

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

Article: An object consisting of one or more substances and/or preparations. It means an object which has been given a particular shape, appearance or design, and which has been prepared in a form which is different from a greater degree than does its chemical composition.

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

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

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

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

含有：

残留情况（包括在产品加工过程、物流过程中无意间的混入、转移或附着后残留的情况）。

Contained: All possible substances in or on a product, whether intentional or not, including parts and components of product, including unintentional mix and/or transfer attachment of substances to product during manufacturing process and logistics process.

杂质：在产品、半成品及原材料中含有的，但在精制过程中被识别无法完全去除的物质，或者在反应的过程中但技术上无法去除的物质。

Impurity: A substance contained in natural material, but which cannot be completely removed from the material through processes or which is accepted as an impurity because it cannot be completely removed technically.

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

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

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

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

四、管理标准 / Management Standards

公司内部的有害物质管理标准涵盖法律法规的要求，并严于法规要求，包括 RoHS、卤素、REACH、CP65、POPs、电池指令、包装指令、VOCs 等，并结合 IECQ QC080000 有害物质过程管理的体系要求，对有害物质进行管控。

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

laws and regulations and are stricter than regulatory requirements, including RoHS, halogen REACH, CP65, POPs, battery directive, packaging directive, VOCs, etc. Integrated with the IECQ OC080000 HSRM (Hazardous Substance Process Management) system requirements, these standards ensure comprehensive control of hazardous substances in both products and manufacturing processes.

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

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

公司已识别出并严格遵守的有害物质相关法律法规、标准及要求，包括：

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

名称	地区
<ul style="list-style-type: none"> • 《电器电子产品有害物质限制使用管理办法》 • 《工业防护涂料中有害物质限量》(GB 30981-2020) • 《胶粘剂挥发性有机化合物限量》(GB 33372-2020) • 《清洗剂挥发性有机化合物含量限值》(GB 38508-2020) • 《油墨中可挥发有机化合物 (VOCs) 含量限值》(GB 38507-2020) • 《限制在电子电气设备中使用某些有害成分的指令 (RoHS)》(2011/65/EU) • 《报废电子电气设备指令 (WEEE)》(2012/19/EU) • 《包装和包装废弃物指令及其修订版》(2018/852/EU) • 《电池指令》(EU)2023/1542) • 《欧盟·关于化学品注册、评估、授权和限制的法规及其修正案 (REACH)》((EC) No 1907/2006) • 《欧盟·持续性有机污染物 (POPs)》(2019/1021/EU) • 《法国 AGEC 法规-关于打击浪费和循环经济的法令》(No.2020-105) • 《瑞典电子电气产品化学税法案》(2016:1067) • 《欧洲臭氧破坏物质禁用指令》(2037/2000/EC) 	<p>中国</p>

名称	地区
<ul style="list-style-type: none"> • 《消费性产品中禁用特定有害物质 (PoHS)》(2021) 	挪威
<ul style="list-style-type: none"> • 《国际电工委员会·限制印刷电路板和互连结构的材料的卤素含量》(IEC 61249-2-21) • 《电子工业的材料声明标准》(IEC 62474-2018) • 《蒙特利尔破坏臭氧层物质管制议定书》 • 《全球汽车申报物质清单》 • 《斯德哥尔摩公约》 	其他

Regulations & Standards	Region
<ul style="list-style-type: none"> • Administrative Measures on the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products 	

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

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

我们每年接受客户关于有害物质的审核，并完成我们内部、外部供应商及加工厂的有害物质的审核，针对审核发现进行优化及改善。对于不符合的项目，我们要求责任单位限期完成整改。限制物质》列出包括：我们按照《产品中的限制物质》《产品中的管理物质》《制程》但不限于以下所示物质的管控，参见附录 1、附录 2、附录 3。

Yearly, we undergo customer audits on a regular basis while conducting internal audits and external supplier and processor evaluations. All audit findings drive continuous optimization and improvement. Non-conformities require responsible parties to implement corrective actions within defined timelines.

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

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

限制物质	CAS号	
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限制物质	CAS号	限值	适用范围	参考法规/标准
重金属 (铅+ 汞+ 六价铬)	7440-43-9 18540-29-9 7439-97-6 7439-95-1	80ppm	包装材料	欧盟包装指令
多溴联苯 PBBs	59536-65-1 67774-32-7 36355-01-8 27858-07-7 13654-09-6 等	400ppm	所有材料	EU RoHS 指令 REACH 附录 XVII
多溴联苯醚 PBDEs	1163-19-5 32534-81-9 32536-52-0 1163-19-5 等	单项 <10ppm, 总和 <500ppm	所有材料	EU RoHS 指令 欧盟 POPs 法规
	/	单项 <100ppm, 加和 <1000ppm	所有材料	EU RoHS 指令 REACH 附录 XVII 加州 65 号提案
三氧化二锑	1309-64-4	900ppm	所有材料	加州 65 号提案
偶氮染料	/	20ppm	纺织品、皮革、染料或 着色剂	REACH 附录 XVII GB 20400 皮革和毛皮 有害物质限量 GB 18401 国家纺织产品 基本安全技术规范
石棉	12001-28-4 12172-73-5 77536-67-5 77536-66-4 77536-68-6 12001-29-5 132207-32-0 1332-21-4	禁止使用	所有材料	REACH 附录 XVII
氧化铍	1304-56-9	ND	所有材料	加州 65 号提案 IEC 62474
双酚 A BPA	80-05-7	50ppm ND	所有材料 热敏纸	加州 65 号提案 REACH 附录 XVII
富马酸二甲酯 DMF	624-49-7	0.1ppm	所有材料	REACH 附录 XVII 2012/48/EU
中链氯化石蜡 MCCP	85535-85-9	禁止使用	所有材料	REACH 附录 XVII
短链氯化石蜡 SCCPs	85535-84-8 84082-38-2 71011-12-6 85536-22-7 61788-76-9 108171-26-2	禁止使用	所有材料	欧盟 POPs 法规 REACH 法规
二氯化钴	7646-79-9 7791-13-1	禁止使用	所有材料	REACH 法规 SVHC

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

限制物质	CAS号	限值	适用范围	参考法规/标准
2-[2-羟基-3,5-二(1,1-二甲基丙基苯基)]-2H-1,2,4-三嗪 UV-328	25973-55-1	1ppm	所有材料	斯德哥尔摩公约
四溴双酚 A TBBP-A	79-94-7	900ppm	有机材料	挪威 PoHS 指令 华盛顿州儿童产品安全法 加州 65 号提案 IEC 62474
三取代基有机锡化合物	/	ND	所有材料	REACH 附录 XVII 日本化审法 REACH
其他有机锡化合物	/	1000ppm	所有材料	

Restricted Substances	CAS No	Concentration Limit	Application Scope	References
		400ppm	Solder (Metal alloys only) and inorganic materials (metal, ceramic, glass)	
Mercury and its compounds	7439-97-6 etc.	5ppm	Plastic, ink, nonmetal and Non-ceramic material	EU Directive 2011/65/EU REACH ANNEX XVII EU battery directive California Proposition 65
		Non-use	Cell	
		100ppm	Other materials	
Hexavalent chromium compounds	18540-29-9 etc.	ND	Textile	EU Directive 2011/65/EU
		Negative	Metal (include metal surface treatment)	
		400ppm	Other materials	
		3ppm	Leather: wire, computer lanyard, case etc.	REACH ANNEX XVII
Heavy Metals (Cd + Cr (VI) + Hg + Pb)	7440-43-9 18540-29-9 7439-97-6 7439-95-1	80ppm	Packaging	EU Directive on packaging and packaging waste
Polybrominated Biphenyls (PBBs)	59536-65-1 67774-32-7 36355-01-8 27858-07-7 13654-09-6 etc.	400ppm	All materials	EU Directive 2011/65/EU REACH ANNEX XVII
Polybrominated Diphenyl Ethers (PBDEs)	1163-19-5 32534-81-9 32536-52-0 1163-19-5 etc.	Individually 10ppm, 500 ppm for sum of total	All materials	EU Directive 2011/65/EU EU POPs
Phthalates	/	Individually 100ppm, 1000 ppm for sum of total	All materials	EU Directive 2011/65/EU REACH ANNEX XVII California Proposition 65
Antimony Trioxide	1309-64-4	900ppm	All materials	California Proposition 65
Azodyes	/	20ppm	Textile, leather, dye or coloring	REACH ANNEX XVII GB 20400-2006 Leather and fur-Limit of harmful matter GB 18401-2010 Chinese; National General Safety Technical Code for Textile Products

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

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

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

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

附录 2: 产品中的管理物质

管理物质	CAS号	限值	适用范围	参考资料
氨基乙醇胺	111-41-1	最低检出浓度	涂料、油漆、清漆、纺织、缓蚀剂	加拿大环境保护法
2-[(2-氨基乙基)氨基]乙醇	111-41-1	最低检出浓度	所有材料	加拿大环境保护法
氟化芳烃	多个	最低检出浓度	穿戴类产品	加拿大环境保护法
界面活性剂 DTDMAC、DODMAC/DSDMAC、DHTDMAC	68783-78-8 107-64-2 61789-80-8 多个	1000ppm	所有材料	挪威 PoHS 指令
苯乙烯化二苯胺, SDPA	/	最低检出浓度	所有材料	加拿大环境保护法

华盛顿州儿童高关注度化学品清单

<http://apps.leg.wa.gov>

Managed Substances	CAS No.	Concentration Limit	Application Scope	Referances
2-(2-Aminoethylamino)ethanol	111-44-1	Exceed MDL	All materials	Canadian Environmental Protection Act, 1999
Chlorinated Aromatic Hydrocarbons	Several	Exceed MDL	Wearable product	Canadian Environmental Protection Act, 1999
Surfactant DTDMAC,DODMAC/DS DMAC,DHTDMAC	68783-78-8 107-64-2 61789-80-8 Several	1000ppm	All materials	Norway FOR-2004-06-01-922
Diphenylamines, Substituted (SDPA)	/	Exceed MDL	All materials	Canadian Environmental Protection Act, 1999
Washington State's List of Chemicals of High Concern to Children (CHCC)	█/apps.leg.wa.gov/WAC/default.aspx?cite=173-334-130 several	Exceed MDL	Children's product	Children's Safe Products Act
Proposition 65 list of chemicals	All applications, All the substances are managed substances except the substances which listed in the standard, the list refers to: http://oehha.ca.gov/propp65/prop65_list/Newlist.html	Exceed MDL	All materials	California Proposition 65
RoHS	/	4.1 limit substances' concentration limit	RoHS exempted parts/components	Goertek policy
IEC 62474 Substances	█/std.iec.ch/iec62474	According to this standard	All materials	Goertek Policy

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

限制物质	CAS 号	限值	适用范围
苯	71-43-2	禁止使用	清洗剂、去油剂、脱模剂等
		需通报	其他制程
铍粉尘	7440-41-7	呼吸区域 ≤ 0.1mg/m ³	连接器触点、EMI 触片 (镀铜合金)、收发器 (氧化铍)
含溴有机溶剂	109-65-9	禁止使用	

限制物质	CAS 号	限值	适用范围
	106-94-5 75-26-3 75-27-4 74-30-4 74-83-9 124-48-1		
乙二醇丁醚	111-76-2	禁止使用	油漆、涂料、稀释剂等
含氯有机溶剂	/	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
环己烷	110-82-7	禁止使用	清洗剂、去油剂、脱模剂
双吗啉甲烷	5625-90-1	禁止使用	CNC防锈剂
甲醛	50-00-0	需通报	
氟化氢	7664-39-3	需通报	
甲苯	108-88-3	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
正庚烷	142-82-5	禁止使用	清洗剂、去油剂、脱模剂
正己烷	110-54-3	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
醋酸镍	6018-89-9	禁止使用	金属阳极封孔剂
N-甲基吡咯烷酮NMP	872-50-4	禁止使用	清洗剂、去油剂、脱模剂
		需通报	其他制程
臭氧层破坏物质 ODCs	/	禁止使用	
炔丙基氯	624-65-7	禁止使用	金属钝化剂
六氟化硫 SF ₆	2551-62-4	呼吸区域小于 1000ppm (6000mg/m ³)	制造环节, IC 制造的受控条件除外
二甲苯、乙苯、甲醇	106-42-3 108-38-3 95-47-6 100-11-4 67-56-1	禁止使用	

Restricted Substances	CAS No.	Concentration Limit	Application Scope
Benzene	71-43-2	Non-use	Cleaning, metal degreasers, release agent etc.
		Required to report	Other manufacturing processes
Beryllium Dust and Fumes	7440-11-7	0.1 mg/m ³ Breathing zone < 0.0001 mg/m ³	Connector contacts, EMI finger (beryllium-copper alloys), transceivers (beryllium oxide)

Restricted Substances	CAS No.	Concentration Limit	Application Scope
Bromine-containing organic solvent	109-65-9 106-94-5 75-26-3 75-27-4 74-36-4 74-83-9 124-48-1	Non-use	All manufacturing processes
2-Butoxyethanol	111-76-2	Non-use	Paints, coatings, cleaning agents
Chlorinated Organic Solvents	/	Non-use	Cleaning in sectors degreasers, release agent
		Required to report	Other manufacturing processes
Cyclohexane	110-82-7	Non-use	Cleaning in sectors degreasers, release agent
Dimorpholine	5625-90-1	Non-use	CNC rust preventive
Formaldehyde	50-00-0	Required to report	All manufacturing processes
Hydrogen fluoride	7664-39-3	Required to report	All manufacturing processes
Toluene	108-88-3	Non-use	Cleaning in sectors degreasers, release agent
		Required to report	Other manufacturing processes
n-Heptane	142-82-5	Non-use	Cleaning in sectors degreasers, release agent
n-Hexane	110-54-3	Non-use	Cleaning in sectors degreasers, release agent
		Required to report	Other manufacturing processes
Nickel acetate	6018-89-9	Non-use	Porous sealing agent for metal anode
N-methylpyrrolidone (NMP)	872-50-4	Non-use	Cleaning in sectors degreasers, release agent
		Required to report	Other manufacturing processes
Ozone Depleting Chemicals (ODCs)	/	Non-use	All manufacturing processes
Propargyl chloride	624-65-7	Non-use	Metal deactivator
Sulfur hexafluoride (SF6)	2551-62-4	Breathing zone <1000ppm(6000mg/m3)	For manufacturing except IC lithography
Xylene, p-xylene, m-xylene, o-xylene, ethyl benzene, methanol	106-42-3 108-38-3 95-47-6 100-11-4 67-56-1	Non-use	All manufacturing processes