RICOH

Ricoh Group's Green Procurement Standards

<Annex> Ricoh Criteria for Environmentally Sensitive Chemical Substances

Apr30,2024

(Version 17)

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

(1) The criteria apply to products with Ricoh Group brand*
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 in the near future.

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.

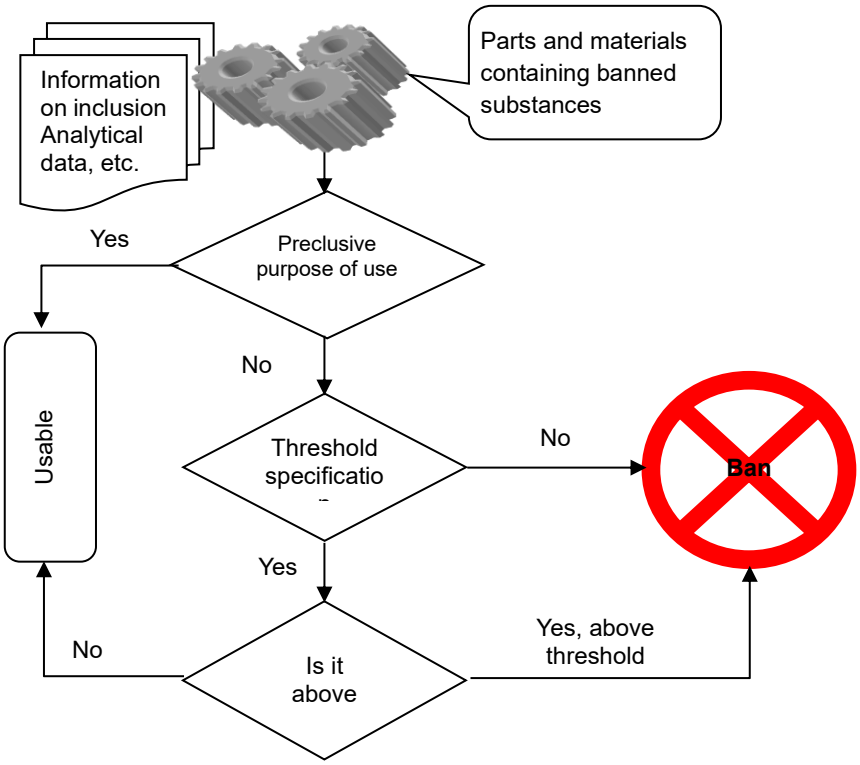
As regards supply products, paper, ink, ribbon, thermal paper and so forth fall under the category of articles. Of these, the portion that is intentionally released is regarded as substances/preparations, and therefore, not articles.

3.4 Substance whose inclusion is banned

A substance whose inclusion in equipment products or articles constituting equipment products is banned. The following is the definition of “inclusion is banned”.

[Figure 1] Flow chart on the definition of substances whose inclusion is banned (Excluding packaging materials)

” Parts and materials containing banned substances” are applicable when it is possible to identify the inclusion of banned substances by some methods, such as mentioned in the definition in the above.



3.5 Substances whose inclusion is candidate for prohibition

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

3.6 Substances subject to controlled use

Substances whose information on inclusion in equipment products and articles constituting equipment products must be grasped and controlled

3.7 Inclusion (existence)

Refers to the fact that substances whose inclusion is banned are included in articles.

(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 the case when said substances are contained in natural materials and cannot be removed technologically in the refining processes, also when they are mixed or bonded unintentionally in manufacturing processes. Refers to so-called impurities.

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.

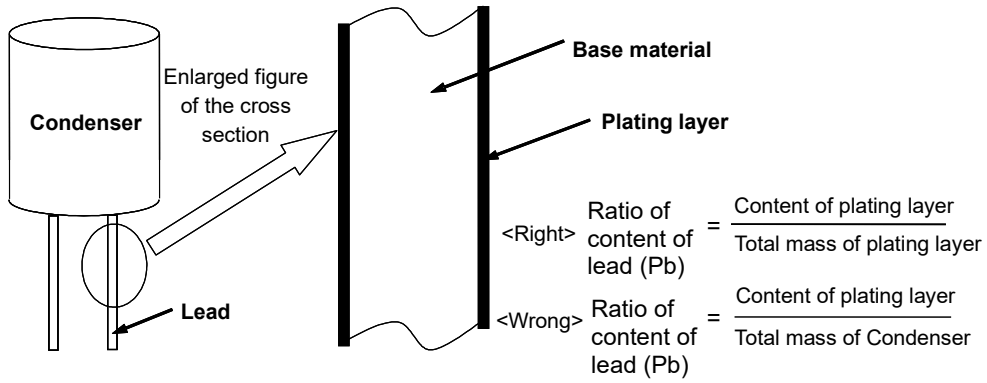
3.9 Inclusion threshold

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.

[Figure 2] [Example of a condenser]

When the surface of lead is plated with solder containing lead, a material part and plated layer can be mechanically separated from each other, so each of them is a homogeneous material.



3.10 Control level

(1) Banned: The use that is not allowed by laws and regulations.

(2) Exempt: The use that is not limited by laws and regulations, and that substitute does not exist.

4. Ricoh criteria for managing environmentally sensitive chemical substances

4.1 Substances whose inclusion is banned

Table 4-1-1 indicates substances whose inclusion is banned
In case of intentional addition, use of any of these parts or materials is prohibited, regardless of whether the content is below the threshold limit.
Table 4-1-2 indicates the control level of substances whose inclusion is banned, examples of purpose of their use, the content thresholds and the period when delivery is prohibited.

◇Table 4-1-1 List of substances whose inclusion is banned

No.	Name of substance
1	Polychlorinated Biphenyls (PCBs)
2	Polychlorinated Terphenyls
3	Polychloronaphthalenes (Cl=>1)
4	Polybrominated Biphenyls (PBBs)
5	Polybrominated Diphenyl ethers (PBDEs)
6	Short Chain Chlorinated Paraffins
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	Perfluorooctane sulfonates*1
14	Certain Azocolourants and Azodyes*2
15	Tri-substituted organostannic compounds*3
16	Dibutyltin (DBT) compounds
17	Dioctyltin (DOT) compounds
18	Dimethyl fumarate（DMF）
19	Polycyclic aromatic hydrocarbons (PAHs)*4
20	Perfluorooctanoic acid (PFOA) and any related substances*5
21	Hexabromocyclododecane (HBCDD) *6
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 (Note8)
28	Phenol, isopropylated phosphate (3:1) (PIP (3:1))
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds
30	Dechlorane Plus (From October 1, 2024)
31	UV-328 (From October 1, 2024)

*1 Those 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).
*2 Certain Azocolourants and Azodyes that form certain amines. See Appendices Table 4 for the detailed list of certain amines.
*3 Includes bis tributyltin oxide (TBTO), tributyltins (TBTs) and triphenyltin (TPTs).
*4 See Table 5 for the list of applicable substances.

*5 See Table 6 for the list of main applicable substances.
*6 See Table 7 for the list of applicable substances.
*7. "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”.
*8.See Table 8 for the list of main applicable substances.

◇Table 4-1-2 Ricoh criteria for substances whose inclusion is banned

(Note) 1. Since examples of purposes and uses do not cover all cases, please check with the publisher if you are not sure.
2. When there is no indication of exempt in the control level, it means “there is no exempt purposes and uses.”
3. See Appendices Table 2 for the details of each substance group. As for ozone depleting substances, see Appendices Table 3.

No.	Name of substance	Control level	Examples of purposes and uses	Content threshold	Period when delivery is prohibited
1	Polychlorinated Biphenyls (PCBs)	Banned	Insulating oil, Lubricant, Electric insulating medium, Solvent, Electrolyte	—	Immediately
		Exemption	When contained as by-product	50ppm	—
2	Polychlorinated Terphenyls	Banned	Insulating oil, Lubricant, Electric insulating medium, Solvent, Electrolyte	—	Immediately
3	Polychloronaphthalenes (Cl=>1)	Banned	Lubricant, Paint, Plastic stabilizer, Electric insulating medium, Flame retardant	—	Immediately
4	Polybrominated Biphenyls (PBBs)	Banned	Flame retardant	1000ppm	Immediately
5	Polybrominated Diphenyl ethers (PBDEs)	Banned	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.	Immediately
6	Short Chain Chlorinated Paraffins	Banned	PVC plasticizer, Flame retardant	1000ppm	Immediately
7	Asbestos	Banned	Brake lining pad, Insulator, Filler, Rubbing agent, Electric insulating medium, Filler, Pigment/Paint, Talc, Heat insulator	—	Immediately
8	Ozone Depleting Substances[*1]	Banned	Coolant, Foaming agent, Digestive, Detergent	—	Immediately
		Exemption	When contained as by-product	—	—
9	Cadmium and its compounds	Banned	・ Packaging materials	100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	Immediately
			・ Portable batteries Excludes the following Alkaline zinc-manganese dioxide portable batteries	20ppm [*2]	

			Alkaline zinc-manganese dioxide portable batteries	10ppm	
			・ 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	100ppm	
10	Hexavalent chromium and its compounds	Banned	・ Products that come into contact with skin, including leather products and leather parts	3ppm (In total dry weight of leather)	Immediately
			・ Packaging materials	100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	
			・ 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)	1000ppm	

*1. Ozone depleting substances are banned from use in manufacturing process as well. (See Section 4.4)

*2. 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.

No.	Name of substance	Control level	Examples of purposes and uses	Content threshold	Period when delivery is prohibited
11	Lead and lead compounds	Banned	・ Packaging materials	100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	Immediately
			・ Lead in polyvinyl chloride electric wire coating	300ppm [*3]	
			・ Portable batteries Excludes the following − Zinc-manganese dioxide button portable batteries − Alkaline zinc-manganese dioxide portable batteries	100ppm [*4]	Immediately

			・ Zinc-air button portable batteries (Until February 17, 2028)	500ppm [*5]	
			・ Zinc-manganese dioxide button portable batteries ・ Alkaline zinc-manganese dioxide portable batteries	40ppm	
			・ 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	1000ppm	
		Exempt	・ 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.		
			・ 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 mm2 or larger in any semiconductor technology node; − stacked die packages with die of 300 mm2 or larger, or silicon interposers of 300 mm2 or larger.		

*3. According to the Proposition65 of the State of California, USA
*4. 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.
*5. Portable battery threshold (100 ppm) will apply after the deadline.

No.	Name of substance	Control level	Examples of purposes and uses		Content threshold	Period when delivery is prohibited
12	Mercury and mercury compounds	Banned	・ Packaging materials		100ppm (The sum of the concentration of cadmium, hexavalent chromium, lead and mercury) and Intentional addition prohibited	Immediately
			・Batteries Excludes the following − Alkaline zinc-manganese dioxide portable batteries − Non-alkaline zinc-manganese dioxide portable batteries		5ppm [*6]	
			・ Alkaline zinc-manganese dioxide portable batteries ・ Non-alkaline zinc-manganese dioxide portable batteries		1ppm	
			・ Dispensation into pigment, paint, ink and resin ・ Relay, switch and sensor with mercury as contact point		1000ppm	
		Exempt	Cold cathode fluorescent lamp for special uses and external electrode fluorescent lamp (mercury included in CCFL and EEFL)	Short lamp (500mm or less) (effective until 24 August 2024)	3.5mg	
				Medium length lamp (over 500mm and no more than 1500) (effective until 24 August 2024)	5mg	
				Long lamp (over 1500mm) (effective until 24 August 2024)	13mg	
			Mercury in other discharge lamps for special purposes not specificallymentioned in EU RoHS Annex(effective until 24 August 2024)		—	
			Mercury in high pressure mercury vapour 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)	Banned	・ Surface treatment, plating, fabric		1μg/m2 or 1000 ppm	Immediately
			・ Other than the above		1000ppm	

		Exempt	・ Photoresists or anti reflective coatings for photolithography processes ・ Photographic coatings applied to films, papers, or printing plates. ・ “Mist suppressants for non-decorative hard chromium (VI) plating and wetting agents for use in controlled electroplating systems” where the amount of PFOS released into the environment is minimized, by fully applying relevant best available techniques.	—	—
14	Certain Azocolourants and Azodyes that form certain amines	Banned	・ Fabric and leather parts/products that can come into direct contact with human skin (or mouth orifice) for extended period of time. [*7]	30ppm	Immediately
		Exempt	・ Other than the above	—	—
15	Trisubstituted organotin compound	Banned	・ 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	1000ppm [*8]	Immediately

*6. 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.
*7. Only those instructed in drawings or specifications are applicable
*8. Concentration of tin mass after conversion into metal

No.	Name of substance	Control level	Examples of purposes and uses	Content threshold	Period when delivery is prohibited
16	Dibutyltin compounds	Banned	・Stabilizers for vinyl chloride resin , lubricants and catalyst	1000ppm [*8]	Immediately
17	Dioctyltin compounds	Banned	・ RTV-2 moulding kits) ・ Two uses of articles made of fabric with an intention to come into contact with skin	1000ppm [*8]	Immediately
		Exempt	・ Other than the above two	—	—
18	Dimetylfumarate (dimethyl fumarate（DMF）)	Banned	Antiseptic of leather products ・Desiccant (silica gel pack)	0.1ppm	Immediately
19	Polycyclic aromatic hydrocarbons (PAHs)	Banned	・Rubber or plastic components that come in direct contact with human skin or in the mouth for extended period or short period repeatedly [*9]	1ppm	Immediately
		Exempt	・Applications other than the above ・Other than the above	—	—
20	Perfluorooctanoic acid (PFOA) and any related substances1: eight substances regulated by Norwegian law [*10]	Banned	・ Textile and coated materials	1μg/m2	Immediately
			・Other than the above	1000ppm	
	Perfluorooctanoic acid (PFOA) and any related substances 2: Substance regulated by EU POPs regulation [*10]	Banned	・Other than the following	PFOA and its salts : 25ppb One or a combination of related substances : 1000ppb [*11]	Immediately

		Exempt [*12]	・equal to or below 20 mg/kg (0,002 % by weight) where they are present in a substance to be used as a transported isolated intermediate for the production of fluorochemicals with a perfluoro carbon chain equal to or shorter than 6 atoms	—	—
			・photolithography or etch processes in semiconductor manufacturing, until 4 January 2025	—	—
			・photographic coatings applied to films, until 4 January 2025	—	—
			・invasive and implantable medical devices, until 4 January 2025	—	—
			・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 perfluorooctyl bromide containing perfluoroctyl iodide for the purpose of producing pharmaceutical products.	—	—
21	Hexabromocyclododecane (HBCDD)	Banned	・ Flame retardant	100ppm	Immediately
22	Bis(2-ethylhexyl) phthalate (DEHP)	Banned	・ Plasticizers, etc.	1000ppm [*13]	Immediately
23	Benzyl butyl phthalate (BBP)	Banned	・ Plasticizers, etc.	1000ppm [*13]	Immediately
24	Dibutyl phthalate (DBP)	Banned	・ Plasticizers, etc.	1000ppm [*13]	Immediately
25	Diisobutyl phthalate (DIBP)	Banned	・ Plasticizers, etc.	1000ppm [*13]	Immediately
26	Polymers in which halogens are contained structurally	Banned	・ plastic parts for packaging[*14]	—	Immediately
		Exempt	・ Packaging plastic parts used in products that are not intended to obtain environmental labels ・ Plastic parts used for purposes except for packaging	—	—
27	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances	Banned	・Other than the following	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.	Immediately

		Exempt	・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	—	—
			・exempted until 4 January 2025 for: photolithography or etch processes in semiconductor manufacturing;	—	—
			・exempted until 4 January 2025 for: photographic coatings applied to films;	—	—
			・exempted until 4 January 2025 for: invasive and implantable medical devices;	—	—
			・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))	Banned	Plasticizers, flame retardants, plastics, etc.	—	Immediately
		Exempt	Adhesive and sealant (until July 5, 2024)	—	—
			Lubricant and grease	—	—
			Recycled or reused plastic	—	—
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds	Banned	・Fluorine coating, metal plating, etc.	25 ppb for PFHxS or any of its salts 1000 ppb (1 ppm) for the sum of concentrations of all PFHxS-related compounds	Immediately
30	Dechlorane Plus	Banned	・Silicone rubber, lubricant, adhesive, tape, flame retardant for cable, etc.	—	Immediately
31	UV-328	Banned	・Lubricant, adhesive, tape, UV absorbers for plastic, etc.	—	Immediately
		Exempt	・Triacetyl cellulose (TAC) film in polarizers	—	—

*9. The suppliers of the relevant parts shall be contacted by Ricoh group individually.

*10. Refer to Appendix 6 for details of target substances
*11. The threshold value in the molded product is used.
*12. Eight substances regulated by Norwegian law must meet Norwegian law standards even if they are excluded.
*13. For products that are not subject to the EU RoHS directive (packaging materials, promotional items, etc.), the threshold value is the sum of DEHP, BBP, DBP, and DIBP in the plasticized material.
*14. 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.

◇Table 4-1-3 Ozone depleting substances banned from inclusion

The following is a classification list of ozone depleting substances banned from inclusion in products.
Please see Appendices Table 3 for the details.

No.	Name of substance	Group in Montreal Protocol
1	Chlorofluorocarbones (CFC)	Annex A Group I
2	Halons	Annex A Group II
3	Other chlorfluorocharbons (CFC)	Annex B Group I
4	Carbon tetrachloride	Annex B Group II
5	1,1,1-Trichloroethane (Methyl chloroform)	Annex B Group III
6	HBFC	Annex C Group II
7	Bromochloromethane	Annex C Group III
8	Methyl bromide	Annex E Group I
9	Hydrochlorofluorocarbons (HCFC)	Annex C Group I

◇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).

4.2 Substances whose inclusion is candidate for prohibition

Table 4-2 indicates substances whose inclusion is candidate for prohibition

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 List of substances whose inclusion is candidate for prohibition

No.	Name of substance	CAS No.*1	Reference laws and treaties
1	Per- and polyfluoroalkyl substances (PFAS) *2	—	1.USA TSCA PFAS proposed regulation 2.USA Maine An Act to Stop PFAS Pollution 3.EU REACH proposed restriction

*1 The CAS No. is based on the judgment of the Ricoh Group based on the information of laws and regulations, and is subject to change due to regulatory trends.
*2 PFAS are those falling under any of the definitions below (i) through (iii).

(i) USA TSCA PFAS proposed regulation
Substances including at least one of the following three structures.
(1) R-(CF2)-CF(R')R'', where both the CF2 and CF moieties are saturated carbons
(2) R-CF2OCF2-R', where R and R' can either be F, O, or saturated carbons
(3) CF3C(CF3)R'R'', where R' and R"" can either be F or saturated carbons.

(ii) USA Maine An Act to Stop PFAS Pollution
Substances including any member of the class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

(iii) EU REACH proposed restriction
Least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).
* Structures that are outside the scope of application: CF3-X or X-CF2-X',
X : -OR , -NRR'

X' : -CH3, -CH2-, an aromatic group,-C(O)-, -OR'', -SR'' , –NR''R'''
R/R'/R''/R''' : -H, -CH3,-CH2-, an aromatic group ,-C(O)-

4.3 Substances whose inclusion is subject to management

Substances whose inclusion is subject to management are indicated in **the list of substances subject to management of chemSHERPA [*1]** (hereinafter, referred to as List of substances whose inclusion is subject to management). The information on contained chemical substances are collected and managed bychemSHRPA-AI [*2] in the case of articles, and by chemSHRPA-CI[*2]/SDS for substances/preparations.

*1. The List of Inclusion Managed Substances is a list that is published by JAMP (Joint Article Management Promotion-consortium). See the URL at the end of the article.
*2. Data recording sheet for disclosure and transmission of information of chemical substances contained in articles and substances/preparations, provided by JAMP (Joint Article Management Promotion-consortium).

4.4 Scope of application of products whose information on contained chemical substances is to be collected

(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.

4.5 Substances banned from use in manufacturing process

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

◇Table 4-3 List of Prohibited substances in manufactuaring process

No.	Name of 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-depletingsubstances (see Appendix 3)	-

Appendices Table 1: Major laws and regulations / voluntary criteria concerning environmentally sensitive chemical substances

◇Substances whose inclusion is banned

No.	Substances	Legal regulation	Industry standard
1	Polychlorinated Biphenyls (PCBs)	EU POPs regulation Annex I Chemical Substances Control Law	JAMP(*)
2	Polychlorinated Terphenyls (PCTs)	EU REACH (Annex 17 Restriction)	JAMP
3	Polychloronaphthalenes (Cl=>1)	EU POPs regulation Annex I Chemical Substances Control Law	JAMP
4	Polybrominated Biphenyls (PBBs)	EU RoHS directive EU REACH (Annex 17 Restriction)	JAMP
5	Polybrominated Diphenyl ethers	EU RoHS directive	JAMP

	(PBDEs)	EU REACH (Annex 17 Restriction) EU POPs regulation Annex I US TSCA PBT regulation (Only DecaBDE is applicable)	
6	Short chain Chlorinated Paraffins	EU POPs regulation Annex I	JAMP
7	Asbestos	EU REACH (Annex 17 Restriction)	JAMP
8	Ozone Depleting Substances	US: ODS labeling restriction (Section 611 on the Clean Air Act Amendments of 1990) Montreal Protocol EU Ozone regulation	JAMP
9	Cadmium and Cadmium Compounds	Japan: Law on Promoting Green Purchasing EU RoHS directive EU REACH (Annex 17 Restriction) EU2006/66/EC (Battery regulation) EU 94/62/EEC (Packaging directive) US: The Model Toxics in Packaging Legislation China: Battery Standard (GB24427-2021)	JAMP
10	Hexavalent Chromium Compounds	EU RoHS directive EU 94/62/EEC (Packaging directive) US: The Model Toxics in Packaging Legislation	JAMP
11	Lead and Lead Compounds	Japan: Law on Promoting Green Purchasing EU RoHS directive EU REACH (Annex 17 Restriction) EU 2006/66/EC (Battery regulation) EU 94/62/EEC (Packaging directive) US: The Model Toxics in Packaging Legislation China: Battery Standard (GB24427-2021)	JAMP
12	Mercury and Mercury Compounds	Japan: Law on Promoting Green Purchasing EU RoHS directive EU REACH (Annex 17 Restriction) EU2006/66/EC (Battery regulation) EU 94/62/EEC (Packaging directive) US: The Model Toxics in Packaging Legislation China: Battery Standard (GB24427-2021)	JAMP
13	Perfluorooctane sulfonates and its salts (PFOS)	EU POPs regulation Annex I	JAMP
14	Certain azocolourants and azodyes that form certain amines by decomposition	EU REACH (Annex 17 Restriction)	JAMP
15	Trisubstituted organotin compound	EU REACH (Annex 17 Restriction)	JAMP
16	Dibutyltin compounds	EU REACH (Annex 17 Restriction)	JAMP
17	Dioctyltin compounds	EU REACH (Annex 17 Restriction)	JAMP
18	Dimetylfumarate (dimethyl fumarate（DMF）)	EU REACH (Annex 17 restrictions)	JAMP
19	Polycyclic aromatic hydrocarbons (PAHs)	EU REACH (Annex 17 Restriction)	JAMP
20	Perfluorooctanoic acid (PFOA) and any related substances	Norwegian Act EU POPs regulation Annex I	JAMP
21	Hexabromocyclododecane (HBCDD)	EU POPs regulation Annex I Chemical Substances Control Law	JAMP
22	Bis(2-ethylhexyl) phthalate (DEHP)	EU RoHS directive EU REACH (Annex 17 Restriction)	JAMP
23	Benzyl butyl phthalate (BBP)	EU RoHS directive EU REACH (Annex 17 Restriction)	JAMP
24	Dibutyl phthalate (DBP)	EU RoHS directive EU REACH (Annex 17 Restriction)	JAMP
25	Diisobutyl phthalate (DIBP)	EU RoHS directive EU REACH (Annex 17 Restriction)	JAMP

26	Polymers in which halogens are contained structurally	Eco label ("German Blue Angel", "Japanese Eco-mark")	-
27	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances (Note8)	EU REACH (Annex 17 Restriction)	JAMP
28	Phenol, isopropylated phosphate (3:1) (PIP (3:1))	US TSCA PBT regulation	JAMP
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds	EU POPs regulation Annex I	JAMP
30	Dechlorane Plus	POPs Convention Annex A Elimination	JAMP
31	UV-328	POPs Convention Annex A Elimination	JAMP

* JAMP (Joint Article management Promotion-consortium)

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.

◇ Banned Substances

No.	Substances	Legal regulation	Industry standard
1	Polychlorinated biphenyls (PCBs) [*1]	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	36483-60-0
		Octabromodiphenyl ether	68928-80-3
		Nonabromodiphenyl ether	32536-52-0
		Decabromobiphenyl ether	63936-56-1
6	Short chain chlorinated paraffins	Chlorinated paraffins (with 10-13 carbon atoms)	85535-84-8
7	Asbestos	Asbestos	7440-43-9
		Actinolite	1306-19-0
		Amosite (Grunerite)	1306-23-6
		Anthophyllite	10108-64-2
		Chrysotile	10124-36-4
		Crocidolite	7440-43-9
		Tremolite	1306-19-0
8	Ozone depleting substances	For Ozone depleting substances, see Appendices 3	—
9	Cadmium and its compounds	Cadmiumestos	7440-43-9
		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(ll)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

*1.To be precise, these substances are alternate PCBs, however, they were described as exemplified substances of PCBs

No.	Substances	Legal regulation	Industry standard

11	Lead and its compounds	Lead	7439-92-1
		Lead (II) sulfate	7446-14-2
		Lead(ll)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(lV)oxide	1309-60-0
		Lead (II, IV) oxide	1314-41-6
		Lead(ll)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
		Mercury (II) chloride	7487-94-7
		Mercuric sulfate	7783-35-9
		Mercuric nitrate	10045-94-0
		Mercuric(ll)oxide	21908-53-2
		Mercuric sulfide	1344-48-5
13	Perfluorooctanesulfonic acid and its salts (PFOS)	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	Information on specific examples of substances is not available	—
15	Trisubstituted organotin compound (Continued to the next page)	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

No.	Substances	Legal regulation	Industry standard

15	Trisubstituted organotin compound（Continued from the previous page）	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
		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)	See Table 5	-
20	Perfluorooctanoic acid (PFOA) and any related substances	See Table 6	-
21	Hexabromocyclododecane (HBCDD)	See Table 7	-
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
26	Polymers in which halogens are contained structurally	PVC etc.	-
27	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances (Note8)	See Table 8	-
28	Phenol, isopropylated phosphate (3:1) (PIP (3:1))	Same as left	68937-41-7
29	Perfluorohexane sulfonic acid (PFHxS), its salts and PFHxS-related compounds[*2]	Perfluorohexane sulfonic acid (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

*2 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 C6F13S- as one of its structural elements and that degrades to PFHxS.

Appendices Table 3: Detailed list of ozone depleting substances

No.	Substance name	Montreal Protocol Annex Group	Substance name	Chemical formula
1	Chlorofluorocarbons (CFC)	Annex A Group I	CFC-11	$CFCl_3$
			CFC-12	CF_2Cl_2
			CFC-113	$C_2F_3Cl_3$
			CFC-114	$C_2F_4Cl_2$
			CFC-115	C_2F_5Cl
2	Halons	Annex A Group II	Halons -1211	CF_2BrCl
			Halons -1301	CF_3Br
			Halons -2402	$C_2F_4Br_2$
3	Other chlorofluorocarbons (CFC)	Annex B Group I	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
4	Carbon tetrachloride	Annex B Group II	Carbon tetrachloride	CCl_4
5	1,1,1-Trichloroethane (Methyl chloroform)	Annex B Group III	1,1,1-Trichloroethane (Methyl chloroform)	$C_2H_3Cl_3$
6	HBFC	Annex C Group II	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	$C_2H_3FBr_2$
			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	$C_3H_2F_4Br_2$
			Bromotetrafluoropropane	$C_3H_2F_5Br$
			Tetrabromofluoropropane	$C_3H_3FBr_4$
			Tribromodifluoropropane	$C_3H_3F_2Br_3$
			Dibromotrifluopropane	$C_3H_3F_3Br_2$
			Bromotetrafluoropropane	$C_3H_3F_4Br$
			Tribromofluoropropane	$C_3H_4FBr_3$
			Dibromodifluoroprapane	$C_3H_4F_2Br_2$
			Bromotrifluopropane	$C_3H_4F_3Br$
			Dibromofluoropropane	$C_3H_5FBr_2$
			Bromodifluoropropane	$C_3H_5F_2Br$
			Bromofluoropropane	C_3H_6FBr
7	Bromochloromethane	Annex C Group III	Bromochloromethane	CH_2BrCl

No.	Substance name	Montreal Protocol Annex Group	Substance name	Chemical formula
8	Methyl bromide	Annex E Group I	Methyl bromide	CH_3Br
9	Hydrochlorofluorocarbons (HCFC)	Annex C Group I	HCFC-21	$CHFCl_2$
			HCFC-22	CHF_2Cl
			HCFC-31	CH_2FCl
			HCFC-121	C_2HFCl_4
			HCFC-122	$C_2HF_2Cl_3$
			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

*Indicates substances that are most likely to be used commercially, including their isomers.

Appendices Table 4: Detailed list of certain amines

No.	Name of substance	Chemical formula	CAS №
1	4- aminoazobenzene	$C_{12}H_{11}N_3$	60-09-3
2	o- anisidine	C_7H_9NO	90-04-0
3	2- naphthylamine	$C_{10}H_9N$	91-59-8
4	3,3'- dichlorobenzidine	$C_{12}H_{10}Cl_2N_2$	91-94-1
5	4- Biphenyl-4-ylamine	$C_{12}H_{11}N$	92-67-1
6	benzidine	$C_{12}H_{12}N_2$	92-87-5
7	o- toluidine	C_7H_9N	95-53-4
8	4- chloro-2-methylamine	C_7H_8ClN	95-69-2
9	2,4- toluenediamine	$C_7H_{10}N_2$	95-80-7
10	o- aminoazotoluene	$C_{14}H_{15}N_3$	97-56-3
11	5- nitro-o-toluidine	$C_7H_8N_2O_2$	99-55-8
12	3,3'- Dichloro-4,4'-diaminodiphenylmethane	$C_{13}H_{12}Cl_2N_2$	101-14-4
13	4,4'- methylenedianiline	$C_{13}H_{14}N_2$	101-77-9
14	4,4'- diaminodiphenylether	$C_{12}H_{12}N_2O$	101-80-4
15	p- chloraniline	C_6H_6ClN	106-47-8
16	3,3'- dimethoxybenzidine	$C_{14}H_{16}N_2O_2$	119-90-4
17	3,3'- dimethylbenzidine	$C_{14}H_{16}N_2$	119-93-7
18	2- methoxy-5-methylamiline	$C_8H_{11}NO$	120-71-8
19	2,4,5- trimethylaniline	$C_9H_{13}N$	137-17-7
20	4,4'- thiodianiline	$C_{12}H_{12}N_2S$	139-65-1
21	2,4- methoxy-m-phenylenediamine	$C_7H_{10}N_2O$	615-05-4
22	4,4'-dimethyl-3,3'-diaminodiphenylmethane	$C_{15}H_{18}N_2$	838-88-0

Appendices Table 5: List of applicable polycyclic aromatic hydrocarbons (PAHs)

No.	Name of substance	Chemical formula	CAS №
1	Benzo[a]pyrene	C20H12	50-32-8
2	Benzo[e]pyrene	C20H12	192-97-2
3	Benz(a)anthracene	C18H12	56-55-3
4	Chrysene	C18H12	218-01-9
5	Benzo(b)fluoranthene	C20H12	205-99-2
6	Benzo(j)fluoranthene	C20H12	205-82-3
7	Benzo(k)fluoranthene	C20H12	207-08-9
8	Dibenzo(a,h)anthracene	C22H14	53-70-3

Appendices Table 6: List of applicable Perfluorooctanoic acid (PFOA) and any related substances

No.	Name of substance	CAS №
1	Perfluorooctanoic acid (PFOA)	335-67-1
2	Ammonium perfluorooctanoate (APFO)	3825-26-1
3	Sodium salt of perfluorooctanoic acid	335-95-5
4	Potassium salt of perfluorooctanoic acid	2395-00-8
5	Silver salt of perfluorooctanoic acid	335-93-3
6	Perfluorooctanoic acid fluoride	335-66-0
7	Perfluorooctanoic acid methyl	376-27-2
8	Perfluorooctanoic acid ethyl	3108-24-5

"Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds" regulated by EU POPs regulation mean the following:

(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) specified No.13 in the Table 4-1-1 "List of substances whose inclusion is banned".

Appendices Table 7: List of applicable Hexabromocyclododecane (HBCDD)

No.	Name of substance	CAS №
1	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
2	1,2,5,6,9,10-Hexabromocyclododecane (HBCDD)	3194-55-6
3	α-Hexabromocyclododecane (HBCDD)	134237-50-6
4	β-Hexabromocyclododecane (HBCDD)	134237-51-7
5	γ-Hexabromocyclododecane (HBCDD)	134237-52-8

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

No.	Substances	CAS №
1	Perfluorononan-1-oic acid (PFNA)	375-95-1
2	Nonadecafluorodecanoic acid (PFDA)	335-76-2
3	Henicosafluoroundecanoic acid (PFUnDA)	2058-94-8
4	Tricosafluorododecanoic acid (PFDoDA)	307-55-1
5	Pentacosafluorotridecanoic acid (PFTrDA)	72629-94-8
6	Heptacosafluorotetradecanoic acid (PFTDA)	376-06-7
7	perfluorononan-1-oic acid sodium salts	21049-39-8
8	ammonium nonadecafluorodecanoate	3108-42-7
9	sodium nonadecafluorodecanoate	3830-45-3
10	Perfluorononan-1-oic acid ammonium salts	4149-60-4

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.’

Revision History

Revised date	Edition	Content of the revision
December 2006	First Edition	<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.)
April 2008	The 2nd edition	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.
March 2009	The 3rd edition	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.
March 2010	Version 4.0	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.
March 2011	5th Edition	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.
September 2011	5.1th Edition	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
December 2012	6th Edition	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	7th Edition	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.
April 2015	8th Edition	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.
April 2016	9th Edition	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.)
January 2017	10th Edition	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)
September, 2018	11th Edition	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)
April 2019	12th edition	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”
October 2019	13th Edition	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.
December 2021	14th Edition	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
August 2023	15th Edition	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.
November 2023	16th Edition	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.
April 2024	17th Edition	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)

*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/environment/guideline/

*JAMP URL ： http://www.jamp-info.com/list

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