Ricoh Group's
Green Procurement Standards
＜Annex＞
Ricoh Criteria for
Environmentally Sensitive Chemical Substances

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(Version 18)

Ricoh Company.,Ltd.

Ricoh Group

Contents

1 Purpose

The purpose of this criteria is to make suppliers well aware and thoroughly understood of the intention of Ricoh Group to obtain information of and control the status of chemical substances contained in a part or material constituting Ricoh Group brand products, and to ban or reduce the use of environmentally sensitive chemical substances, for the ultimate goal of reducing the impact of Ricoh products as a whole on the environment.

2 Scope of Application

2.1 Scope of application to products

The criteria apply to products with Ricoh Group brand.

(1) Instruments and products designed, manufactured and sold by Ricoh Group.

(2) Instruments and products whose design and manufacture are commissioned by Ricoh Group to the third party and sold with Ricoh brand.

(3) Instruments and products designed and manufactured by the third party and sold with Ricoh Group brand.

2.2 Scope of application to parts and materials

(1) A part or material constituting the main body, peripheral equipment, or optional parts, etc. of products

(2) Packaging materials and packaging parts of instruments and products

(3) Instruction books

(4) Parts for service

(5) Consumables for manufacturing such as grease, adhesives, double-faced adhesive tape, packaging tape, etc.

(6) Supplies and packaging materials

3 Definition of Terms

3.1 Environmentally sensitive chemical substances

(1) Chemical substances whose uses, purposes for use or content volumes are required by the law and regulations of Japan and overseas, or voluntary criteria such as environmental label, etc. to be regulated, or expected to be regulated in the future.

(2) Chemical substances whose information on inclusion in products is required to be disclosed under laws and regulations or voluntary standards like eco-labeling at home and abroad.

(3) Chemical substances whose information on inclusion in products is possibly requested by customers at the time of bidding and the like.

(4) In addition to the above, chemical substances whose information on inclusion in products must be identified, because there is a likelihood that the restriction or information disclosure may be required with respect to the purpose of use or the content quantity of these substances in products soon.

3.2 Substances/preparations

Chemical substance: a chemical element or compound that exists in nature or is obtained via a manufacturing process. A substance includes impurities introduced in manufacturing processes, and additives required for maintenance of stability. Solvents that can be separated without affecting the stability of the single chemical substance or without changing its composition are excluded from this definition.

Preparation: A mixture or solution intentionally comprising two or more individual chemical substances.

3.3 Article

An object of specific shape, appearance, or design provided during manufacture which determines functions in final use at a level beyond that provided by its chemical composition.

In the case of equipment products, component parts and consumable supplies that are intentionally attached to the products or the packaging materials which remain with the final products fall under this category. Of those, however, the portion that is intentionally released is regarded as substances/ preparations, and therefore, not articles.

As regards supply products, paper, ink, ribbon, thermal paper and so forth fall under the category of articles. Of these, the portion that is intentionally released is regarded as substances/preparations, and therefore, not articles.

3.4 Inclusion (existence)

Refers to the content of chemical substances in products and their constituent parts and materials, and is considered to be the inclusion in both cases of intentional addition and unintentional inclusion defined below.

(1) Intentional addition

Refers to the fact that said substances are used for the purpose of improving the performance of a part or material or changing its characteristics. In addition, when said substances are used in manufacturing process, etc. and so it is clear that they are contained in the final products, it is also regarded as intentional addition.

(2) Unintentional inclusion

Refers to cases where the substance is contained in natural materials or produced in the process of reaction and cannot be technically removed in the refining process (so-called impurities), or is unintentionally mixed in or adhered to in the manufacturing process.

3.5 Inclusion prohibited substance

Substances whose inclusion in products and their component parts/materials other than for exempted applications is prohibited above the threshold level due to their environmental impact or safety concerns based on laws and regulations.

3.6 Inclusion prohibited candidate substance

Substance that are likely to be added to "Inclusion prohibited substance" soon, although the details of the regulation and the enforcement start date have not been determined.

3.7 Inclusion controlled substance

Substances that are to be monitored and controlled for inclusion in products and the articles that make up the products.

3.8 Homogeneous Material

Refer to a material which cannot be mechanically separated into two or more different materials.

The following are some examples of homogeneous material.

- Metal alloy, polymer alloy, chemical compounds, etc.
- Paint, adhesive, ink, paste, plastic polymer, glass powder, ceramic powder, etc.

A part applied with paint, print or plating can be mechanically separated into material part and coating of paint, ink or plaiting. So, each of these is a homogeneous material. “Mechanical separation” means that a material is separated into pieces by mechanical actions such as removing screws, cutting, crushing, grinding, polishing and so forth.

3.9 Inclusion threshold

Content of a substance included in a part and material, or the maximum latitude of content density. In the case of complex part that has multiple substances (materials) inside, the content density is defined as density in Homogeneous Material containing the subject substance, not as the value defining the whole part as a denominator.

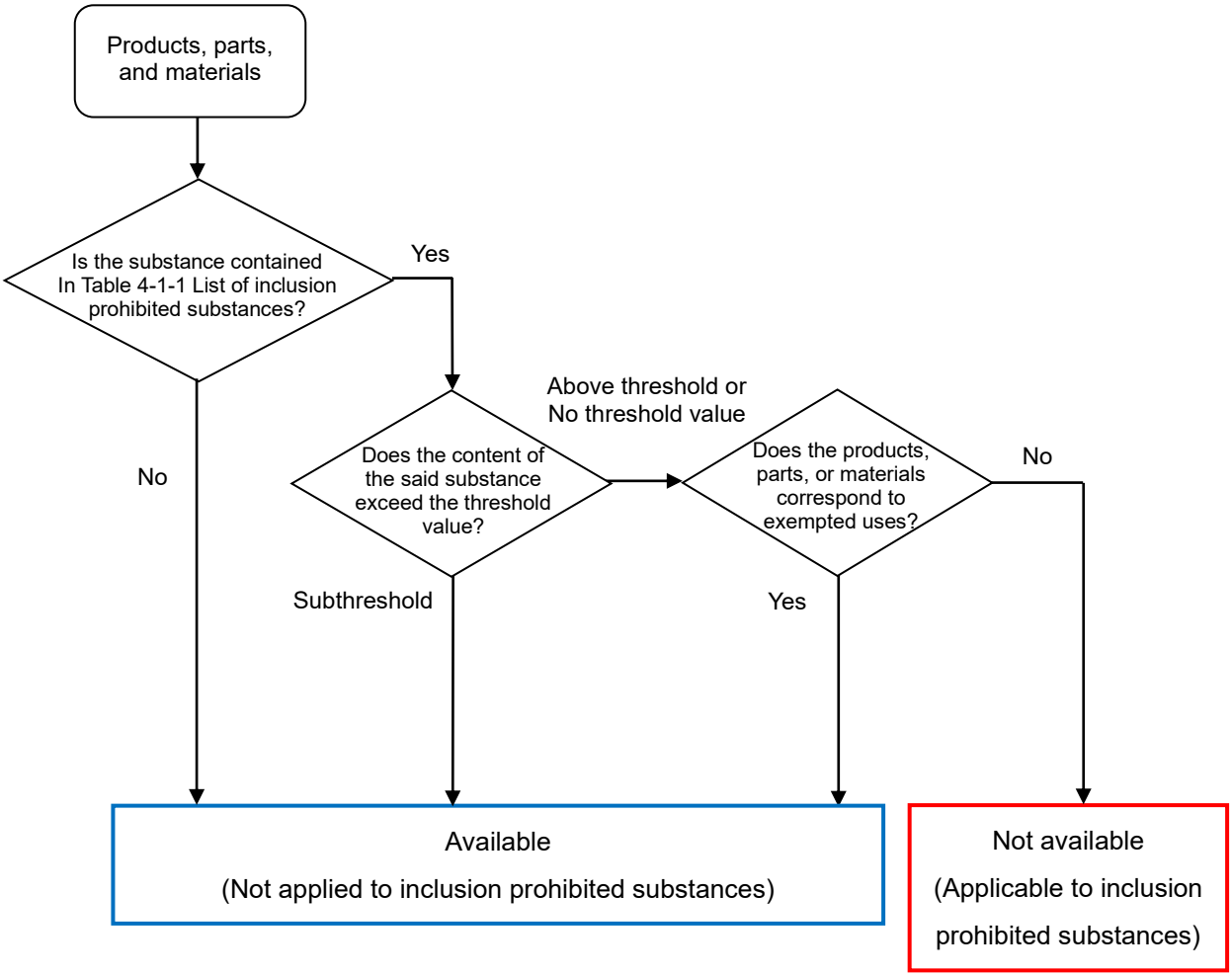
3.10 Applications exempted from content prohibition

Refers to applications and products to which the prohibition of inclusion does not apply to environmental impact chemical substances according to the exemptions in the laws and regulations.

◆Decision whether or not to use products, parts, and materials

Following the availability decision flow (Figure 1), decide whether to use products, parts, and materials.

【Figure 1】Availability decision flow



4 Ricoh criteria for managing environmentally sensitive chemical substances

4.1 Inclusion prohibited substance/ Inclusion prohibited candidate substance

Table 4-1-1 shows the list of inclusion prohibited substances and Table 4-1-2 shows the list of inclusion prohibited candidate substances.

Table 4-2-1 shows CAS No., scope and examples of use, content thresholds, applications exempted from content prohibition, and reference laws and regulations as the management criteria for inclusion prohibited substances.

◆Table 4-1-1 List of inclusion prohibited substances

No.	Name of substance
1	Polychlorinated Biphenyls (PCBs)
2	Polychlorinated Terphenyls (PCTs)
3	Polychloronaphthalenes (PCNs) (Cl≥1)
4	Polybrominated Biphenyls (PBBs)
5	Polybrominated Diphenyl ethers (PBDEs)
6	Short Chain Chlorinated Paraffins (Carbon chain length: 10-13)
7	Asbestos
8	Ozone Depleting Substances
9	Cadmium and Cadmium Compounds
10	Hexavalent Chromium Compounds
11	Lead and Lead Compounds
12	Mercury and Mercury Compounds
13	Perfluorooctanesulfonic acid and its salts (PFOS)
14	Certain Azocolourants and Azodyes
15	Tri-substituted organostannic compounds
16	Dibutyltin (DBT) compounds
17	Dioctyltin (DOT) compounds
18	Dimethyl fumarate (DMF)
19	Polycyclic aromatic hydrocarbons (PAHs)

20	Perfluorooctanoic acid (PFOA) and any related substances
21	Hexabromocyclododecane (HBCDD)
22	Bis(2-ethylhexyl) phthalate (DEHP)
23	Benzyl butyl phthalate (BBP)
24	Dibutyl phthalate (DBP)
25	Diisobutyl phthalate (DIBP)
26	Polymers in which halogens are contained structurally
27	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances
28	Phenol, isopropylated phosphate (3:1) (PIP (3:1))
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds
30	Dechlorane Plus
31	UV-328
32	Perfluorohexanoic acid (PFHxA), its salts and PFHxA-related substance
33	Halogenated flame retardants
34	Fluorinated greenhouse gases (HFCs, PFCs, SF6, HFOs)

◆Table4-1-2 List of inclusion prohibited candidate substances

No.	Name of substance
1	Per- and polyfluoroalkyl substances (PFAS)
2	Medium-chain chlorinated paraffins (MCCP, C14-17)
3	Long-chain perfluorocarboxylic acids (C15-C21 PFCAs), their salts and related compounds
4	Each chlorine and bromine (mainly halogenated flame retardants) contained in plastic parts of office equipment such as copiers and printers

◆Table 4-2-1 Ricoh criteria for inclusion prohibited substances

* Since examples of use do not cover all cases, please check with the publisher if you are not sure.

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
1	Polychlorinated Biphenyls (PCBs)	Appendix 2 No.1	All Ex：Insulating oil, Lubricant, Electric insulating medium, Solvent, Electrolyte	-	The case where it is contained as by-product, not exceeding 50 ppm	1,2
2	Polychlorinated Terphenyls (PCTs)	Appendix 2 No.2	All Ex：Insulating oil, Lubricant, Electric insulating medium, Solvent, Electrolyte	50 ppm	-	3
3	Polychloronaphthalenes (PCNs) (Cl=>1)	Appendix 2 No.3	All Ex: Lubricant, Paint, Plastic stabilizer, Electric insulating medium, Flame retardant	-	-	1,2
4	Polybrominated Biphenyls (PBBs)	Appendix 2 No.4	All Ex: Flame retardant	1000 ppm	-	3,4
5	Polybrominated Diphenyl ethers (PBDEs)	Appendix 2 No.5	All Ex: Flame retardant	RoHS subjected products：1000ppm RoHS unsubjected products: 500ppm (the sum of the concentration of tetra-, penta-, hexa-, hepta- and decaBDE) Note: DecaBDE shall be managed independently due to its un-specified threshold value.	-	1,3,4, 5 (Deca-BDE)
6	Short Chain Chlorinated Paraffins (Carbon chain length: 10-13)	Appendix 2 No.6	All Ex: PVC plasticizer, Flame retardant	1000 ppm	-	1
7	Asbestos	Appendix 2 No.7	All Ex: Brake lining pad, Insulator, Filler, Rubbing agent, Electric insulating medium, Filler, Pigment/Paint, Talc, Heat insulator	-	-	3
8	Ozone Depleting Substances	Appendix 2 No.8	All Ex: Coolant, Foaming agent, Digestive, Detergent	-	When contained as by-product	6,7,8

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
9	Cadmium and its compounds	Appendix 2 No.9	Packaging materials	100 ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	-	3,4,9,10,11,12,13
			Portable batteries (Excludes the following: Alkaline zinc-manganese dioxide portable batteries)	20 ppm *The threshold value of cadmium contained in the battery shall be calculated with the weight of cadmium in the gross weight of battery (namely, concentration of cadmium per battery), same as the definition of the European Battery Regulation.	-	
			Alkaline zinc-manganese dioxide portable batteries	10 ppm	-	
			All other than the above Ex: ・ Paint, ink ・ Additives such as pigment, dye, stabilizer in resin (including gum) materials (excluding impurities) ・ Material or a part treated with cadmium electroplating or cadmium coating. ・ Parts Electroless plated with nickel using luster, containing cadmium ・ Pigment and dye in glass and paint for glass ・ Silver brazing filler metals containing cadmium ・ Material and parts such as zinc, zinc alloy, and zinc compound, etc. (free-cutting brass rods, rubber belt, etc.) ・ Electric point of contact of DC motor, switch, relay, breaker and the like ・ Fuse element of temperature fuse ・ Fluorescent tubes (small-size fluorescent tubes, straight fluorescent tubes) ・ Fluorescent material contained in fluorescent indicator	100 ppm	-	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
10	Hexavalent Chromium Compounds	Appendix 2 No.10	Products that come into contact with skin, including leather products and leather parts	3 ppm (In total dry weight of leather)	-	3,4,11,12
			Packaging materials	100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	-	
			All other than the above Ex: ・ Paint, ink ・ Materials and parts galvanized and treated with chromate (sheet metal, screw, shafts, bearings , etc. used for general machinery components, purchased electronic components, electric power devices, etc.) ・ Materials and parts such as aluminum, copper alloys and zinc alloys chemically synthesized with chromate (treatment before painting)	1000 ppm	-	
11	Lead and its compounds	Appendix 2 No.11	Packaging materials	100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	-	3,4,9,10,11,12,13,14
			Lead in polyvinyl chloride electric wire coating	300 ppm	-	
			Portable batteries Excludes the following ・Zinc-manganese dioxide button portable batteries ・Alkaline zinc-manganese dioxide portable batteries	100 ppm *Lead content threshold in battery is calculated by the proportion of the mass of lead in the total mass of battery cell (i. e., concentration per one battery cell), in the same way as the definition in the EU Battery Regulation.	-	
			Zinc-air button portable batteries (Until February 17, 2028)	500 ppm *Portable battery threshold (100 ppm) will apply after the deadline.	-	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
			・Zinc-manganese dioxide button portable batteries ・Alkaline zinc-manganese dioxide portable batteries	40 ppm	-	
			All other than the above Ex: ・ Paint, ink ・ Additives such as pigment, dye, stabilizer in resin (including gum) materials ・ Material and parts plated with lead alloy (e.g. piano wire plated with tin) ・ Parts containing lead as lubricant (e.g. Dry bearing) ・ Optical glass, filter glass ・ Various alloys containing lead(However, exempt alloys are excluded.) ・ Solder materials (solders with Pb = 85% or less) ・ Soldered parts and units (Printed Circuit Board, electric power device, motor, clutch, sensor, etc) ・ Lead in server and storage (HDD) ・ FFC connector contact part	1000 ppm	Glass fluorescent tube with lead content of no more than 0.2wt%	
					Lead as an alloying element in steel for machining purposes containing up to 0,35 % lead by weight and in batch hot dip galvanised steel components containing up to 0,2 % lead by weight	
					・Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling ・Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight	
					Lead contained in copper alloy (no more than 4.0wt%)	
					Lead contained in high melting point solder (Lead alloy with 85wt% or more of lead content)	
					Electric and electronic parts containing lead in glass or ceramic exempt dielectric ceramic in condenser (example: piezo element), or electric and electronic parts containing lead in glass or ceramic base compound	
					Lead in dielectric ceramic in condenser with rated voltage of AC125v or DC 250 or more.	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
					Lead in dielectric ceramic in condenser with rated voltage of AC125 or less than DC250V. However , limited to the spare parts for electrical and electronic products placed on the market prior to January 1, 2013	
					Lead contained in white glass used for optical purposes	
					Lead contained in solder composed of more than two kinds of elements, and is used for joining pin and package of microprocessor, of which lead content is more than 80wt% and less than 85wt%. However, spare parts of products put on market before Jan. 1, 2011 only are applicable	
					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^2 or larger in any semiconductor technology node; — stacked die packages with die of 300 mm^2 or larger, or silicon interposers of 300 mm^2 or larger.	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
12	Mercury and its compounds	Appendix 2 No.12	Packaging materials	100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	-	3,4,9,10,11,12,13
			Batteries Excludes the following — Alkaline zinc-manganese dioxide portable batteries — Non-alkaline zinc-manganese dioxide portable batteries	5 ppm *Mercury content threshold in battery is calculated by the proportion of the mass of mercury in the total mass of battery cell (i. e., concentration per one battery cell), in the same way as the definition in the EU Battery Regulation.	-	
			・ Alkaline zinc-manganese dioxide portable batteries ・ Non-alkaline zinc-manganese dioxide portable batteries	1 ppm	-	
			All other than the above Ex: ・Dispensation into pigment, paint, ink and resin ・Relay, switch and sensor with mercury as contact poin	1000 ppm	Mercury in other discharge lamps for special purposes not specifically mentioned in EU RoHS Annex	
					Mercury in high pressure mercury vapor lamps used in projectors where an output ≥ 2000 lumen ANSI is required(effective until 24 August 2026)	
					Mercury in high pressure sodium vapour lamps used for horticulture lighting(effective until 24 August 2026)	
					Mercury in lamps emitting light in the ultraviolet spectrum(effective until 24 August 2026)	
13	Perfluorooctanesulfonic acid and its salts (PFOS)	Appendix 2 No.13	Textile, coated material	1 μg/m^2 or 1000 ppm	-	1
			All other than the above	1000 ppm		

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
14	Certain Azocolourants and Azodyes that form certain amines	Appendix 2 No.14	Fabric and leather parts/products that can come into direct contact with human skin (or mouth orifice) for extended period of time. *Only those instructed in drawings or specifications are applicable	30 ppm	-	3
15	Trisubstituted organotin compound	Appendix 2 No.15	All Ex: Antiseptic, antimold, paint, colorant, antifoulant paint, cooling medium, bloating agent, extinguishing agent, cleaning agent, stabilization agent, antioxidizing agent/age inhibitor, antibacterial and antifungal agents, antifoulant	1000 ppm *1 Concentration of tin mass after conversion into metal	-	3
16	Dibutyltin compounds	Appendix 2 No.16	All Ex: Stabilizers for vinyl chloride resin, lubricants and catalyst	1000 ppm *1	-	3
17	Dioctyltin compounds	Appendix 2 No.17	The following two uses ・ RTV-2 moulding kits) ・ Two uses of articles made of fabric with an intention to come into contact with skin	1000 ppm *1	-	3
18	Dimetylfumarate (dimethyl fumarate (DMF))	Appendix 2 No.18	All Ex: ・Antiseptic of leather products ・Desiccant (silica gel pack)	0.1 ppm		3
19	Polycyclic aromatic hydrocarbons (PAHs)	Appendix 2 No.19	Rubber or plastic components that come in direct contact with human skin or in the mouth for extended period or short period repeatedly *The suppliers of the relevant parts shall be contacted by Ricoh group individually.	1 ppm	-	3
20	Perfluorooctanoic acid (PFOA) and any related substances1: Eight substances regulated by Norwegian law	Appendix 2 No.20(a)	Textile and coated materials	1 μg/m^2	-	15
			All other than the above	1000 ppm	-	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
	Perfluorooctanoic acid (PFOA) and any related substances 2: Substance regulated by EU POPs regulation	Appendix 2 No.20(b)	All	PFOA and its salts: 25 ppb (0.025 ppm) One or a combination of related substances: 1000ppb (1 ppm) *The threshold value in the molded product is used. *Eight substances regulated by Norwegian law must meet Norwegian law standards even if they are excluded.	Equal to or below 2 mg/kg (0,0002 % by weight) where they are present in medical devices other than invasive devices and implantable devices. The use of perfluooroctyl bromide containing perfluoroctyl iodide for the purpose of producing pharmaceutical products.	
21	Hexabromocyclododecane (HBCDD)	Appendix 2 No.21	All Ex: Flame retardant	75 ppm	-	1,2
22	Bis(2-ethylhexyl) phthalate (DEHP)	Appendix 2 No.22	All Ex: Plasticizers, etc.	Electric and electronic equipment within the scope of Directive 2011/65/EC.：1000 ppm Any products other than electric and electronic equipment within the scope of Directive 2011/65/EC： 1000ppm by weight of the plasticised material including individually or in any combination of DEHP,BBP,DBP,DIBP	-	3,4
23	Benzyl butyl phthalate (BBP)	Appendix 2 No.23	All Ex: Plasticizers, etc.	Electric and electronic equipment within the scope of Directive 2011/65/EC.：1000 ppm Any products other than electric and electronic equipment within the scope of Directive 2011/65/EC： 1000ppm by weight of the plasticised material including individually or in any combination of DEHP,BBP,DBP,DIBP	-	3,4

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
24	Dibutyl phthalate (DBP)	Appendix 2 No.24	All Ex: Plasticizers, etc.	Electric and electronic equipment within the scope of Directive 2011/65/EC.：1000 ppm Any products other than electric and electronic equipment within the scope of Directive 2011/65/EC： 1000ppm by weight of the plasticised material including individually or in any combination of DEHP,BBP,DBP,DIBP	-	3,4
25	Diisobutyl phthalate (DIBP)	Appendix 2 No.25	All Ex: Plasticizers, etc.	Electric and electronic equipment within the scope of Directive 2011/65/EC.：1000 ppm Any products other than electric and electronic equipment within the scope of Directive 2011/65/EC： 1000ppm by weight of the plasticised material including individually or in any combination of DEHP,BBP,DBP,DIBP	-	3,4
26	Polymers in which halogens are contained structurally	Appendix 2 No.26	Packaging plastic parts that acquire either the Blue Angel or Eco Mark *Packaging plastic parts refer to "parts that are part of products (e.g., styrene foam, bubble cushioning material, tape, etc.)" used to wrap Ricoh Group products to prevent damage or staining when the products are placed on the market, and packaging materials used only for delivery to the Ricoh Group are excluded from the scope.	-	-	16,17,22
			Plastic enclosures for office equipment such as copiers and printers that acquire Blue Angel, Eco Mark, or EPEAT	-	-	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
27	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances	Appendix 2 No.27	All	The concentration in the substance, the mixture, or the article is below 25 ppb for the sum of C9-C14 PFCAs and their salts or 260 ppb for the sum of C9-C14 PFCA-related substances.	the concentration limit shall be 10 ppm for the sum of C9-C14 PFCAs, their salts and C9-C14 PFCA related substances, where they are present in a substance to be used as a transported isolated intermediate met for the manufacturing of fluorochemicals with a perfluoro carbon chain length equal to or shorter than 6 atoms	3
					exempted until 25 February 2028 to the can coating for pressurised metered-dose inhalers	
					exempted until 30 June 2030 to semiconductors used in spare or replacement parts for finished electronic equipment placed on the market before 31 December 2023.	
					The concentration limit shall be 100 ppb for the sum of C9-C14 PFCAs, in fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups.	
					less than 1000ppb for the sum of C9-C14 PFCAs, where these are present in PTFE micro powders produced by ionising irradiation or by thermal degradation, as well as in mixtures and articles for industrial and professional uses containing PTFE micro powders.	
28	Phenol,isopropylated phosphate (3:1) (PIP (3:1))	Appendix 2 No.28	All Ex: Plasticizers, flame retardants, plastics, etc.	-	Lubricant and grease	5
					Recycled or reused plastic	

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds	Appendix 2 No.29	All Ex: Fluorine coating, metal plating, etc.	25 ppb (0.025 ppm) for PFHxS or any of its salts 1000 ppb (1 ppm) for the sum of concentrations of all PFHxS-related compounds	-	1
30	Dechlorane Plus	Appendix 2 No.30	All Ex: Silicone rubber, lubricant, adhesive, tape, flame retardant for cable, etc.	-	-	18
31	UV-328	Appendix 2 No.31	All Ex: Lubricant, adhesive, tape, UV absorbers for plastic, etc.	-	Triacetyl cellulose (TAC) film in polarizers	18
32	Perfluorohexanoic acid (PFHxA), its salts and PFHxA-related substances	Appendix 2 No.32	Textile products	25 ppb (0.025 ppm) for the sum of PFHxA and its salts (from April 10, 2027) 1,000 ppb (1 ppm) for the sum of PFHxA-related substances (from April 10, 2027)	-	3
33	Halogenated flame retardants	Appendix 2 No.33	Plastic enclosures of office equipment such as copiers and printers that obtain Blue Angel, Eco Mark, or EPEAT	Intentional addition of organic halogen compounds prohibited	-	16,17,22
			Electronic display enclosures and stands	Total halogen content: 1,000 ppm	・Electronic displays with a screen area of 100 square centimeters or less ・Projectors ・All-in-one video conferencing systems ・Media displays ・Visual reality headsets ・Displays specified in Article 2 of the EU WEEE Directive 2012/19/EU ・Displays specified in Article 2 of the EU Erp Directive ・Industrial displays	20

No.	Substance	CAS No.	Scope/ Examples of use	Content threshold	Applications exempted from content prohibition	Reference
			Plastic enclosures of electronic devices powered by 120V outlets or batteries【from July 1, 2026】	1.Total bromine concentration: 1,000 ppm or 2.Total chlorine concentration: 1,000 ppm or 3.Total fluorine concentration: 1,000 ppm and Total Phosphours concentration: less than 5,000 ppm	-	19
34	Fluorinated greenhouse gases (HFCs, PFCs, SF6, HFOs)	Appendix 2 No.34	All Ex.: air conditioning, refrigeration/freezing equipment, chillers, fire extinguishers	-	-	21

◆About products acquiring environmental labels

Office equipment such as copiers and printers that acquire one of the environmental labels (Blue Angel, Eco Mark, EPEAT) are subject to this requirement, and Ricoh will notify individually when we ask you to conduct a content survey, etc.

◆Regarding exemption of application to supply parts

Legally some substances which the specified regulation prohibits to contain in products may be exempted from application to supply parts (service parts, maintenance parts, etc.) for products sold already on specified conditions. Accordingly there are some cases Ricoh accept to contain the above prohibited substances in parts. However, these cases are limited to the parts which Ricoh Group specify (the parts which meet the specified condition).

◆**Inclusion prohibited candidate substances**

Table 4-2-2 shows substances the reference laws and regulations for inclusion prohibited candidate substances.

We request that you take a voluntary up-front approach, such as monitoring the use of existing parts and considering future alternatives. Based on the decision of the law, the substance may be added to the list of substances whose inclusion is banned without sufficient grace period. We would also appreciate your cooperation when the Ricoh Group requests us to provide information on the content of newly adopted parts.

◆**Table 4-2-2 Inclusion prohibited candidate substances**

No.	Substance	Reference
1	Per- and polyfluoroalkyl substances (PFAS)	USA TSCA PFAS proposed regulation
		USA Maine An Act to Stop PFAS Pollution
		EU REACH proposed restriction
2	Medium-chain chlorinated paraffins (MCCP,C14-17)	18
3	Long-chain perfluorocarboxylic acids (C15-C21 PFCAs), their salts and related compounds	18
4	Each chlorine and bromine (mainly halogenated flame retardants) contained in plastic parts of office equipment such as copiers and printers	22

4.2 Substances prohibited for use in manufacturing processes

The following substances are prohibited for use in the manufacturing process. We ask for thorough elimination (nonuse) activities.

◆**Table 4-3 Substances prohibited for use in manufacturing processes**

No.	Substance	CAS No.
1	Trichloroethylene	79-01-6
2	Tetrachloroethylene	127-18-4
3	Dichloromethane	75-09-2
4	Carbon tetrachloride	56-23-5
5	1,2- dichloroethane	107-06-2
6	1,1- dichloroethylene	75-35-4

7	cis-1，2-Dichloroethylene	156-59-2
8	1,1,1- trichloroethane	71-55-6
9	1,1,2- trichloroethane	79-00-5
10	1,3-dichloropropane	542-75-6
11	Benzene *including benzene-containing products	71-43-2
12	Ozone-depleting substances (see Appendix 2)	-

4.3 Inclusion controlled substance

Inclusion controlled substances are shown in the chemSHERPA list of controlled substances [*1] (hereinafter referred to as the List of Controlled Substances), and information on chemical substance content is collected and managed by chemSHERPA-AI [*2] for articles and chemSHERPA-CI [*2]/SDS for substances/preparations.

※1. The List of Controlled Substances is published by JAMP (Joint Article Management Promotion-consortium).

※2. Data recording sheet for disclosure and transmission of information of chemical substances contained in articles and substances/preparations, provided by JAMP

4.4 Scope of application of products subject to collection of information on chemical substances in products

(1) Applicable products are Ricoh Brand equipment products including supplies, and packaging materials of these products which will be transferred to the customers (end users, business partners) eventually.

(2) Also applicable to containers/packaging materials (for materials, parts and products) for transportation, loading platform (such as pallet), and equipment/jigs to be imported to the EU.

Ricoh Group will indicate specific target products when it makes a request for the collection of information on inclusion of substances.

Appendices Table 1: List of Reference Laws, Regulations and Voluntary Criteria

No.	Laws, Regulations and Voluntary Criteria
1	EU POPs regulation Annex I
2	Chemical Substances Control Law
3	EU REACH (Annex 17 Restriction)
4	EU RoHS directive
5	US TSCA PBT regulation
6	US: ODS labeling restriction (Section 611 on the Clean Air Act Amendments of 1990)
7	Montreal Protoco
8	EU Ozone regulation
9	Japan: Law on Promoting Green Purchasing
10	EU Battery regulation
11	EU Packaging directive
12	US: The Model Toxics in Packaging Legislation
13	China: Battery Standard (GB24427-2021)
14	Proposition65 of the State of California, USA
15	Norwegian Act
16	German Blue Angel
17	Japanese Eco-mark
18	POPs Convention Annex A Elimination
19	Washington Administrative Code (Safer Products for Washington)
20	EU Erp Directive (Lot5) (Electronic Displays)
21	EU F-Gas Regulations
22	US: EPEAT

Appendices Table 2: Detailed List of Environmentally Sensitive Chemical Substances

(Note) Substances listed in this table are some of the specific examples. This list does not include all of the environmentally sensitive chemical substances.

No.	Substances	Definition/Example Substance Name	CAS No.
1	Polychlorinated biphenyls (PCBs) *The substances shown to the right are exactly alternative PCBs, however, they are listed as example PCBs since they are regulated in the European Directive.	Polychlorinated biphenyls	1336-36-3
		Aroclor 1254	11097-69-1
		Monomethyl-tetrachloro-diphenyl methane Note (Ugilec 141)	76253-60-6
		Monomethyl-dichloro-diphenyl methane Note (Ugilec 121, 21)	—
		Monomethyl-dibromo-diphenyl methane Note (DBBT)	99688-47-8
2	Polychlorinated terphenyls (PCTs)	Polychlorinated terphenyl	61788-33-8
		Aroclor 5442	12642-23-8
3	Polychloronaphthalenes (Cl=>1)	Polychloronaphthalenes	70776-03-3
		Pentachloronaphthalene	1321-64-8
4	Polybrominated biphenyls (PBBs)	Tetrabromobiphenyl	40088-45-7
		Hexabromobiphenyl	59080-40-9
		Octabromobiphenyl	61288-13-9
		Decabromobiphenyl	13654-09-6
5	Polybrominated diphenyl ethers (PBDEs)	Hexabromodiphenyl ether	36483-60-0
		Heptabromodiphenyl ether	68928-80-3
		Octabromodiphenyl ether	32536-52-0
		Nonabromodiphenyl ether	63936-56-1
		Decabromobiphenyl ether	1163-19-5
6	Short chain chlorinated paraffins	Chlorinated paraffins (with 10-13 carbon atoms)	85535-84-8
7	Asbestos	Asbestos	1332-21-4
		Actinolite	77536-66-4
		Amosite (Grunerite)	12172-73-5
		Anthophyllite	77536-67-5
		Chrysotile	12001-29-5
		Crocidolite	12001-28-4
		Tremolite	77536-68-6
8	Ozone Layer Depleting Substances CFCs Annex A Group I substances **1 Substances likely to be used commercially	CFC-11 ($CFCl_3$)	
		CFC-12 (CF_2Cl_2)	
		CFC-113 ($C_2F_3Cl_3$)	
		CFC-114 ($C_2F_4Cl_2$)	

No.	Substances	Definition/Example Substance Name	CAS No.
	are shown on the right. Also included are isomers of these substances.	CFC-115 (C_2F_5Cl)	
	Ozone Layer Depleting Substances Halons Annex A Group II substances **1	Halon-1211 (CF_2BrCl)	
		Halon-1301 (CF_3Br)	
		Halon-2402 ($C_2F_4Br_2$)	
	Ozone Layer Depleting Substances Other CFCs Annex B Group I substances **1	CFC-13 (CF_3Cl)	
		CFC-111 (C_2FCl_5)	
		CFC-112 ($C_2F_2Cl_4$)	
		CFC-211 (C_3FCl_7)	
		CFC-212 ($C_3F_2Cl_6$)	
		CFC-213 ($C_3F_3Cl_5$)	
		CFC-214 ($C_3F_4Cl_4$)	
		CFC-215 ($C_3F_5Cl_3$)	
		CFC-216 ($C_3F_6Cl_2$)	
		CFC-217 (C_3F_7Cl)	
	Ozone Layer Depleting Substances Carbon tetrachloride Annex B Group II substances **1	Carbon tetrachloride (CCl_4)	
	Ozone Layer Depleting Substances 1,1,1-trichloroethane Annex B Group III substances **1	1,1,1-trichloroethane ($C_2H_3Cl_3$)	
	Ozone Layer Depleting Substances HBFC Annex C Group II substances **1	Dibromofluoromethane ($CHFBr_2$)	
		Bromodifluoromethane (CHF_2Br)	
		Bromofluoromethane (CH_2FBr)	
		Tetrabromofluoroethane (C_2HFBr_4)	
		Tribromodifluoroethane ($C_2HF_2Br_3$)	
		Dibromotrifluoroethane ($C_2HF_3Br_2$)	
		Bromotetrafluoroethane (C_2HF_4Br)	
		Tribromofluoroethane ($C_2H_2FBr_3$)	
		Dibromodifluoroethane ($C_2H_2F_2Br_2$)	
		Bromotrifluoroethane ($C_2H_2F_3Br$)	
		Dibromofluoroethane ($C_2H_3FBr_2$)	

No.	Substances	Definition/Example Substance Name	CAS No.
		Bromodifluoroethane ($C_2H_3F_2Br$)	
		Bromofluoroethane (C_2H_4FBr)	
		Hexabromofluoropropane (C_3HFBr_6)	
		Pentabromodifluoropropane ($C_3HF_2Br_5$)	
		Tetrabromotrifluoropropane ($C_3HF_3Br_4$)	
		Tribromotetrafluoropropane ($C_3HF_4Br_3$)	
		Dibromopentafluoropropane ($C_3HF_5Br_2$)	
		Bromohexafluoropropane (C_3HF_6Br)	
		Pentabromofluoropropane ($C_3H_2FBr_5$)	
		Tetrabromodifluoropropane ($C_3H_2F_2Br_4$)	
		Tribromotrifluopropane ($C_3H_2F_3Br_3$)	
		Dibromotetrafluoropropane ($C_3H_2F_4Br_2$)	
		Bromopentafluoropropane ($C_3H_2F_5Br$)	
		Tetrabromofluoropropane ($C_3H_3FBr_4$)	
		Tribromodifluoropropane ($C_3H_3F_2Br_3$)	
		Dibromotrifluoropropane ($C_3H_3F_3Br_2$)	
		Bromotetrafluoropropane ($C_3H_3F_4Br$)	
		Tribromofluoropropane ($C_3H_4FBr_3$)	
		Dibromodifluoropropane ($C_3H_4F_2Br_2$)	
		Bromotrifluoropropane ($C_3H_4F_3Br$)	
		Dibromofluoropropane ($C_3H_5FBr_2$)	
		Bromodifluoropropane ($C_3H_5F_2Br$)	
		Bromofluoropropane (C_3H_6FBr)	
	Ozone Layer Depleting Substances Bromochloromethane Annex C Group III substances **1	Bromochloromethane (CH_2BrCl)	
	Ozone Layer Depleting Substances Methyl bromide Annex E Group I substances **1	Methyl bromide (CH_3Br)	
	Ozone Layer Depleting Substances HCFCs Annex C Group I substances **1	HCFC-21 ($CHFCl_2$)	
		HCFC-22 (CHF_2Cl)	
		HCFC-31 (CH_2FCl)	
		HCFC-121 (C_2HFCl_4)	
		HCFC-122 ($C_2HF_2Cl_3$)	

No.	Substances	Definition/Example Substance Name	CAS No.
		HCFC-123 ($C_2HF_3Cl_2$)	
		HCFC-123* ($CHCl_2CF_3$)	
		HCFC-124 (C_2HF_4Cl)	
		HCFC-124* ($CHFClCF_3$)	
		HCFC-131 ($C_2H_2FCl_3$)	
		HCFC-132 ($C_2H_2F_2Cl_2$)	
		HCFC-133 ($C_2H_2F_3Cl$)	
		HCFC-141 ($C_2H_3FCl_2$)	
		HCFC-141b* (CH_3CFCl_2)	
		HCFC-142 ($C_2H_3F_2Cl$)	
		HCFC-142b* (CH_3CF_2Cl)	
		HCFC-151 (C_2H_4FCl)	
		HCFC-221 (C_3HFCl_6)	
		HCFC-222 ($C_3HF_2Cl_5$)	
		HCFC-223 ($C_3HF_3Cl_4$)	
		HCFC-224 ($C_3HF_4Cl_3$)	
		HCFC-225 ($C_3HF_5Cl_2$)	
		HCFC-225ca* ($CF_3CF_2CHCl_2$)	
		HCFC-225cb* (CF_2ClCF_2CHClF)	
		HCFC-226 (C_3HF_6Cl)	
		HCFC-231 ($C_3H_2FCl_5$)	
		HCFC-232 ($C_3H_2F_2Cl_4$)	
		HCFC-233 ($C_3H_2F_3Cl_3$)	
		HCFC-234 ($C_3H_2F_4Cl_2$)	
		HCFC-235 ($C_3H_2F_5Cl$)	
		HCFC-241 (C_3H_3FCl4)	
		HCFC-242 ($C_3H_3F_2Cl_3$)	
		HCFC-243 ($C_3H_3F_3Cl_2$)	
		HCFC-244 ($C_3H_3F_4Cl$)	
		HCFC-251 ($C_3H_4FCl_3$)	
		HCFC-252 ($C_3H_4F_2Cl_2$)	
		HCFC-253 ($C_3H_4F_3Cl$)	
		HCFC-261 ($C_3H_5FCl_2$)	
		HCFC-262 ($C_3H_5F_2Cl$)	
		HCFC-271 (C_3H_6FCl)	
9	Cadmium and its compounds	Cadmiumestos	7440-43-9

No.	Substances	Definition/Example Substance Name	CAS No.
		Cadmium oxide	1306-19-0
		Cadmium sulfide	1306-23-6
		Cadmium chloride	10108-64-2
		Cadmium sulfate	10124-36-4
10	Hexavalent chromium compounds	Barium chromate	10294-40-3
		Calcium chromate	13765-19-0
		Chromium trioxide	1333-82-0
		Lead(II)chromate	7758-97-6
		Sodium chromate	7775-11-3
		Sodium bichromate	10588-01-9
		Strontium chromate	7789-06-2
		Potassium dichromate	7778-50-9
		Potassium chromate	7789-00-6
		Zinc chromate	13530-65-9
11	Lead and its compounds	Lead	7439-92-1
		Lead (II) sulfate	7446-14-2
		Lead(II)carbonate	598-63-0
		Lead hydrocarbonate	1319-46-6
		Lead acetate	301-04-2
		Lead (II) acetate, trihydrate	6080-56-4
		Lead phosphate	7446-27-7
		Lead selenide	12069-00-0
		Lead(IV)oxide	1309-60-0
		Lead (II, IV) oxide	1314-41-6
		Lead(II)sulfide	1314-87-0
		Lead (II) oxide	1317-36-8
		Lead (II) carbonate basic	1319-46-6
		Lead hydroxidcarbonate	1344-36-1
		Lead (II) chromate	7758-97-6
		Lead (II) titanate	12060-00-3
		Lead sulfate	15739-80-7
		Lead sulphate	12202-17-4
		Lead stearate	1072-35-1
12	Mercury and its compounds	Mercury	7439-97-6
		Mercuric chloride	33631-63-9

No.	Substances	Definition/Example Substance Name	CAS No.
		Mercury (II) chloride	7487-94-7
		Mercuric sulfate	7783-35-9
		Mercuric nitrate	10045-94-0
		Mercuric(II)oxide	21908-53-2
		Mercuric sulfide	1344-48-5
13	Perfluorooctanesulfonic acid and its salts(PFOS)	Definition: Perfluorooctanesulfonic acid and its salts (PFOS) derived from the following molecular formula are controlled. [Molecular formula] C7F17SO2X (X = OH, Metal salt, halide, amide, and other derivatives including polymers).	
		Perfluorooctanesulfonic acid	1763-23-1
		Perfluorooctanesulfonic acid (ammonium salt)	29081-56-9
		Perfluorooctanesulfonic acid (diethanol amine salt)	70225-14-8
		Perfluorooctanesulfonic acid (potassium salt)	2795-39-3
		Perfluorooctanesulfonic acid (lithium salt)	29457-72-5
14	Certain Azocolourants and Azodyes that form certain amines *Certain azocolourants and azodyes which form certain aromatic amines by decomposition have no specific example information for example substances. *A detailed list of certain amines is shown on the right.	4- aminoazobenzene ($C_{12}H_{11}N_3$)	60-09-3
		o- anisidine (C_7H_9NO)	90-04-0
		2- naphthylamine ($C_{10}H_9N$)	91-59-8
		3,3'- dichlorobenzidine ($C_{12}H_{10}Cl_2N_2$)	91-94-1
		4- Biphenyl-4-ylamine ($C_{12}H_{11}N$)	92-67-1
		benzidine ($C_{12}H_{12}N_2$)	92-87-5
		o- toluidine (C_7H_9N)	95-53-4
		4- chloro-2-methylamine (C_7H_8ClN)	95-69-2
		2,4- toluenediamine ($C_7H_{10}N_2$)	95-80-7
		o- aminoazotoluene ($C_{14}H_{15}N_3$)	97-56-3
		5- nitro-o-toluidine ($C_7H_8N_2O_2$)	99-55-8
		3,3'- Dichloro-4,4'-diaminodiphenylmethane ($C_{13}H_{12}Cl_2N_2$)	101-14-4
		4,4'- methylenedianiline ($C_{13}H_{14}N_2$)	101-77-9
		4,4'- diaminodiphenylether ($C_{13}H_{14}N_2O$)	101-80-4
		p- chloraniline (C_6H_6ClN)	106-47-8
		3,3'- dimethoxybenzidine ($C_{14}H_{16}N_2O_2$)	119-90-4
		3,3'- dimethylbenzidine ($C_{14}H_{16}N_2$)	119-93-7
		2- methoxy-5-methylamiline ($C_8H_{11}NO$)	120-71-8
		2,4,5- trimethylaniline ($C_9H_{13}N$)	137-17-7
		4,4'- thiodianiline ($C_{12}H_{12}N_2S$)	139-65-1
		2,4- methoxy-m-phenylenediamine ($C_7H_{10}N_2O$)	615-05-4

No.	Substances	Definition/Example Substance Name	CAS No.
		4,4'-dimethyl-3,3'-diaminodiphenylmethane ($C_{15}H_{18}N_2$)	838-88-0
15	Trisubstituted organotin compound (Continued to the next page) *Includes bis tributyltin oxide (TBTO), tributyltins (TBTs) and triphenyltin (TPTs).	Bis tributyltin oxide	56-35-9
		Triphenyltin N,N-dimethyldithiocarbamate	1803-12-9
		Triphenyltin fluoride	379-52-2
		Triphenyltin acetate	900-95-8
		Triphenyltin chloride	639-58-7
		Triphenyltin hydroxide	76-87-9
		Triphenyltin fatty acid salts (C=9-11)	18380-71-7 18380-72-8 47672-31-1 94850-90-5
		Triphenyltin chloroacetate	7094-94-2
		Tributyltin methacrylate	2155-70-6
		Bis (tributyltin) fumarate	6454-35-9
		Tributyltin fluoride	1983-10-4
		Bis(tributyltin)=2,3-dibromosuccinate	31732-71-5
		Tributyltin acetate	56-36-0
		Tributyltin laurate	3090-36-6
		Bis (tributyltin) phthalate	4782-29-0
		Copolymer of alkyl acrylate, methyl methacrylate and tributyltin methacrylate (alkyl; C=8)	67772-01-4
		Tributyltin sulfamate	6517-25-5
		Bis(tributyltin)maleate	14275-57-1
		Mixture of tributyltin cyclopentanecarboxylate and its analogs (Tributyltin naphthenate)	5409-17-2
		Tributyltin-1,2,3,4,4A,4B,5,6,10,10A-decahydro-7-isoplopyl-1,4A-dimethyl phenanthrencarboxylatemix	26239-64-5
		Trimethyltin chloride	1066-45-1
		Trimethyltinsulphate	63869-87-4
		Trimethyltin (IV) hydroxide	56-24-6
		Triethyltin(IV) chloride	994-31-0
		Triethyltin hydroxide	994-32-1
		Tripropyltin chloride	2279-76-7
		Tripropyltin iodoacetate	73927-92-1
16	Dibutyltin compounds	Dibutyltin	1002-53-5
		Dibutyltin maleate	10192-92-4
		Bis[[(Z)-4-methoxy-1,4-dioxo-2-butenyl] oxy]dibutylstannane	15546-11-9
		Bis(2-ethylhexanoic acid)dibutyltin	2781-10-4

No.	Substances	Definition/Example Substance Name	CAS No.
		Dibutyltin dichloride; (DBTC)	683-18-1
		Dibutyltin oxide	818-08-6
17	Dioctyltin compounds	Dialkyl(C＝1～8)tin bis｛alkyl (or alkenyl, C=6～18) thioglycollate)	15571-58-1
		Dioctyltin maleate	16091-18-2
		Dioctyltin	26401-97-8
		Dioctyltinbis (Maleic acid monoalkyl(C＝6～224) ester) salt	33568-99-9
		Dibutyltin dichloride	3542-36-7
18	Dimetylfumarate (dimethyl fumarate（DMF）)	Dimetylfumarate (dimethyl fumarate（DMF）)	624-49-7
19	Polycyclic aromatic hydrocarbons (PAHs) * Regulated substances are shown on the right.	BENZO(a)PYRENE ($C_{20}H_{12}$)	50-32-8
		BENZO(e)PYRENE ($C_{20}H_{12}$)	192-97-2
		BENZO(a)ANTHRACENE ($C_{18}H_{12}$)	56-55-3
		CHRYSENE ($C_{18}H_{12}$)	218-01-9
		BENZO(b)FLUORANTHENE ($C_{20}H_{12}$)	205-99-2
		BENZO(j)FLUORANTHENE ($C_{20}H_{12}$)	205-82-3
		BENZO(k)FLUORANTHENE ($C_{20}H_{12}$)	207-08-9
		BENZO(k)FLUORANTHENE ($C_{22}H_{14}$)	53-70-3
20(a)	Perfluorooctanoic acid (PFOA) and any related substances1: Eight substances regulated by Norwegian law *Regulated substances are shown on the right.	PFOA-perfluorooctanoic acid	335-67-1
		Ammonium salt of PFOA	3825-26-1
		Perfluorooctanoic acid sodium salt: Sodium salt of PFOA	335-95-5
		Potassium salt of PFOA	2395-00-8
		Silver salt of PFOA	335-93-3
		Pentadecafluorooctyl fluoride	335-66-0
		Pentadecafluoro-octanoicacid methylester	376-27-2
		Pentadecafluoro-octanoicacid ethylester	3108-24-5

No.	Substances	Definition/Example Substance Name	CAS No.
20(b)	Perfluorooctanoic acid (PFOA) and any related substances 2: Substance regulated by EU POPs regulation	Definition: (i)perfluorooctanoic acid, including any of its branched isomers; (ii)its salts; (iii)PFOA-related compounds which, for the purposes of the Convention, are any substances that degrade to PFOA, including any substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the moiety (C7F15)C as one of the structural elements. The following compounds are not included as PFOA-related compounds: (i)C8F17-X, where X = F, Cl, Br; (ii)fluoropolymers that are covered by CF3[CF2]n-R', where R'=any group, n> 16; (iii)perfluoroalkyl carboxylic acids (including their salts, esters, halides and anhydrides) with ≥ 8 perfluorinated carbons; (iv)perfluoroalkane sulfonic acids and perfluoro phosphonic acids (including their salts, esters, halides and anhydrides) with ≥ 9 perfluorinated carbons; (v)perfluorooctane sulfonic acid and its derivatives (PFOS)	
21	Hexabromocyclododecane (HBCDD) *Regulated substances are shown on the right.	Hexabromocyclododecane（HBCDD）	25637-99-4
			4736-49-6
			65701-47-5
			138257-17-7
			138257-18-8
			138257-19-9
			169102-57-2
			678970-15-5
			678970-16-6
			678970-17-7
		1,2,5,6,9,10-Hexabromocyclododecane（HBCDD）	3194-55-6
		α-Hexabromocyclododecane（HBCDD）	134237-50-6
		β-Hexabromocyclododecane（HBCDD）	134237-51-7
		γ-Hexabromocyclododecane（HBCDD）	134237-52-8
22	Bis(2-ethylhexyl) phthalate (DEHP)	Same as left	117-81-7
23	Benzyl butyl phthalate (BBP)	Same as left	85-68-7
24	Dibutyl phthalate (DBP)	Same as left	84-74-2
25	Diisobutyl phthalate (DIBP)	Same as left	84-69-5

No.	Substances	Definition/Example Substance Name	CAS No.
26	Polymers in which halogens are contained structurally *"Polymers in which halogens are contained structurally and polymers to which halogenated compounds are added" cover the scope of “halogen-containing polymers” described in both German Blue Angel and "Japanese Eco-mark”.	PVC etc.	-
27	Typical perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances *Definitions and main subject substances are shown on the right.	Definition: Linear and branched perfluorocarboxylic acids of the formula CnF2n+1-C(= O)OH where n = 8, 9, 10, 11, 12, or 13 (C9-C14 PFCAs), including their salts, and any combinations thereof; Any C9-C14 PFCA-related substance having a perfluoro group with the formula CnF2n+1- directly attached to another carbon atom, where n = 8, 9, 10, 11, 12, or 13, including their salts and any combinations thereof; Any C9-C14 PFCA-related substance having a perfluoro group with the formula CnF2n+1- that it is not directly attached to another carbon atom, where n = 9, 10, 11, 12, 13 or 14 as one of the structural elements, including their salts and any combinations thereof. The following substances are excluded from this designation - CnF2n+1-X, where X = F, Cl, or Br where n = 9, 10, 11, 12, 13 or 14, including any combinations thereof, - CnF2n+1-C(= O)OX' where n> 13 and X'=any group, including salts. C9-C14 PFCA-related substances are substances that, based on their molecular structure, are considered to have the potential to degrade or be transformed to C9-C14 PFCAs.’	
		Perfluorononan-1-oic acid (PFNA)	375-95-1
		Nonadecafluorodecanoic acid (PFDA)	335-76-2
		Henicosafluoroundecanoic acid (PFUnDA)	2058-94-8
		Tricosafluorododecanoic acid (PFDoDA)	307-55-1
		Pentacosafluorotridecanoic acid (PFTrDA)	72629-94-8
		Heptacosafluorotetradecanoic acid (PFTDA)	376-06-7
		perfluorononan-1-oic acid sodium salts	21049-39-8
		ammonium nonadecafluorodecanoate	3108-42-7
		sodium nonadecafluorodecanoate	3830-45-3
		Perfluorononan-1-oic acid ammonium salts	4149-60-4
28	Phenol, isopropylated phosphate (3:1) (PIP (3:1))	Same as left	68937-41-7

No.	Substances	Definition/Example Substance Name	CAS No.
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds	Definition: Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds means the following (i) perfluorohexane sulfonic acid, including any of its branched isomers; (ii) its salts (iii) PFHxS-related compounds which are any substance that contains the chemical moiety $C_6F_{13}S$- as one of its structural elements and that degrades to PFHxS.	355-46-4
30	Dechlorane Plus	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene (Dechlorane Plus)	13560-89-9
		cis isomer	135821-03-3
		anti-isomer	135821-74-8
31	UV-328	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	25973-55-1
32	Perfluorohexanoic acid (PFHxA), its salts and PFHxA-related substances	Definition: Perfluorohexanoic acid (PFHxA), its salts and PFHxA-related substances means the following (i)Having a linear or branched perfluoropentyl group with the formula C5F11- directly attached to another carbon atom as one of the structural elements (ii)Having a linear or branched perfluorohexyl group with the formula C6F13-. (iii)PFHxA-related substances are substances that, based on their molecular structure, are considered to have the potential to degrade or be transformed to PFHxA. The following substances are excluded from this designation: (i)C6F14 (ii)C6F13-C(=O)OH、C6F13-C(=O)O-X' or C6F13-CF2-X' (where X'=any group, including salts) (iii)Any substance having a perfluoroalkyl group C6F13- directly attached to an oxygen atom at one of the non-terminal carbon atoms.	
33	Halogenated flame retardants	Bromine, chlorine, fluorinated flame retardants, etc.	
34	Fluorinated greenhouse gases (HFCs, PFCs, SF6, HFOs)	For details on target substances and prohibited applications, see the F-Gas Regulations below. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202400573#d1e2327-1-1	

Revision history

Revised date	Edition	Content of the revision
Dec., 2006	Version 1.0	<Annex> Newly established as “Environmentally sensitive substances: Imaging system equipment products Volume” * Content of the revision of Green Procurement Standards Fourth Edition 1) Changed the scope of application from Ricoh Group brand products as a whole to the imaging system equipment products with Ricoh Group 2) Banned substances were reduced from 16 substance groups to 14 substance groups 1. Polyvinyl chloride (PVC) → Transferred to substances subject to regulated use (the new classification) 2. Transferred medium chain and long chain chlorinated paraffines (CPs) to substances subject to regulated use. (Note) Short chain chlorinated paraffines (CPs) shall remain as a banned substance. 3. Transferred HFCs, PFCs and SF_6 to substances subject to controlled use. 3) Newly established a classification of “substances subject to regulated use”. 4) Reviewed the purposes for use and threshold of cadmium ・As for the threshold of content by unintentional addition, 75ppm shall apply as far as the substance is used for surface treatment, coloring and stabilizing agent of plastic. For other uses, the threshold of 100ppm shall apply. 5) With respect to lead in electroless nickel-plating, Intentional addition of hexavalent chromium (threshold of 100ppm) is exempted from the application. 6) Substances subject to controlled use were reduced from 50 substance groups to 27 substance groups. In addition, control level is limited to intentional addition only. They were also classified into substances listed as “A” (10 substance groups), of which content volumes must be grasped, and substances listed as “B” (17 substance groups), of which content volumes need not be grasped. 7) “Fireproof ceramic fiber subject to EU WEEE Directive” is newly added as a substance subject to controlled use. 8) Others 1. Review of purposes for use and examples of use of banned substances Reflection of EU RoHS Directive exempt uses, etc. 2. An item of “homogeneous material” is added in the definition of terms. 3. Detailed list of chemical substances groups is added (Example of substances, CAS NO.)
Apr., 2008	Version 2.0	1) Added Infotec to Ricoh Group’s brand names 2) Changed descriptions of Banned Substances 3) Added PFOS to Banned Substances 4) Deleted threshold limit value for PCB and PCT content. 5) Changed threshold limit value for a cadmium content from 75 ppm to 100 ppm. 6) Changed wording of exempt use of lead (lead contained in alloys) 7) Removed “button battery” from exempt use of mercury. 8) Reclassified medium and long chain chlorinated paraffins from Controlled Use Substances to Controlled Use Substances B. 9) Reclassified some azo dyes and pigments that form certain amines from Controlled Use Substances A to Controlled Use Substances. 10) Changed descriptions of the method of analysis of Banned Substances and added the method of analysis of PFOS. 11) Changed Appendices Table 2: Detailed List of Environmentally Sensitive Chemical Substances

		12) Changed telephone number of contacts.
Mar., 2009	Version 3.0	1. Background of the revision Revision was performed to comply with EU REACH regulations, and in accordance with the revision of substances whose inclusion is banned by Ricoh Groups 2. Main details of the revision 2.1 Title and related items (1) Deleted the phrase, “For Imaging system equipment products” from the title of this volume and revised the title of this volume to Ricoh Criteria for Environmentally Sensitive Chemical Substances. In addition, deleted the word, “imaging system” from the entire text. (2) Replaced the terms, “banned substances, substances subject to regulated use, and substances subject to regulated use”, by the terms, “substances whose inclusion if banned, substances whose inclusion is regulated (restricted), and substances subject to controlled use,” respectively in the entire text. 2.2 Section 2.1 Scope of application to products (1) Added RICOH｜IBM brand logos in (3) in this section. 2.3 Section 2.2 Scope of application to parts and materials (1) Deleted the Note in (2) in this section, “Excluding packaging materials and material handlings used for delivery,” because they are within the scope of application with respect to substances whose inclusion is banned. (2) Regarding (6) in this section, deleted the specific items in the product group, and the Note, “as provided in separate regulations”, for the same reason as mentioned in the above section. 2.4 Section 3 Definition of terms (1) Added definitions of Section 3.2 and 3.3 and revised the definitions from Section 3.4 to 3.7. (2) Added [Figure 1] in Section 3.4 and clarified the interpretation of the definition of substances whose inclusion is banned. (3) Replaced the term “parts/materials” from Section 3.4 to 3.6 by the term “articles”. 2.5 Section 4.1 Substances whose inclusion is banned (1) Transferred the substance listed as No.16 in the “List of substances whose inclusion is restricted (Table 4-2-1) to Table 4-1-1: List of substances whose inclusion is banned, and Table 4-1-2: Ricoh criteria for substances whose inclusion is banned, respectively (revised from restricted substance to banned substance) 2.6 Section 4.3 Substances whose inclusion is subject to management (1) In accordance with the expansion of substances whose inclusion is subject to management, added the description on new establishment/disclosure of the list of chemical substances whose inclusion is subject to management, and the collection of information on contained chemical substances. (2) Added the scope of application of products whose information is to be collected in Section 4.3.1 and left the statement in Section 4.3.2. that the current survey on environmental impact information would be conducted. (3) Added a statement on the new establishment/issuance of Operation Manual of chemical substances information collection system, and AIS Preparation Guidance. (4) Revised the structure of Appendices Tables 1 to 4, to make them conform to the management levels of above-mentioned substances whose

		inclusion is banned, subject to restriction, and subject to management, respectively.
Mar., 2010	4th edition	1. Background of revision In accordance with added substances in REACH Annex ⅩⅦ Restriction and SVHC, the revision was implemented to add Ricoh Group's banned substances and substances subject to management. 2. Main content of revision 2.1 Section 2. Scope of Application (1) The brand logo of "IKON" was added to the Ricoh Group brand. 2.2 Section 3. Definition of Terms (1) In the definition of Article in Section 3.2, the wording "that are intentionally attached to the products or the packaging materials" was added with respect to consumable supplies which remains with the final products. (2) In Section 3.4, a qualifying statement was added to ban intentional addition of heavy metals to packaging materials as well. The Model Toxics in Packaging Legislation (GONEG) prohibits intentional addition of these heavy metals and requires that their total mass not exceed the defined value. In compliance with this requirement, this standard banned intentional addition up to the Version 2.0. However, in the revised Version 3.0 in which "intentional addition was abolished," this measure was omitted. Thus, in this version, the ban on intentional addition was revived as regards packaging materials. Similarly, a note was added in the management standards of packaging materials, stating "the total concentration in each packaging material must not be more than the threshold." 2.3 Section 4. Ricoh criteria for managing environmentally sensitive chemical substances (1) In accordance with revised REACH Annex ⅩⅦ Restriction, 3 additional substances (No. 15-17) were included in Table 4-1-1. Because TBTO, TBTs and TPTs (former Version 7 and 8) are types of Tri-substituted organostannic compounds in No. 15, they were included as such. (2) The coverage of JIG list in the same table was deleted because we decided to eliminate this list as a consideration item. Similarly, it was deleted from Tables 4-2-1, 4-3-1 and 4-3-2. (3) No.8 (Ozone depleting substances) in Table 4-1-2 may be contained as traces of byproduct in polycarbonate resin and polycarbonate compound resin manufactured by interfacial polycondensation. Because complete elimination of the byproduct is impossible by current industrial technology, and also because the level of content does not have any personal or environmental impact, it was added as exempt. (4) The banned purposes and uses of No. 11 (Lead and lead compounds) and No. 13 (PFOS) were updated based on the Ricoh Standards. (5) The wording, "EU RoHS directive exempt uses and purposes", was deleted completely, because they are not necessarily in conformity with exempt uses and purposes of Ricoh. (6) The exempt uses and purposes specified by Ricoh in No. 11 (Lead and lead compounds) were deleted. (7) The same table, control level and exempt uses and purposes for substances from No. 15 to 17, which were newly added in this revision, were clearly stated. (8) Table 4-1-4 was newly added, which is Ozone depleting substances banned from inclusion in products, transferred from the text of Green Procurement Standards. (9) By adding Section 4.4, the ozone depleting substances and the list of chloric organic solvent banned from use in manufacturing process were transferred (added) here from the text of Green Procurement Standards. 2.4 Appendices Table

		(1) 3 additional substances were entered in the Appendices Table 1, and the laws and regulations were updated to the latest version. (2) In the same table, “(2) Industrial standard” was changed from JIG to JAMP, and the column” (3) Environmental label, etc.” was deleted, because it is not established as a consideration item. (3) Exemplary substances of additional 3 substances (No. 15-17) were included in Appendices Table 2.
Mar., 2011	Version 5.0	1. Background of revision In response to the revision of EU RoHS Directive, we newly added substances banned from inclusion and reviewed exempt uses. 2. Main content of revision (1) Updated Ricoh Group Brand in the applicable range of products in section 2.1 to the latest one. (2) Added DMF (No.18) to substances banned from inclusion in Table 4-1-1. Also added DMF to the following Table 4-1-2 and the separate Tables 1 and 2, and clarified threshold and banned period of delivery, etc. (3) Deleted No. 9 exempt purposes of use of Cadmium in Table 4-1-2 (There is no exempt use). (4) Reflected the revision details of EU RoHS in the exempt use of No. 11: lead and No.12: mercury (Please see the said section for the details). (5) Added high-pressure mercury lamp as the light source of projector as an independent exempt use of Ricoh Group. (6) Added “④ In case of use to meet the requirement of safety standard of Ricoh Group” to exempt use in Table 4-2-2 regarding substance of which inclusion is included in Section 4.2. (7) Clearly mentioned that “Ricoh Group List of substances subject to management that are contained in Articles” in Section 4.3 was the list of substances subject to management of JAMP, and indicated its URL at the end of this article. (8) Updated the name of contact department for inquiries, and the name of organization responsible for the publishing, which is written in the back.
Sep., 2011	Version 5.1	1. Background of revision Based on Ricoh Groups’ Policy, revise start date of substances banned (exempt period) to 3months ahead of RoHS Directive date 2. Main revision (1) No.11 lead exempt period (Lead in dielectric ceramic in condenser with rated voltage of AC 125v or DC 250 less) in table 4-1-2, revise end date to 2012/09/30 (2) Revise effective period of No.12 lead exempt rules in the same table to 3months ahead of each schedule
Dec., 2011	Version 6.0	1. Background of revision Formally finish Environmental Impact Information Survey (43subsances survey) which had been conducted so far, unifying AIS provided by JAMP（Japan article management Promotion-consortium) with MSDS plus survey, conducting revision of green procurement standards. 2. Main revision (1) Deleted description of 4.3.2. Environmental Impact Information Survey, contained chemical substances list of 4-3-1～4-3-4 , example of purpose and use. (2) Deleted Annex 1 of [Substances A] and [Substances B] (3) Correcting description misses of 5.1version Use case of Mercury and Mercury Compounds [Standard lifetime lamp using three band fluorescent light with radius of over 28mm (Example: T12)], its effective period was revised to one year after.

May, 2012	Version 7.0	1. Background of revision Until now, PVC contained in products is restricted to use since we concerned environmental impact after product disposal and hazardous property of additives. At this time, we have reviewed a scope of PVC restricted use by confirming public movement and concern surrounding PVC. Also, we have changed the management criteria as METI issued "About manufacturing and importation of organic pigments containing residual PCB (Poly Chlorinated Biphenyls)". 2. Main Revision (1) The definition of inclusion restricted substances is deleted. (2) Exempted uses for PCB are set. (3) Threshold value (2000ppm) for button battery is added. (4) Expired threshold value for “mercury and its compounds” is deleted. (5) Description of 4.2 inclusion restricted substances and management criteria of inclusion restricted substances from Table4-2-1 to Table4-2-2 are deleted.
Apr., 2015	Version 8.0	1. Background of revision The establishment and revision of laws and regulations related to chemical substances contained in products have been reflected. 2. Main Revision (1) Added polycyclic aromatic hydrocarbons (PAHs) to the banned substances. (2) Added the criteria of "leather products" to the prohibited use of hexavalent chromium and its compounds. (3) Added the period for the ban on delivery of "button battery" as exemption of mercury and its compounds. (4) Deleted the exempt application of dibutyltin compounds, whose period had elapsed.
Apr., 2016	Version 9.0	1. Background of revision The establishment and revision of laws and regulations related to chemical substances contained in products have been reflected. Also, we reviewed the need of reference information related to analytical methods. 2. Main Revision (1) Added the following substances to the list of substances of which inclusion is banned. ·Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA ·Hexabromocyclododecane (HBCDD) ·Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST) ·Bis(2-ethylhexyl) phthalate (DEHP) ·Benzyl butyl phthalate (BBP) ·Dibutyl phthalate (DBP) ·Diisobutyl phthalate (DIBP) (2) Deleted "[Reference] Regarding methods for analyzing substances whose inclusion is banned". (Reason: More professional and detailed information is disclosed on web sites, etc.)
Jan., 2017	Version 10.0	1. Background of revision

		The establishment and revision of laws and regulations related to chemical substances contained in products have been reflected. 2. Main Revision (1) Changed the value of Polychloronaphthalenes from (Cl=>3) to (Cl=>1). (2) Updated the name of contact department for inquiries. (3) Replaced the term "policy" by "standards" in order to avoid misunderstanding and maintain the consistency (Front page)
Sep., 2018	Version 11.0	1. Background Relevant parts were revised in accordance with switching of controlled chemical substance information transmission tool (AIS →chemSHERPA). Furthermore, it reflects the revised information of laws and regulations. 2. Main points of revision (1) Changed the name from AIS to chemSHERPA (2) Deleted N-Phenyl-benzenamine reaction products with styrene and 2,4,4-trimethylpentene (BNST)
Apr., 2019	Version 12.0	1. Background of revision The establishment and revision of laws and regulations related to chemical substances contained in products have been reflected. 2. Main points of revision (1) Changed a part of exempted use for No. 11 (Lead and lead compounds) (2) Added the following substances to the list of substances of which inclusion is banned. “Polymers in which halogens are contained structurally and polymers to which halogenated compounds are added”
Oct., 2019	Version 13.0	1. Revision history Reflected the revision of laws and regulations related to chemical substances in products. 2. Main revisions (1) Excluded application of lead and its compounds Applicable conditions for “lead contained in solder necessary for reliable electrical connection between internal semiconductor die and carrier of integrated circuit package (flip chip)” were added. (2) The name of “perfluorooctanoic acid (PFOA) and its salts and esters” has been changed to “perfluorooctanoic acid (PFOA) -related substances”, and management standards and substances such as usage and application examples, content thresholds, etc. The detail list was changed. (3) Added management standards for products that are not subject to EU RoHS directives for “bis (2-ethylhexyl) phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), diisobutyl phthalate (DIBP)” The management standard of wood was changed.
Dec., 2021	Version 14.0	1. Revision history Reflected the revision of laws and regulations related to chemical substances in products. 2. Main revisions (1) Add the following 2 substances to the list of substances of which inclusion is banned. ・Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances ・Phenol,isopropylated phosphate (3:1) (PIP (3:1)) (2) In table 4-1-2, Perfluorooctanoic acid (PFOA) and any related substances, change management standards which are substances name, exemptions, examples of purposes and uses. (3) In table 4-1-2, Polybrominated Diphenyl ethers (PBDEs), Change threshold value.

		(4) In table 4-1-2, Hexabromocyclododecane (HBCDD), Change threshold value. (5) Add 2 substances described in the above (1) to Appendices Table 1: Major laws and regulations / voluntary criteria concerning environmentally sensitive chemical substances and Appendices Table 2: Detailed List of Environmentally Sensitive Chemical Substances (6) In Appendices Table 1, correct referred regulations of the following 4 substances based on the latest information. * Polychlorinated Biphenyls (PCBs) * Polybrominated Diphenyl ethers (PBDEs) * Ozone Depleting Substances * Perfluorooctanoic acid (PFOA) and any related substances (7) In Appendices Table 6: List of applicable Perfluorooctanoic acid (PFOA) and any related substances, correct the definition of above substances since subjected regulation is changed from EU REACH regulation to EU POPs regulation. (8) Add Appendices Table8. Typical perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances
Aug., 2023	Version 15.0	1. Revision history Reflected the revision of laws and regulations related to chemical substances in products. 2. Main revisions (1) The management standards for the following substances in Table 4-1-2, such as exempted uses, etc., were changed. * Mercury and mercury compounds Some exemptions were deleted or changed, and deadlines were added. * Perfluorooctanoic acid (PFOA) and any related substances Some exemptions removed. * Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances Some exemptions removed. (2) Added note to Table 4-1-2 "Polymers containing halogens in the structure and polymers with halogen compounds added". (3) Table 4-1-3 was deleted and the management standards for packaging materials were reflected in Table 4-1-2.
Nov., 2023	Version 16.0	1. Revision history Reflected the revision of laws and regulations related to chemical substances in products. In addition, a section on substances whose inclusion is a candidate for prohibition. 2. Main revisions (1) Addition of Inclusion prohibited substance ・Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds (2) The management standards for the following substances in Table 4-1-2,such as applications, use cases, threshold values, etc. ・Cadmium and cadmium compounds ・Lead and lead compounds ・Mercury and mercury compounds (3) Addition of Inclusion prohibited candidate substance

		In order to ensure compliance with the rapidly changing laws and regulations of recent years, candidate substances for ban were added as substances that are expected to be banned in the near future.
Apr., 2024	Version 17.0	1. Revision history Reflected the revision of laws and regulations related to chemical substances in products. 2. Main revisions (1) Addition of Inclusion prohibited substance ・Dechlorane Plus ・UV-328 (2) The management standards for the following substances in Table 4-1-2,such as applications, Substance name, exempted uses, threshold values, etc. ・Polymers in which halogens are contained structurally and polymers to which halogenated compounds are added ・Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances ・Phenol, isopropylated phosphate (3:1) (PIP (3:1)) ・Lead and Lead Compounds (3) Addition of Inclusion prohibited candidate substance ・Per- and polyfluoroalkyl substances (PFAS)
June, 2025	Version 18.0	1. Revision history Changes were made to the format and table layout with the aim of improving the accessibility of information. In addition, revisions to laws and regulations related to chemical substances contained in products have been reflected. 2. Main revisions (1) Change of format ・Links to chapters from the table of contents, to the list of reference laws and regulations from the reference laws and regulations, and to the list of detailed substances from the CAS No. are provided respectively. ・Pages after “4. Ricoh criteria for managing environmentally sensitive chemical substances” were set to landscape orientation. ・Requests for prohibition and exemption and information on CAS No. and reference laws and regulations are described in one line for each substance in the table of management criteria for prohibited substances. ・Detailed information was consolidated by combining into one detailed list of inclusion prohibited substances, and example substances subject to regulation or specific definitions were added to the detailed list of inclusion prohibited substances. ・Each reference law is assigned a number, and the reference law number is listed in Ricoh criteria for inclusion prohibited substances. (2) Addition of inclusion prohibited substances/ inclusion prohibited candidate substances ・Perfluorohexanoic acid (PFHxA), its salts and PFHxA-related substance were added to the list of inclusion prohibited substances. ・Halogenated flame retardants were added to the list of inclusion prohibited substances. ・Fluorinated greenhouse gases (HFCs,PFCs,SF6, HFOs) were added to the list of inclusion prohibited substances.

		・Medium-chain chlorinated paraffins(MCCP,C14-17) were added to the list of inclusion prohibited candidate substances. ・Long-chain perfluorocarboxylic acids (C15-C21 PFCAs), their salts and related compounds were added to the list of inclusion prohibited candidate substances. ・Each chlorine and bromine (mainly halogenated flame retardants) contained in plastic parts of office equipment such as copiers and printers were added to the list of inclusion prohibited candidate substances. (3) Revision of management criteria for the following substances in Table 4-1-2, including substance names, exempted uses, threshold values, and reference laws and regulations. ・The threshold for polychlorinated terphenyls (PCTs) was changed. ・The reference law of hexavalent chromium and its compounds was added. ・Some exempted uses of mercury and its compounds were deleted. ・The exempted uses of perfluorooctanesulfonic acid and its salts (PFOS) were deleted. ・Some exempted uses of Perfluorooctanoic acid (PFOA) and any related substances were deleted. ・The threshold for Hexabromocyclododecane (HBCDD) was changed. ・The description of target of regulation for Polymers in which halogens are contained structurally was changed and the exempted uses were deleted. ・Some exempted uses of Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances were deleted. ・Some exempted uses of Phenol, isopropylated phosphate (3:1) (PIP (3:1)) were deleted.

*This standard is subject to review annually based on legal trend, our company direction, etc.

When a revision is made as a result of reviews, it will be posted in the bulletin board of Ricoh official website (Ricoh Environmental Management website).

《URL Address》

*RICOH website ： https://jp.ricoh.com/

Green Procurement Standards：https://jp.ricoh.com/sustainability/environment/product/green

*JAMP URL ：https://chemsherpa.net/

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