

进一步小型，进一步环保 ----- 绿色零部件的双信电机集团
Soshin Group Green Parts -even smaller and friendlier-



S E S - Q U A - 0 0 0 9 - B

双信电机集团 绿色采购指南

第6版

双信电机株式会社
SOSHIN ELECTRIC CO., LTD.

双信电源科技公司

双信器件公司

立信电子有限公司

双信电子马来西亚

双信华科技（深圳）公司

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【附件 双信电机集团 环境管理物质清单】

序 言

我们双信电机集团以地球环保问题为最重要经营课题之一,通过产品的开发、设计、制造和销售等一切企业活动,继续致力于环境改善。最近社会对环保问题的关心越来越高,欧洲联盟以及各个国家加强法律上的限制,因而社会上对企业活动责任的要求也越来越严。

双信电机集团把绿色采购认为企业应该履行的重要任务,为了采购环境负荷更小的产品此次修改了“绿色采购指南”。

今后双信电机集团根据该“绿色采购指南”遵守法律法规,从积极推进环境负荷减低活动的供应商优先采购环境负荷小的零部件和其他材料(零部件、副材料、包装材料等)。另外,因为环境管理系统的取得、CO2 削减活动、水和其他的资源枯竭对策、对生物多样性和冲突矿物的对策等是本公司需要致力的课题,所以贵公司也务请积极地尽努力合作,为荷。

如果供应商不了解该问题,忽视其解决的话,本公司更难于达到环保目的,所以请求供应商进一步协作。

双信电机株式会社
采购本部
环境管理室

1. 双信电机集团的环境活动

经营理念

S O S H I N W A Y - 通过沟通之网络, 连接人与未来-

我们向“环境共生社会的实现”通过相互信赖之“网络”保持地球与人类的协调关系。为实现“进一步小型,进一步环保——绿色零部件的双信电机集团”,本公司的各个职员自主专心致力于暖化气体排除量削减和零废料(摘录环境部分的一段)。

环境方针

- 遵守法律法规、协定、与顾客达成的协议以及自主基准。
- 制定环保目标,与地区性社会一起坚持不懈组织化,推进环境负荷减低活动。
- 开发、设计、制造和销售环保产品。
- 采取环境污染预防的措置,做其监视。
- 推进教育和启发活动,以鼓动职工以及参与事业的全部人员意识到职责和责任。

2. 双信电机集团绿色采购的目的

以推进绿色采购,开发和设计环境负荷小的产品,对客户id提供环保产品为目的。

作为其环保计划之一环,从专心致力于环保的供应商优先采购环境负荷小的材料和零部件。本指南说明双信电机集团有关绿色采购的基本思想,以及对供应商出示的具体请求内容。

双信电机集团根据该指南与供应商共有环保活动的问题,协力致力于地球环保活动,从参加活动的供应商那里优先采购其产品和服务。

3. 绿色采购的适用范围

- (1) 零部件（电气部件、机构部件、半导体器件、印制电路板、线材、金属盒、螺丝、其他零部件）
- (2) 用于制品的副材料（涂料、黏合剂、焊料、其他材料）
- (3) 包装材料（料盘、卷轴、袋子、缓冲材、瓦楞纸板、带子、标签、印刷墨、其他材料）
 - * 产品中可能不含有的设备、夹工具、金属模等不适用。

4. 适用开始日

本指南自 2016 年 4 月 1 日起开始适用。

5. 环境管理物质

- (1) 关于环境管理物质的分类、环境管理物质清单
环境管理物质分为“禁止使用物质”、“管理物质”、“包装材料禁止物质”。
关于详细情况请参看附件《双信电机集团 环境管理物质清单》。
- (2) 术语的定义
 - RoHS 指令（Restriction of Hazardous Substances Directive 危害性物质限制指令）
 - ：在欧洲联盟通过的，有关电子·电气机器中所含的 6 个特别规定有害物质（铅、汞、镉、六价铬、多溴联苯类（PBBs）、多溴联苯醚类（PBDEs）限制使用的环保指令。
 - REACH 法规（Registration, Evaluation, Authorization, and Restriction of Chemicals 关于化学品注册、评估、许可和限制法案）
 - ：在欧洲联盟通过的，为人类的健康和环境保全而制定的有关化学物质使用和限制的环保规则。欧洲联盟评估物质并公开了 SVHC 清单（List of Substances of Very High Concern 高关注度物质清单）。
 - 禁止使用物质：被禁止含有的化学物质。
 - 管理物质：绿色采购适用范围中有必要对其使用的有无，使用量进行把握的化学物质。
 - 包装材料中禁止使用物质：适应于绿色采购适用范围中所用的包装和捆包材料。
 - 均质材料：无法用机械分割的不同材料，指的是“整体上一样组成”。
 - 故意添加：意味着，为了造成特别的特性、外观或质量，需要持续含有物质的时候，在产品中故意使用的行为。
 - 阈值：产品中所含的化学物质超过其阈值（或等于其阈值）时，按照本指南的要求事项必须公开其界限的浓度级。阈值的数值以重量%（百万分率或 ppm）表示，作为 1000ppm=0.1%换算。
 - 单化学物质（Substance）：指的是（素材）单质的化学物质。
 - 配制品（Preparation）：由 2 种或 2 种以上化学物质人工合成的物质，例如焊料、合金、墨水等。
 - 物品（Article）：由（成形品、零部件等）物质或配制品成形、定为特定形状，具有固定功能的物品，例如电容器、电阻、电路底版、螺栓、螺母、壳体等。
 - SDS（MSDS）（Safety Data Sheet/Material Safety Data Sheet 物质安全数据表/物质安全数据表）
 - ：有关特定化学物质对环境排出量的掌握和管理的改善促进的法律（PRTR 法，Pollutant Release and Transfer Register 法）以及劳动安全卫生法（劳安卫法）所规定的化学物质化学品，在企业间交易时，对化学品转让·供给的企业需提交的有关有害性和其处理信息的共同表格。

- JAMP : 联合物品管理促进协会
(Joint Article Management Promotion-consortium)
: 以适当管理有关含有化学物质等的信息, 在供应连锁中顺利地公开和传递信息, 推广具体结构化为目的设立的协议会。
(<http://www.jamp-info.com/>)
- MSDSplus (Material Safety Data Sheet plus 物品安全数据表外加)
: 为转递化学物质和配制品所含的化学物质信息由 JAMP 推荐的基本信息转递表。记载以物质中含有的成分为管理对象的“法律法规等的名称”、管理对象物质的“有无”、“物质名”、“CAS 编号”、“浓度”等, 转递信息的格式。
- AIS (Article Information Sheet 物质安全表)
: 转递成型品中所含的化学物质信息的, JAM 所推荐的基本信息转递表, 用于记载以成型品中所含的成分为管理对象的“法律法规等的名称”、管理对象物质的“是否含有”、“物质名”、“CAS”号码”、“浓度”等信息的, 对客户转递信息的表格。
- JAMA/JAPIA 统一资料表 (以后简称 JAMA 表)
: JAMA (Japan Automobile Manufacturers Association 日本汽车工业会) 和 JAPIA (Japan Auto Parts Industries Association 日本汽车零部件工业协会) 所提供的, 为调查零部件和材料中所含的化学物质的调查表格。
- 高精度分析数据: 依据 RoHS 检查分析的国际标准 IEC62321 “电子电气产品中限用物质的含量分析程序标准”取得的分析数据。

6. 请求供应商调查合作的委托事项

(1) 环境管理物质的管理体制

①初次交易或定期交易时, 评估贵公司的管理体制。为确认贵公司的管理体制, 本公司递送调查表等, 请填写回答。

另外, 因需访问贵事业所监查管理体制时, 请进行对应合作。

②对交纳的物品, 请遵守相关法律法规, 对附件《双信电机集团 环境管理物质清单》中规定的物质含量, 进行掌握管理。

另外, 因在本公司的主页(<http://www.soshin.co.jp>)中公开《双信电机集团环境绿色采购指南》, 请确认最新版。

③为防止环境管理物质混入和污染, 请进行识别管理。

另外, 使用再生原材料时, 请确认成分, 管理产品的制造记录。

④改变交纳物品时, 请对本公司事先提出改变申请, 互相确认后, 可改变物品。

(2) 供应商和生产委托外包公司 (即“生产外包公司”) 的管理

包括本公司的采购指南, 关于本公司的要求和信息, 请对生产外包公司进行准确的传达, 多加指教, 掌握管理。

(3) 产品所含化学物质的调查

请提交《双信电机集团 环境管理物质清单》中所规定的环境管理物质含量等信息。请及时提交本公司要求的调查资料。

*另外, 本公司的客户有时请求个别分析和调查。

<调查资料>

(1) 零部件、物品

提交条件	分类	文件名	规格等	备考
初次交易时、法律法规改订时或改变申请时	含有管理物质信息	A I S	J A M P	应适用于最新版。
	法律法规禁止物质含量分析	按均质材料各个部位的高精度分析数据（按 I C P 分析、G C - M S 等高精度分析手法的分析报告书：R o H S 指令禁止 6 个物质）	I E C 6 2 3 2 1	I S O / I E C 1 7 0 2 5 （检测所和校准实验室能力的通用要求事项）认证分析机关所发行的报告书。
	保证书	不使用保证书	本公司的格式	
要求时	构成成分信息	J A M A 表	J A M A / J A P I A	应适用于最新版。
		绿色采购（旧 J G P S S I）调查回答工具	日本国内 V T 6 2 4 7 4	应适用于最新版。

(2) 化学物质、配制品

提交条件	分类	文件名	规格等	备考
初次交易时、法律法规改订时或改变申请时	有关化学品特性和使用的信息	S D S (M S D S)	J I S Z 7 2 5 3	应适用于最新法律法规。
	含有管理物质信息	M S D S p l u s	J A M P	应适用于最新版。 不能出示 M S D S p l u s 时，请报告该法规所指定的物质含率。
	法律法规禁止物质含量分析	高精度分析数据（按 I C P 分析、G C - M S 等高精度分析手法的分析报告书：R o H S 指令禁止 6 个物质）	I E C 6 2 3 2 1	I S O / I E C 1 7 0 2 5 （关于检测所和校准实验室能力的通用要求事项）认证分析机关所发行的报告书。
	保证书	不使用保证书	本公司的格式	
要求时	构成成分信息	J A M A 表	J A M A / J A P I A	应适用于最新版。
		绿色采购（旧 J G P S S I）调查回答工具	日本国内 V T 6 2 4 7 4	应适用于最新版。

【高精度分析数据的必要事项】

请在报告书中记明如下事项：

- ①前处理法：使用法定的方法时，请填写其方法。使用不同方法时，请填写其方法。
- ②分析方法：请填写分析方法或法定的方法的名称。
- ③分析人员名：分析负责人名、分析机关名、ISO/IEC 17025 认证号码。
- ④分析日期：请提交在分析日期后 1 年以内的分析数据。
- ⑤分析结果：ND 时，请填写定量下限值。
- ⑥分析流程图：前处理中应完全溶解分析试料。已溶解后，在分析报告书或分析流程图中要记明“已完全溶解”
- ⑦电镀分析：要分别分析镀层和母体材料。
(如一起分析镀层和母体材料时，分析结果不同。)

7. 联系处

关于不清楚的问题, 请询问如下:

双信电机株式会社 环境管理室

〒385-0011 長野県佐久市猿久保 664-1

664-1 Sarukubo, Saku City, Nagano 385-0011 Japan

TEL: 0267-67-4580

FAX: 0267-68-4553

E-mail: environment@soshin.co.jp

8. 修订记录

第 1 版 2004 年 5 月 21 日

第 2 版 2006 年 9 月 19 日

主要修订点：把调查对象化学物质清单从 JGPSSI Ver. 2 改为 JIG 适应的 Ver. 3。

第 3 版 2010 年 1 月 13 日

主要修订点：把调查对象化学物清单改为 No. JIG-101 Ed2.0 Ver. 4。
为适应 REACH 规则，采用 JAMP AIS 和 MSDSplus。

第 4 版 2012 年 1 月 1 日

主要修订点：把调查对象化学物质清单变为 JIG-101 Ed 4.0。
关于禁止使用物质，追加二丁基锡化合物 (DBT) 和二辛基锡化合物 (DOT)。
采用包装材禁止物质 JIG-201 Ed1.0。

第 5 版 2013 年 12 月 1 日

主要修订点：把环境管理物质清单变更为附件《双信电机集团 环境管理物质清单》。
把禁止物质分析数据的处理方法变更为 IEC62321 规格。

第 6 版 2016 年 4 月 1 日

主要修订点：“电池”和“电池使用禁止物质”删除，物品的 SDS (MSDS) 删除。附件《双信电机集团 环境管理物质清单》修订。

Environmentally Controlled Substance List, the Group of Soshin Electric companies

Table 1: Substances prohibited from use
(Chemical substances prohibited from being contained in parts and sub-materials)

No.	Substance / category	Threshold level	Examples of use
1	Cadmium / cadmium compounds	0.01 weight % (100 ppm) in homogeneous materials	Paints, inks, conductive pastes, plastics (including rubber, film, cable jackets, adhesive, adhesive tape, and insulation tape), surface finishes (plating and coatings), glass frits, glass paste, and metals including zinc (brass and hot-dip galvanization)
		0.002 weight % (20 ppm) in homogeneous materials	Solder (purchased separately from anything else)
	Exemption: Items meeting RoHS exemption per Appendices (1)-1 and (1)-2		
2	Chromium VI/ Chromium VI compounds	0.1 weight % (1000 ppm) in homogeneous materials	Plating film, paint, ink and glass paste
3	Lead/lead compounds	0.01 weight % (100 ppm) in homogeneous materials	Paint, ink, plastics (including rubber, film, cable jacket, adhesives, adhesive tape, and insulation tape)
		0.05 weight % (500 ppm) in homogeneous materials	Solder (purchased separately from anything else)
		0.1 weight % (1000 ppm) in homogeneous materials	For applications other than those mentioned above (surface finish materials for external terminals of parts and lead wires)
	Exemption:: Items meeting RoHS exemption per Appendices (1)-1 and (1)-2		
4	Mercury / mercury compounds	Intentionally added or 0.1 weight % (1000 ppm) in homogeneous materials	All applications (fluorescent bulbs, electrical contact materials, pigments, anti-corrosion agents, switches, high-efficiency light emitters and anti-microbial processing)
5	Tributyl tin oxide (TBTO)	Intentionally added or 0.1 weight % (1000 ppm) in products	Preservative agents, fungicides, paint, anti-contamination agents, coolants, foaming agents, fire extinguishing agents and cleaning agents
6	Tri-substituted organostannic compounds	Intentionally added or 0.1 weight % (1000 ppm) in homogeneous materials	Stabilization agents, anti-oxidizing agents, anti-bacteria and anti-fungus agents, anti-contamination agents, preservative agents, fungicides, paint, pigments, dyes and anti-contamination agents

Table 1, continued

No.	Substance/ category	Threshold level	Examples of use
7	Dibutyltin (DBT) compounds	0.1 weight % (1000 ppm) of homogeneous materials	Stabilization agents for PVC, and hardening catalysts for silicon resins and urethane resins
8	Diocetyl tin compound (DOT)	0.1 weight % (1000 ppm) in homogeneous materials	Stabilization agents for PVC, and hardening catalysts for silicon resins and urethane resins
<p>Items which will be prohibited as soon as the above threshold values are reached</p> <p>(1) Textile products and leather products intended for contact with skin</p> <p>(2) Nursery products</p> <p>(3) Two-component room temperature vulcanization molding kits (RTV-2 molding kits)</p> <p>Note: Weight % of metal is to be used for the concentration in the articles. They can be exempt from applications when we stipulate specifically for contain use.</p>			
9	Polybrominated biphenyls (PBBs)	0.1 weight % (1000 ppm) in homogeneous materials	Flame retardant
10	Polybrominated diphenyl-ethers (PBDEs) including Deca BDE)	Intentionally added or 0.1 weight % (1000 ppm) in homogeneous materials	All applications, and plastic products in general
11	Polychlorinated biphenyl (PCBs) and specific substitutes (PCBs)	Intentionally added	Insulating oil, lubricating oil, electric insulating materials, solvents, electrolytes and fireproofing agents
12	Polychlorinated terphenyls (PCTs)	0.005 weight % (50 ppm) in homogeneous materials	Insulating oil, lubricating oil, electric insulating materials, solvents, electrolytes and fireproofing agents
13	Polychlorinated naphthalenes (PCNs) (more than 3 chlorine atoms)	Intentionally added	Lubricants, paints, stabilizing agents, (electric properties and flame retardancy and resistance to water
14	Short-chain chlorinated paraffins (SCCPs) (C10 - C13)	0.1 weight % in products (1000 ppm)	PVC plasticizers and flame retardant
15	Perfluoro-octane sulfonate (PFOS)	Intentionally added or 0.1 weight % (1000 ppm) in homogeneous materials	Photolithography, photograph coating materials, hydraulic fluid, metal plating, detergents and paper coating agent
<p>Exempted items</p> <p>(1) Photoresist or anti-mirror coating for photolithography processes</p> <p>(2) Photograph coating used for films, documents or printing plates</p>			

Table 1, continued

No.	Substance/ category	Threshold level	Examples of use
16	Fluorinated greenhouse gases (PFC, SF6 and HFC)	Intentionally added	Coolant, digestive aids, fire extinguishing agent, cleaning agents, insulation materials and caustic gases
17	Asbestos	Intentionally added	Insulating materials, fillers, abrading agents, dyes and heat insulating materials
18	Certain azo dyes and pigments generating some aromatic amines	0.003 weight % (30 ppm) of finished textile products and leather products	Pigments, dyes, coloring agents
	Substance falling under this category are aromatic azo dyes and pigments listed in Appendix (1)-3		
19	Ozone-layer depleting substances	Intentionally added	Coolant, foaming agents, fire extinguishing agents and cleaning agents
	Substances falling under this category are those stipulated in the Annexes to the Montreal Protocol and are given in Appendix (1)-4.		
20	Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethyl-ethyl)	Intentionally added	Adhesives, paint, printing ink, plastics, ink ribbons, putty, caulking and sealing fillers (ultraviolet absorbers)
21	Dimethyl fumarate	0.00001 weight % (0.1 ppm) in homogeneous materials	Insect repellents, anti-fungus agents
22	polyvinyl chloride (PVC) and its mixture	Intentionally added	Following applications except for applications categorized for controlled substances Heat shrinkable tubes, insulating plates, base materials for non-contact IC cards, accessories, binding bands for connecting cables, flexible flat cables (FFC), decorative sheets, labels, sheets and laminates
23	Beryllium oxide	Intentionally added	All applications
24	Hexabromocyclododecane(HBCDD)	Intentionally added	Flame retardant
25	Bis(2-ethylhexyl)phthalate(DEHP)	0.1 weight % (1000 ppm) in homogeneous materials	Plasticizer
26	Dibutyl phthalate(DBP)	0.1 weight % (1000 ppm) in homogeneous materials	Plasticizer
27	Butyl benzyl phthalate(BBP)	0.1 weight % (1000 ppm) in homogeneous materials	Plasticizer
28	Diisobutyl phthalate(DIBP)	0.1 weight % (1000 ppm) in homogeneous materials	Plasticizer

Note: The threshold levels indicated for (1) Substances prohibited from use shall be applied to liquid materials (such as conductive paste and ink), if such materials have been dried, hardened or baked.

Appendix (1) -1, substances exempted from applications by RoHS Directive

No	Exemption	Threshold level	Scope and dates of applicability
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	-	-
	1(a) For general lighting purposes < 30 W	2.5mg	-
	1(b) For general lighting purposes ≥ 30 W and < 50 W	3.5mg	-
	1(c) For general lighting purposes ≥ 50 W and < 150 W	5mg	-
	1(d) For general lighting purposes ≥ 150 W	15mg	-
	1(e) For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm	7mg	-
	1(f) For special purposes	5mg	-
2	2(a) Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp)	-	-
	2(a)(1) Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2)	4mg	-
	2(a)(2) Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5)	3mg	-
	2(a)(3) Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8)	3.5mg	-
	2(a)(4) Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12)	3.5mg	-
	2(a)(5) Tri-band phosphor with long lifetime (≥ 25 000 h)	5mg	-
	2(b) Mercury in other fluorescent lamps not exceeding (per lamp)	-	-
	2(b)(2) Non-linear halophosphate lamps (all diameters)	15mg	Expires on April 13th in 2016
	2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9)	15mg	-
	2(b)(4) Lamps for other general lighting and special purposes (e.g. induction lamps)	15mg	-
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp)	-	-
	3(a) Short length (≤ 500 mm)	3.5mg	-
	3(b) Medium length (> 500 mm and ≤ 1 500 mm)	5mg	-
	3(c) Long length (> 1 500 mm)	13mg	-

No	Exemption		Threshold level	Scope and dates of applicability
4	4(a)	Mercury in other low pressure discharge lamps (per lamp)	15mg	-
	4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index Ra > 60	-	-
	4(b)- I	P ≤ 155 W	30mg	-
	4(b)- II	155 W < P ≤ 405 W	40mg	-
	4(b)-III	P > 405 W	40mg	-
	4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner)	-	-
	4(c)- I	P ≤ 155 W	25mg	-
	4(c)- II	155 W < P ≤ 405 W	30mg	-
	4(c)-III	P > 405 W	40mg	-
	4(e)	Mercury in metal halide lamps (MH)	-	-
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	-	-	
5	5(a)	Lead in glass of cathode ray tubes	-	-
	5(b)	Lead in glass of fluorescent tubes not exceeding 0,2 % by weight	<0.2wt%	-
6	6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0,35 % lead by weight	<0.35wt%	-
	6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	<0.4wt%	-
	6(c)	Copper alloy containing up to 4 % lead by weight	<4wt%	-
7	7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	-	-
	7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for tele-communications	-	-
	7(c)- I	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	-	-
	7(c)- II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	-	-
	7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors'	-	Expires on July 21th in 2016

No	Exemption		Threshold level	Scope and dates of applicability
8	8(b)	Cadmium and its compounds in electrical contacts	-	-
9	9	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	<0.75wt%	-
	9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	-	-
13	13(a)	Lead in white glasses used for optical applications	-	-
	13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	-	-
15	15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	-	-
17	17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	-	-
18	18(b)	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 (BaSi2O5:Pb)	<1wt%	-
21	21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	-	-
24	24	Lead in solders for the soldering to machine through hole discoidal and planar array ceramic multilayer capacitors	-	-
25	25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	-	-
29	29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	-	-
30	30	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 (A) and more	-	-
31	31	Lead in soldering materials in mercury free flat fluorescent lamps (which, e.g. are used for liquid crystal displays, design or industrial lighting)	-	-
32	32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	-	-
33	33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	-	-
34	34	Lead in cermet-based trimmer potentiometer elements	-	-
37	37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	-	-
38	38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	-	-

Appendix (1) - 2, 2011/65/EU (RoHS Directive) ANNEX XIV

Applications exempt from the restriction defined in 4 (1) specialized medical equipment (category 8) and monitoring and controlling equipment (category 9)

Classification	No.	Exemption
Equipment utilising or detecting ionising radiation	1	Lead, cadmium and mercury in detectors for ionising radiation.
	2	Lead bearings in X-ray tubes.
	3	Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate.
	4	Lead in glass frit of X-ray tubes and image intensifiers and lead in glass frit binder for assembly of gas lasers and for vacuum tubes that convert electromagnetic radiation into electrons.
	5	Lead in shielding for ionising radiation.
	6	Lead in X-ray test objects.
	7	Lead stearate X-ray diffraction crystals.
	8	Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers.
Sensors, detectors and electrodes	1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.
	1b	Lead anodes in electrochemical oxygen sensors.
	1c	Lead, cadmium and mercury in infra-red light detectors.
	1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.
Others	9	Cadmium in helium-cadmium lasers.
	10	Lead and cadmium in atomic absorption spectroscopy lamps.
	11	Lead and cadmium in atomic absorption spectroscopy lamps.
	12	Lead and cadmium in metallic bonds to superconducting materials in MRI and SQUID detectors.
	13	Lead in counterweights.
	14	Lead in single crystal piezoelectric materials for ultrasonic transducers.
	15	Lead in solders for bonding to ultrasonic transducers.
	16	Mercury in very high accuracy capacitance and loss measurement bridges and in high frequency RF switches and relays in monitoring and control instruments not exceeding 20 mg of mercury per switch or relay.
	17	Lead in solders in portable emergency defibrillators.
	18	Lead in solders of high performance infrared imaging modules to detect in the range 8-14 µm.
	19	Lead in Liquid crystal on silicon (LCoS) displays.
	20	Cadmium in X-ray measurement filters.

Notes:

Exemptions quoted above are as of April 1st, 2016 and do not guarantee compatibility with requirements of the latest relevant legislation.

Please refer to the original text of the latest relevant information for the most up-to-date details.

Numbers of items exempt from RoHS requirements are exemption numbers.

Appendix (1) - 3: Aromatic amines developing from decomposition of one or more azo groups

Some aromatic amines developed by the decomposition of one or more azo groups	
Name of aromatic amine	CAS No.
4-aminoazobenzene	60-09-3
o- Anisidine	90-04-0
2-naphthylamine	91-59-8
3,3'-dichlorobenzidine	91-94-1
4-aminobiphenyl	92-67-1
benzidine	92-87-5
o-Toluidine	95-53-4
4-chloro-2-toluidine	95-69-2
2,4-toluenediamine	95-80-7
o-azotoluene	97-56-3
5-Nitro-o-toluidine	99-55-8
3,3'-dichloro-4,4'-diaminodiphenyl methane	101-14-4
4,4'-diaminodiphenylmethane(MDA)	101-77-9
4,4'-diaminodiphenyl ether	101-80-4
p-chloroaniline	106-47-8
3,3'-dimethoxybenzidine	119-90-4
3,3'-Dimethylbenzidine	119-93-7
2-methoxy-5-methylaniline	120-71-8
2,4,5-trimethylaniline	137-17-7
4,4'-diaminodiphenyl sulfide	139-65-1
2,4-diaminoanisole	615-05-4
4,4-diamino-3,3'-dimethyldiphenyl-methane	838-88-0
<p>Note: The object of control under these Standards is "azo dye/pigment that generates some aromatic amines." This refers to azo compounds that generate any of the amines listed in Appendix (1) - 3 during the reductive decomposition of azo groups.</p> <p>The threshold level of 30 ppm specified in the applicable range applies not to the azo dyes / pigments but to the amines listed in Appendix (1)-3.</p>	

Appendix (1) - 4: Ozone-layer depleting substances

Name of ozone-layer depleting substances	CAS No.
CFC-11:Trichlorofluoromethane	75-69-4
CFC-12:Dichlorodifluoromethane	75-71-8
CFC-113: Trichlorofluoroethane	76-13-1
CFC-114:Dichlorotetrafluoroethane	76-14-2
CFC-115:Chloropentafluoroethane	76-15-3
Halon -1211:Bromochlorodifluoromethane	353-59-3
Halon -1301:Bromotrifluoromethane	75-63-8
Halon -2402:Dibromotetrafluoroethane	124-73-2
CFC-13:Chlorotrifluoromethane	75-72-9
CFC-111:Pentachlorofluoroethane	354-56-3
CFC-112:Tetrachlorodifluoroethane	76-12-0
CFC-211:Heptachlorofluoropropane	422-78-6
CFC-212:Hexachlorodifluoropropane	3182-26-1
CFC-213:Pentachlorotrifluoropropane	2354-06-5
CFC-214:Tetrachlorotetrafluoropropane	29255-31-0
CFC-215:Trichloropentafluoropropane	1599-41-3
CFC-216:Dichlorohexafluoropropane	661-97-2
CFC-217: Chloroheptafluoropropane	422-86-6
Tetrachloromethane (Tetrachlorocarbon)	56-23-5
1,1,1-Trichloroethane:Methylchloroform	71-55-66
<p>Note: Typical ozone layer depleting substances are shown above. For other substances, please refer to JAMP Declarable Substances List.</p>	

(2): List of controlled substances (Chemical substances subject to examination regarding the presence in parts and sub-materials, and amounts if present)

No.	Name of substance	Threshold level	Application
1	Nickel	Intentional addition in the parts that come into contact with skin for a long period of time	Stainless steel, plating and use in contact with skin for an extended period of time (head phones, etc.)
2	Polyvinyl chloride (PVC)	0.1 weight % of products (1000ppm)	Following applications except for applications for substances prohibited from use: Resin materials, electric wire covering material, insulators, chemical resistance, transparent sheath material
3	Brominated flame retardants (other than PBDEs, and HBCDD)	See below	Flame retardants
Scope of application: Either of the following cases: (1) Total bromine contents in plastic materials of more than 1000 ppm or greater (2) Total contents in laminated printed wiring boards of more than 900 ppm of bromine in a laminated board			
4	Diisononyl phthalate (DINP) Diisodecyl phthalate (DIDP) di-n-butyl phthalate octyl (DNOP)	0.1 weight % (1,000ppm) in plasticized materials	Plasticizer, dye, pigments, paint, ink, adhesive
5	Formaldehyde	See below	Insecticide of the wood, corrosion prevention, adhesive
Scope of applications: (1) Intentional addition in products made of wood (plywood, particle boards, MDF) or in parts made of wood (2) Textile products containing formaldehyde of more than 0.0075 weight % (75ppm)			
6	Perchlorate	0.006 ppm in products	Coin cell batteries
7	Diarsenic pentoxide Diarsenic trioxide	0.1% weight % (1000ppm) in products Content of 1000 ppm or greater is prohibited on and after Jul. 1, 2014, except for applications we specifically designate...	Semiconductor substrates, glass defoaming agents, pigments, dyes, flame retardant
8	Boric acid	0.1 weight % (1000ppm) of product	Flame retardants in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
9	Disodium tetraborate, anhydrous	0.1 weight % (1000ppm) of product	Flame retardants in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
10	Tris (2-chloroethyl) phosphate (TCEP)	0.1% weight % (1000ppm) of products	flame retardant
11	Tetraboron disodium heptaoxide, hydrate	0.1 weight % (1000ppm) of product	Flame retardants in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
12	Diheptyl phthalate (DIHP)	0.1 weight % (1000ppm) of product	Plasticizers, dyes, pigments, paints, inks, adhesives and lubricants
13	Heptylundecylphthalate (DHNUP)	0.1 weight % (1000ppm) of product	Plasticizers, dyes, pigments, paints, inks, adhesives and lubricants
14	4-[4,4'-bis(dimethylaminophenyl)methylene]benzhydrylidene] 2,5-cyclohexadien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)	0.1 weight % (1000ppm) of product	Colorant for plastic and paints
15	Radioactive substance	Intentionally added	Optical properties (thorium), measuring instruments, gauges and detectors
16	Candidate substances for recognition for REACH Regulation (SVHC)	0.1 weight % (1000ppm) of product	Latest SVHC

(3) List of substances prohibited in packing / packaging materials

(Applicable to packing and packaging materials used for parts and materials delivered to us.
Also applicable to packaging materials procured by us, the Group of Soshin Electric companies)

No.	Name of substance	Threshold level	Examples of use
1	Cadmium and its compounds, chromium VI and its compounds, lead and its compounds and mercury and its compounds	Intentionally added or 0.1 weight % (1000 ppm) in total of the 4 substances of homogeneous materials indicated on the left	Pigments, paints, stabilizers for PVC
2	Halogen compounds and halogen resins	Intentionally added	Flame retardants and adhesives
	<p>Typical chemical substances falling under this category: Bromine compounds, chloride compounds, polyvinyl chloride (PVC), fluorine resins and fluorine compounds</p> <p>Exemption: When parts and materials whose main function of which is not packaging are used for packaging "When the main function is not packaging" refers to instances where intended use is for the purposes other than protection or packaging (as containers or cushions) of products.</p> <p>Example: Halogen compounds and fluorine additives used as dyes for hologram labels or printing ink</p> <p>However, halogen compounds will be exempted from application if they are prohibited substances identified in Table 3: Substances not to be contained in packing/packaging materials.</p>		
3	Cobalt chloride	When contained as an indicator in drying agents	Humidity indicator cards (HIC) and moisture indicator in silica gel

Revision records:

Revised on April 1st, 2016

Major changes:

- 1) The status of the following five substances were changed from "controlled" to "prohibited."
Hexabromocyclododecane (HBCDD), Bis(2-ethylhexyl)phthalate (DEHP), Dibutyl phthalate (DBP), Butyl benzyl phthalate (BBP) and Diisobutyl phthalate (DIBP)
- 2) The exempted items in the Dibutyltin (DBT) compounds were removed.
- 3) Substances prohibited from use in batteries were removed.