; di-C6-8-branched alkylesters, C7- rich	71888-89-6	276-158-1	1000 mg/kg (在本条目或附件 XVII 的其他条目中单独或与其他邻苯二甲酸酯组合, 被分类为法规 (EC) 1272/2008 附件 VI 第 3 部分中的任何危险类别, 致癌性, 细菌细胞致突变性或生殖毒性, 类别 1A 或 1B 1000 mg/kg (individually or in combination with other phthalates in this entry or in other entries of Annex X VII that are classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 in any of the hazard classes carcinogenicity, germ cell mutagenicity or reproductive toxicity, category 1A or 1B)
邻苯二甲酸二(2-甲氧基乙基)酯 Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	204-212-6	
邻苯二甲酸二异戊酯 (DIPP) Diisopentylphthalate	605-50-5	210-088-4	
邻苯二甲酸二正戊酯 (DPP) Di-n-pentyl phthalate	131-18-0	205-017-9	
邻苯二甲酸二正己酯 (DnHP) Di-n-hexyl phthalate	84-75-3	201-559-5	
N-甲基-2-吡咯烷酮; 1-甲基-2-吡咯烷酮 N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone (NMP)	872-50-4	212-828-1	3000 mg/kg
N,N-二甲基乙酰胺 (DMAC) N,N-dimethylacetamide	127-19-5	204-826-4	3000 mg/kg
N,N-二甲基甲酰胺; 二甲基甲酰胺 (DMF) N,N-dimethylformamide; dimethyl formamide	68-12-2	200-679-5	3000 mg/kg
1,4,5,8-四氨基; C.I. 分散蓝 1 1,4,5,8-tetraaminoanthraquinone; C.I. Disperse Blue 1	2457-45-8	219-603-7	50 mg/kg
苯胺; 4,4'-(4-亚氨基环己基-2,5-二烯撑亚甲基)二苯胺盐酸盐; C.I. 碱性红 9 Benzenamine,4,4'-(4-iminocyclohexa-2,5-dienylidenemethylene) dianiline hydrochloride; C.I. Basic Red 9	569-61-9	209-321-2	50 mg/kg
[4-[4,4'-双(二甲基氨基)苯亚甲基]环己二-2,5-二烯-1-基]二甲基氯化铵; C.I. 碱性紫 3 的米氏酮含量≥0.1% (EC 号 202-027-5) [4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride; C.I. Basic Violet 3 with ≥0,1% of Michler's ketone (EC No.202-027-5)	548-62-9	208-953-6	50 mg/kg
2-氨基-5-氯甲苯盐酸盐 4-chloro-o-toluidinium chloride	3165-93-3	221-627-8	30 mg/kg
二萘基乙酸铵 2-Naphthylammoniumacetate	553-00-4	209-030-0	30 mg/kg
4-甲氧基间亚苯基硫酸二铵; 2,4-二氨基苯甲醚硫酸盐 4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	254-323-9	30 mg/kg
2,4,5-三甲基苯胺盐酸盐 2,4,5-trimethylaniline hydrochloride	21436-97-5	-	30 mg/kg
喹啉 Quinoline	91-22-5	202-051-6	50 mg/kg