

# Control Rules for Environment-related Substances Used in Product

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**OLYMPUS**<sup>®</sup>

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## 1. Purpose

These rules pertain to environment-related substances used in the products of Olympus Group (this is hereinafter referred to as “Olympus”). They are to ensure that Olympus products comply with laws and regulations by defining criteria for prohibiting or controlling the substances, as well as to reduce environmental load.

## 2. Scope

### 2.1 Items

#### (1) Products (shipped out by Olympus)

- Products designed, manufactured and sold by Olympus
- Products designed and manufactured by third parties, and sold by Olympus with its trademark attached
- Products designed and manufactured by Olympus and supplied to a third party as OEM products.

(Note1) In this case, third parties are responsible for requiring Olympus to comply with these regulations.

(Note2) These rules do not apply to the components or materials specified by the third party.

#### (2) Parts and materials (delivered to Olympus, and used in “(1) Products” above)

- Subassemblies (e.g., assembly parts such as function units, modules and board assemblies)
- Components and materials (e.g., electrical components, components of machinery, components of electric machinery, semiconductors, printed wiring boards.)
- Parts for repair and maintenance services
- Accessories (e.g., accessories, such as AC adaptors, necessary for device operation)
- Subsidiary materials (e.g., solder materials, adhesives, lubricants, reinforcing materials, tapes, paints, inks.)
- Printed materials (e.g., instruction manuals, brochures.)
- Materials for sales promotion (e.g., labels.)

#### (3) Packaging materials

- Packaging materials and components used to ship out products
- Packaging subsidiary materials (e.g., adhesives, lubricants, reinforcing materials, tapes, paints, inks.)

(Except for packaging materials disposed of during Olympus manufacturing processes.)

(Note) Olympus may require our suppliers to comply with the rules herein in the following cases;

- Products distributed by Olympus for sales promotion purposes  
(e.g., novelty items bearing Olympus’s name)

### 2.2 Laws and regulations

Based on major global treaties, laws, ordinances and industry standards (hereinafter called “regulations”), these rules state the requirements of regulations regarding Olympus Group products. However, they may not cover all of these regulations. If there are additional requirements in regions where products are sold, Olympus global, regional, and local business centers and their suppliers shall obey those requirements.

### 3. Terms and Definitions

The following definitions are applied to the terms used in these rules.

(1) Environment-related substances

These substances have significant influence on human health and the environment. They are specified by Olympus as “prohibited” or “controlled” substances, in accordance with laws and regulations.

(2) Joint Article Management Promotion Consortium (JAMP)

JAMP is a Japanese consortium that manages information on chemical substances contained in an article appropriately and operates a system to disclose and efficiently transmit this information through companies in the supply chain.

(3) Substance group

This is a collective term for a chemical substance and its chemical compounds, or a collective term for several substances that possess similar chemical structures, toxicities, and/or harmful effects on the environment.

(4) Inclusion

This is defined as the addition or adhesion of substances to, or mixture of substances with, raw materials, parts, or products, whether intentionally or otherwise. The addition, adhesion or mixture of impurities is also regarded as inclusion.

(5) Intentional use

This is the situation where a substance is contained in products because of deliberate addition, filling, blending, or adhesion, in order to provide a specific characteristic, appearance or quality.

(6) Impurities

Natural impurities contained in natural raw materials and technically impossible to be completely removed in the refining process for industrial materials, or substances that are created in the synthetic reaction process but technically impossible to be completely removed.

(Note) If any substances that are referred to as “impurities” (in order to distinguish them from main raw materials) are added to materials to change their characteristics, such substances are deemed to be “intentionally included”.

(7) Substance (REACH Article 3: Definitions)

It means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

(8) Article (REACH Article 3: Definitions)

An object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition.

(9) Mixture (REACH Article 3: Definitions)

A mixture or solution composed of two or more substances.

(10) Homogeneous materials

Homogeneous materials are materials that cannot be mechanically separated anymore and have a homogeneous composition. Examples are plastic, ceramics, glass, metals, alloys, paper, boards, resins and coatings. Mechanical separation means separation by mechanical processes, such as removing screws, cutting, crushing, grinding and polishing.

(11) Metal conversion factor

This is the factor used to calculate the weight of a metallic element in a metallic compound from the weight of the metallic compound. The weight of a metallic element in a metallic compound can be obtained by multiplying the weight of the metallic compound by the metal conversion factor.

(12) CAS No.

This is the registration number for chemical substances allocated by the Chemical Abstracts Service (CAS), which is a division of the American Chemical Society. CAS numbers are used globally to identify chemical substances since there are several different ways of writing the names of chemical substances.

(13) JAMP Substance Numbers (JAMP-SN)

The number introduced by JAMP for some substances and groups that do not have a CAS No. (SN stands for "Substance Number").

(14) Control value

The concentrations defined by Olympus to ensure that the amounts of substances contained in items do not exceed the concentrations regulated.

(15) Dates of ban on delivery

Dates when Olympus imposes ban on delivery from their suppliers to Olympus. Olympus determines them to ensure observance of the effective dates of regulations. (They are six months before the effective dates.)

In case that Olympus's business centers set their own dates of ban on delivery, these dates set by business centers take precedence over the ones herein.

## 4. Rules

### 4.1 The environment-related substances and control classification

The environment-related substances designated by Olympus are listed in Table 1. They are classified into two categories: "prohibited substances" and "controlled substances".

### 4.2 Prohibited substances

Prohibited substances are classified into the two following levels based on their date of ban on delivery.

### **(1) Prohibited substances Level 1:**

These substances are immediately prohibited. Exceptions apply in the following cases:

- They have 'a control value' and can be used below that value.
- They have 'an exemption' and can be used for that application provided that their concentrations and their location of use shall be reported.

### **(2) Prohibited substances Level 2:**

These substances will be prohibited after their date of ban on delivery.

- They are acceptable to use until their date of ban on delivery.
- Date of ban on delivery may be revised if the effective date of a regulation is changed.

Criteria for managing prohibited substances are shown in Table 2.

- Prohibition level, date of ban on delivery, applications, control values, exemptions, notes
- Examples of substances (They do not cover all the substances in this substance group.) or regulated substances.
- Principal uses for substances

### **4.3 Controlled substances**

If the content of a controlled substance exceeds its control value, the substance, the concentrations, and the location of use shall all be reported.

Criteria for managing controlled substances are shown in Table 3.

- Applications, control values and notes

### **4.4 Control value**

Unless otherwise designated, the control values are the concentrations of substances in homogeneous materials.

- In complex components (assemblies), it is the concentration in each article of that component (not what is in the whole component).
- In surface treatment coatings, it is the concentration in the coating.
- In metal compounds that have metal conversion factors, the control values are the respective concentrations of the metal elements included in those compounds. In metal compounds that have no metal conversion factors, the control values are the concentrations of the whole metal compound.

**Table 1 Environment-related Substances**

Class	Major division	No.	Substance group	Detail
(I) Prohibited substances	Metal and metal compounds (including their alloys)	I-1	Cadmium and its compounds	Table 2-I-1
		I-2	Hexavalent chromium compounds	Table 2-I-2
		I-3	Lead and its compounds	Table 2-I-3
		I-4	Mercury and its compounds	Table 2-I-4
		I-5	Trisubstituted organotin compounds (including tributyltin compounds (TBTs) and triphenyltin compounds (TPTs))	Table 2-I-5
		I-6	Dibutyltin compounds (DBT)	Table 2-I-6
		I-7	Diocetyl tin compounds (DOT)	Table 2-I-7
		I-8	Nickel and its compounds	Table 2-I-8
	Halogenated organic compounds	I-9	Polybrominated biphenyl (PBBs)	Table 2-I-9
		I-10	Polybrominated diphenyl ether (PBDEs)	Table 2-I-10
		I-11	Polychlorinated biphenyl (PCBs)	Table 2-I-11
		I-12	Polychlorinated terphenyls (PCTs)	Table 2-I-12
		I-13	Polychlorinated naphthalene (with more than 3 chlorine atoms)	Table 2-I-13
		I-14	Short-chained chlorinated paraffin (having the chain length of 10 - 13)	Table 2-I-14
		I-15	Polyvinyl chloride (PVC)	Table 2-I-15
		I-16	Hexabromocyclododecane (HBCDD)	Table 2-I-16
		I-17	Pentachlorothiophenol (PCTP)	Table 2-I-17
		I-18	Hexachlorobutadiene (HCBd)	Table 2-I-18
		I-19	Hexachlorobenzene (HCB)	Table 2-I-19
	Others	I-20	Asbestos	Table 2-I-20
		I-21	Azo dyes and pigments (specific amines formed by degrading azo dyes and pigments)	Table 2-I-21
		I-22	Ozone depleting substances (listed in Montreal Protocol)	Table 2-I-22
		I-23	Perfluorooctanesulfonic acid (PFOS) and PFOS analogs	Table 2-I-23
		I-24	Specific benzotriazole: 2-(2H-1,2,3-Benzotriazol-2-yl)-4,6-di-tert-butylphenol	Table 2-I-24
		I-25	Formaldehyde	Table 2-I-25
		I-26	Dimethylfumarate (DMF)	Table 2-I-26
		I-27	Fluorinated Greenhouse Gases (PFC, SF6, HFC)	Table 2-I-27
		I-28	Phthalate esters (BBP, DBP, DEHP, DIBP)	Table 2-I-28
		I-29	Perfluorooctanoic acid (PFOA) and its salts and esters and certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC)	Table 2-I-29
		I-30	Polycyclic aromatic hydrocarbon (PAH)	Table 2-I-30
		I-31	Pentachlorophenol and its salts and esters	Table 2-I-31
		I-32	Certain CMR substances	Table 2-I-32
		I-33	Phenol, isopropylated phosphate (3:1)	Table 2-I-33
		I-34	2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP)	Table 2-I-34

		I-35	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances	Table 2-I-35
		I-36	Perfluorohexanoic acid (PFHxS) and its salts and PFHxS related substances	Table 2-I-36
(II) Controlled substances	Others	II-1	Candidate List of Substances of Very High Concern in REACH(SVHC)	Table 3-II-1
		II-2	Substances subject to the European Union's Medical Device Regulation (EU-MDR) or In Vitro Diagnostic Medical Device Regulation (EU-IVDR)	Table 3-II-2
		II-3	Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	Table 3-II-3

(Note)

- Applications of I-32 "Certain CMR substances" are limited to products that come into contact with human skin to an extent similar to clothing. Please see Table 2-I-32 for details.
- I-10, I-17, I-18, I-33, I-34 are substances that are persistent, bio-accumulative, and toxic chemicals (PBTs) identified pursuant to section 6(h) of the Toxic Substances Control Act (TSCA). Please see Table 2-I-10, Table 2-I-17, Table 2-I-18, Table 2-I-33, and Table 2-I-34 for details.
- Applications of II-2 "Substances subject to the European Union's Medical Device Regulation (EU-MDR) or In Vitro Diagnostic Medical Device Regulation (EU-IVDR)" are limited to components and subsidiary materials that are used in products subject to EU-MDR or EU-IVDR, and that come into direct or indirect contact with the patient. Please see Table 3-II-2 for details.



**Table 2 Criteria for managing prohibited substances.**

**Table 2-I-1 Cadmium and its compounds**

(1) Details

No. I-1	Substance Group: Cadmium and its compounds			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	<ul style="list-style-type: none"> <li>• Surface processing (e.g. plating) and coating (except for electrical contacts requiring a high level of safety and reliability, and for which no substitute exists)</li> <li>• Fluorescence lamps and photographic film</li> <li>• Stabilizer, pigment and dye used for plastics (including rubbers)</li> <li>• Paints and inks</li> </ul>	-Less than 75 ppm in homogeneous material	*1
		<ul style="list-style-type: none"> <li>• Packaging materials</li> </ul>	-Less than 100 ppm in homogeneous material	*2
	Immediate  Exclusions from RoHS Directive: 6 months prior to expiration	<ul style="list-style-type: none"> <li>• Electric and electronic equipment subject to RoHS Directive (2011/65/EU)</li> </ul>	-100 ppm or less in homogeneous material	*3
Exemption	Please refer to the EU RoHS ANNEX III and ANNEX IV.			
Note	*1 Because the Danish cadmium control act has been amended to reflect RoHS Directive (2011/65/EU), the control value is set at 100 ppm for products subject to RoHS Directive (2011/65/EU) and 75 ppm for products not covered by RoHS Directive (2011/65/EU). Annex XVII to REACH (restriction), ChemVerbotsV (Germany) *2 The total concentration of four heavy metals (cadmium, hexavalent chromium, lead and mercury) in packaging materials must be considered. In the case of printing inks used on packaging, the total concentration of these four heavy metals included in the solid ingredients of the inks must be considered. EU Directive on packaging materials and Regulations on Heavy Metals in Packaging (U.S.A.). *3 RoHS Directive (2011/65/EU)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
カドミウム	Cadmium	Cd	7440-43-9	1.000
酸化カドミウム(II)	Cadmium oxide	CdO	1306-19-0	0.875
硫化カドミウム	Cadmium sulfide	CdS	1306-23-6	0.778
塩化カドミウム	Cadmium chloride	CdCl <sub>2</sub>	10108-64-2	0.613
硫酸カドミウム(II)	Cadmium sulfate	CdSO <sub>4</sub>	10124-36-4	0.539
		CdH <sub>6</sub> O <sub>16</sub> S <sub>4</sub>	119222-01-4	0.224
硝酸カドミウム	Cadmium Nitrate	Cd(NO <sub>3</sub> ) <sub>2</sub>	10325-94-7	0.475
炭酸カドミウム	Cadmium carbonate	CdCO <sub>3</sub>	513-78-0	0.652
硫セレン化カドミウム	Cadmium selenide sulfide	Cd <sub>2</sub> SSe	12214-12-9	0.669
セレン化カドミウム	Cadmium Selenide	CdSe	1306-24-7	0.587
テルル化カドミウム	Cadmium Telluride	CdTe	1306-25-8	0.468

水酸化カドミウム	Cadmium Hydroxide	Cd(OH) <sub>2</sub>	21041-95-2	0.768
ステアリン酸カドミウム	Cadmium Stearate	Cd(C <sub>17</sub> H <sub>35</sub> COO) <sub>2</sub>	2223-93-0	0.166
フッ化カドミウム	Cadmium fluoride	CdF <sub>2</sub>	7790-79-6	0.747
シロキサンおよびシリコーン、3-[(2-アミノエチル)アミノ]プロピルメチル、ジメチル、セレン化硫化亜鉛カドミウム、ラウリン酸、オレイルアミンとの反応生成物	Siloxanes and Silicones, 3-[(2-aminoethyl)aminol]propyl Me, di-Me, reaction products with cadmium zinc selenide sulfide, lauric acid and oleylamine	-	1623456-05-2	-
その他のカドミウム化合物	Other cadmium compounds	-	JAMP-SN0016	-

(3) Principal uses for substances

Part	Purpose
Corrosion-resistant plating, decorative coatings, printing inks, NiCd batteries, vinyl chloride sheaths for wires and cords, fuses, fluorescent materials, optical glasses (filters)	Anticorrosion surface treatment, pigments, battery and electrical materials, plastic stabilizers, optical materials

**Table 2-I-2 Hexavalent chromium compounds**

(1) Details

No. I-2	Substance Group: Hexavalent chromium compounds			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・Packaging materials	・Less than 100 ppm in homogeneous material	*1
		・Leather articles and articles containing leather parts, which come into contact with the skin	・Less than 3 mg/kg (0.0003%) of the total dry weight of the leather	*2
		・Substances and mixtures that contain chemicals with the following CAS numbers: Lead (II) chromate: 7758-97-6 Lead chromate molybdate sulphate red: 12656-85-8 Chromium (VI) trioxide: 1333-82-0 Oligomers of chromic acid and dichromic acid: 13530-68-2 Chromic acid: 7738-94-5 Sodium dichromate: 10588-01-9 Sodium dichromate dihydrate: 7789-12-0 Potassium dichromate: 7778-50-9 Ammonium dichromate: 7789-09-5 Potassium chromate: 7789-00-6 Sodium chromate: 7775-11-3 Pentazinc chromate octahydroxide: 49663-84-5 Strontium chromate: 7789-06-2 Dichromium tris(chromate): 24613-89-6 Potassium hydroxyoctaoxodizincatedichromate: 11103-86-9	Intentional inclusion prohibited	*3

	Immediate Exclusions from RoHS Directive: 6 months prior to expiration	• Electric and electronic equipment subject to RoHS Directive (2011/65/EU)	1000 ppm or less in homogeneous material	*4
Exemption	Please refer to the EU RoHS ANNEX III and ANNEX IV.			
Note	<p>*1 The total concentration of four heavy metals (cadmium, hexavalent chromium, lead and mercury) in packaging materials must be considered. In the case of printing inks used on packaging, the total concentration of these four heavy metals included in the solid ingredients of the inks must be considered. EU Directive on packaging materials and Regulations on Heavy Metals in Packaging (U.S.A.).</p> <p>*2 Annex XVII to REACH (restriction)</p> <p>*3 Annex XIV to REACH (authorizations)</p> <p>*4 RoHS Directive (2011/65/EU)</p>			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
重クロム酸ナトリウム	Sodium dichromate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	10588-01-9	0.349
重クロム酸ナトリウム・2水和物	Sodium dichromate, dihydrate	Na <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub> ・2H <sub>2</sub> O	7789-12-0	0.349
酸化クロム(VI)	Chromium (VI) trioxide	CrO <sub>3</sub>	1333-82-0	0.520
クロム酸カルシウム	Calcium chromate	CaCrO <sub>4</sub>	13765-19-0	0.333
クロム酸鉛(II)	Lead (II) chromate	PbCrO <sub>4</sub>	7758-97-6	0.161
重クロム酸カリウム	Potassium dichromate	K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	7778-50-9	0.354
クロム酸カリウム	Potassium chromate	K <sub>2</sub> CrO <sub>4</sub>	7789-00-6	0.268
クロム酸バリウム	Barium chromate	BaCrO <sub>4</sub>	10294-40-3	0.205
クロム酸ナトリウム	Sodium chromate	Na <sub>2</sub> CrO <sub>4</sub>	7775-11-3	0.321
クロム酸ストロンチウム(II)	Strontium chromate	SrCrO <sub>4</sub>	7789-06-2	0.255
クロム酸亜鉛(II)	Zinc chromate	ZnCrO <sub>4</sub>	13530-65-9	0.287
クロム酸鉛(C.I.ピグメントイエロー34)	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	Unspecified	1344-37-2	-
塩基性クロム酸鉛	C.I. Pigment Orange 21	Unspecified	1344-38-3	-
クロム酸	Chromic acid	CrH <sub>2</sub> O <sub>4</sub>	7738-94-5	0.441
クロム酸及び重クロム酸オリゴマー	Oligomers of chromic acid and dichromic acid	-	JAMP-SN0071	
重クロム酸、二クロム酸	Dichromic acid; Chromic acid	H <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	13530-68-2	0.477
二クロム酸アンモニウム	Ammonium dichromate	(NH <sub>4</sub> ) <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	7789-09-5	0.413
硫酸モリブデン酸クロム酸鉛(C.I.ピグメントレッド104)	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	Unspecified	12656-85-8	-
トリス(クロム酸)二クロム(III)	Dichromium tris(chromate)	Cr <sub>5</sub> O <sub>12</sub>	24613-89-6	0.575
クロム酸八水酸化五亜鉛	Pentazinc chromate octahydroxide	CrH <sub>8</sub> O <sub>12</sub> Zn <sub>5</sub>	49663-84-5	0.090
ヒドロキシオクタオキソ二亜鉛酸二クロム酸カリウム	Potassium hydroxyoctaoxidizincatedichromate	Cr <sub>2</sub> K <sub>2</sub> O <sub>8</sub> Zn	11103-86-9	0.277
その他の六価クロム化合物	Other hexavalent chromium compounds	-	JAMP-SN0019	-

(3) Principal uses for substances

Part	Purpose
Metal corrosion-proof chromate treatment (galvanizing, electrode plating, alloys, die-casting), alumite dyes, anticorrosion paints, black chrome plating	Anticorrosion surface treatment, pigments, anticorrosion pigments, paint desiccants

**Table 2-I-3 Lead and its compounds.**

(1) Details

No. I-3	Substance Group: Lead and its compounds			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	· Packaging materials	-Less than 100 ppm in homogeneous material	*1
		· Cable stabilizer used for insulating sheaths whose main ingredient is PVC (especially used in the parts of the sheaths touched routinely with hands)	-Less than 300 ppm in PVC cable insulating sheath	*2
		· Substances and mixtures that contain chemicals with the following CAS numbers: Lead (II) chromate: 7758-97-6 Lead sulfochromate yellow (C.I. Pigment Yellow 34): 1344-37-2 Lead chromate molybdate sulphate red (C.I. Pigment Red 104): 12656-85-8	-Intentional inclusion prohibited	*3
	Immediate Exclusions from RoHS Directive: 6 months prior to expiration	· Electric and electronic equipment subject to RoHS Directive (2011/65/EU)	-1000 ppm or less in homogeneous material	*4
Level 2	May 28,2024	· Article manufactured from "vinyl chloride polymer or copolymer (PVC)"	· Less than 1000ppm	*5
Exemption	*4 Please refer to the EU RoHS ANNEX III and ANNEX IV. *5 Products subject to 2011/65/EU (RoHS Directive), 94/62/EC (Packaging Materials and Packaging Waste Directive)			

Note	<p>*1 The total concentration of four heavy metals (cadmium, hexavalent chromium, lead and mercury) in packaging materials must be considered. In the case of printing inks used on packaging, the total concentration of these four heavy metals included in the solid ingredients of the inks must be considered. EU Directive on packaging materials and Regulations on Heavy Metals in Packaging (U.S.A.).</p> <p>*2 Labeling is required if the inclusion level exceeds the 300 ppm level stipulated in the out-of-court settlement of a lawsuit alleging non-compliance with the warning labeling requirements provided by Proposition 65 in the State of California. The control value, therefore, is set at less than 300 ppm.</p> <p>*3 Annex XIV to REACH (authorizations)</p> <p>*4 RoHS Directive (2011/65/EU), ChemVerbotsV (Germany)</p> <p>*5 Annex XVII to REACH (restriction)</p>
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(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
鉛	Lead	Pb	7439-92-1	1.000
炭酸鉛	Lead carbonate	PbCO <sub>3</sub>	598-63-0	0.775
二酸化鉛	Lead (IV) oxide	PbO <sub>2</sub>	1309-60-0	0.866
四三酸化鉛	Orange lead (Lead tetroxide)	Pb <sub>3</sub> O <sub>4</sub>	1314-41-6	0.907
硫化鉛	Lead (II) sulfide	PbS	1314-87-0	0.866
一酸化鉛	Lead monoxide (Lead oxide) ; Lead (II) oxide	PbO	1317-36-8	0.928
水酸化炭酸鉛(II)	Trilead bis(carbonate)dihydroxide	C <sub>2</sub> H <sub>2</sub> O <sub>8</sub> Pb <sub>3</sub>	1319-46-6	0.801
水酸化炭酸鉛(2)	Lead (II) hydroxidcarbonate	C <sub>2</sub> H <sub>2</sub> O <sub>6</sub> Pb	1344-36-1	0.629
硫酸鉛	Lead sulfate	PbSO <sub>4</sub>	7446-14-2	0.683
磷酸鉛	Trilead bis(orthophosphate)	Pb <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub>	7446-27-7	0.766
クロム酸鉛(II)	Lead chromate	PbCrO <sub>4</sub>	7758-97-6	0.641
チタン酸鉛	Lead titanate	PbTiO <sub>3</sub>	12060-00-3	0.684
硫酸鉛	Lead sulfate	Pb <sub>x</sub> SO <sub>4</sub>	15739-80-7	-
三塩基性硫酸鉛	Tetralead trioxide sulphate	Pb <sub>4</sub> O <sub>3</sub> (SO <sub>4</sub> )	12202-17-4	0.852
ステアリン酸鉛	Lead stearate	Pb(C <sub>17</sub> H <sub>35</sub> CO O) <sub>2</sub>	1072-35-1	0.268
ステアリン酸二鉛	Dibasic lead stearate	2PbO · Pb(C <sub>17</sub> H <sub>35</sub> CO O) <sub>2</sub>	56189-09-4	0.409
酢酸鉛(II)	Lead di(acetate)	Pb(CH <sub>3</sub> COO) <sub>2</sub>	301-04-2	0.637
酢酸鉛(II)・三水和物	Lead (II) acetate trihydrate	Pb(CH <sub>3</sub> COO) <sub>2</sub> ·3H <sub>2</sub> O	6080-56-4	0.546
セレン化鉛	Lead selenide	PbSe	12069-00-0	0.724
ジルコン酸鉛	Lead zirconate	PbZrO <sub>3</sub>	12060-01-4	0.598
水酸化鉛	Hydroxylead	Pb(OH) <sub>2</sub>	1311-11-1	0.859
硝酸鉛	Lead dinitrate	Pb(NO <sub>3</sub> ) <sub>2</sub>	10099-74-8	0.626
ヒ酸鉛(II)	Trilead diarsenate	Pb <sub>3</sub> (AsO <sub>4</sub> ) <sub>2</sub>	3687-31-8	0.691
酸性ヒ酸鉛	Lead hydrogen arsenate	AsH <sub>3</sub> O <sub>4</sub> ·Pb	7784-40-9	0.593
トリニトロレゾルシン鉛	Lead styphnate	C <sub>6</sub> HN <sub>3</sub> O <sub>8</sub> Pb	15245-44-0	0.460
アジ化鉛	Lead diazide	N <sub>6</sub> Pb	13424-46-9	0.711
ピクリン酸鉛(II)	Lead dipicrate	C <sub>12</sub> H <sub>4</sub> N <sub>6</sub> O <sub>14</sub> Pb	6477-64-1	0.312
メタンスルホン酸鉛(II)	Lead (II) bis(methanesulfonate)	C <sub>2</sub> H <sub>6</sub> O <sub>6</sub> PbS <sub>2</sub>	17570-76-2	0.521

硫酸モリブデン酸クロム酸鉛 (C.I.ピグメントレッド104)	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	Unspecified	12656-85-8	-
クロム酸鉛(C.I.ピグメントイエロー34)	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	Unspecified	1344-37-2	-
ジオキソ (フタラト) 三鉛	[Phthalato(2-)]dioxotrilead	C <sub>8</sub> H <sub>4</sub> O <sub>6</sub> Pb <sub>3</sub>	69011-06-9	0.760
ケイ酸とバリウムの塩(1:1)(鉛ドーブ)	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped	Unspecified	68784-75-8	
ケイ酸と鉛の塩	Silicic acid, lead salt	Unspecified	11120-22-2	
シアナミド鉛	Lead cyanamidate	CH <sub>2</sub> N <sub>2</sub> Pb	20837-86-9	0.831
ジオキソビス(ステアリン酸)三鉛	Dioxobis(stearato)trilead	C <sub>36</sub> H <sub>70</sub> O <sub>6</sub> Pb <sub>3</sub>	12578-12-0	0.509
ジルコン酸チタン酸鉛	Lead titanium zirconium oxide	Unspecified	12626-81-2	
四エチル鉛	Tetraethyllead	C <sub>8</sub> H <sub>20</sub> Pb	78-00-2	0.641
ピグメントイエロー41	Pyrochlore, antimony lead yellow	Unspecified	8012-00-8	
四フッ化ホウ酸鉛(II)	Lead bis(tetrafluoroborate)	B <sub>2</sub> F <sub>8</sub> Pb	13814-96-5	0.544
塩基性クロム酸鉛	C.I. Pigment Orange 21	Unspecified	1344-38-3	
塩基性亜硫酸鉛	Sulfurous acid, lead salt, dibasic	Unspecified	62229-08-7	
塩基性酢酸鉛	Acetic acid, lead salt, basic	Unspecified	51404-69-4	
塩基性硫酸鉛	Lead oxide sulfate (Pb <sub>2</sub> O(SO <sub>4</sub> ))	Pb <sub>2</sub> O(SO <sub>4</sub> )	12036-76-9	0.787
塩基性硫酸鉛	Pentalead tetraoxide sulphate; Lead oxide sulfate (Pb <sub>5</sub> O <sub>4</sub> (SO <sub>4</sub> ))	Pb <sub>5</sub> O <sub>4</sub> (SO <sub>4</sub> )	12065-90-6	0.866
脂肪酸鉛塩(炭素数16~18)	Fatty acids, C16-18, lead salts	-	91031-62-8	
二塩基性リン酸鉛	Trilead dioxide phosphonate; ; Lead oxide phosphonate (Pb <sub>3</sub> O <sub>2</sub> (HPO <sub>3</sub> ))	Pb <sub>3</sub> O <sub>2</sub> (HPO <sub>3</sub> )	12141-20-7	0.847
銅、鉄、鉛マット(かわ)の残渣の非水溶性亜硫酸化合物	Residues, copper-iron-lead-nickel matte, sulfuric acid-insol.	-	102110-49-6	-
その他の鉛化合物	Other lead compounds	-	JAMP-SN0023	-

### (3) Principal uses for substances

Part	Purpose
Electrodes for lead accumulators, optical glasses (lens, filters), structural parts (steel, aluminum, copper), vinyl chloride sheaths for wires and cords, paints, inks, X-ray shield plastic plates, CRTs for monitors, electro soldering, die bonding, mechanical soldering, vulcanized rubber molded items, manganese cells, alkaline button cells	Battery materials, free-machining alloy materials, optical materials, plastic stabilizers, pigments, radiation shielding materials, electric solder materials, mechanical solder materials, rubber vulcanizing agents

**Table 2-I-4 Mercury and its compounds**

#### (1) Details

No. I-4	Substance Group: Mercury and its compounds			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・Packaging materials	・Less than 100 ppm in homogeneous material	*1
		・Use in appliances used fully or partially in water	・Intentional inclusion prohibited ・Not detected	*2

	Immediate Exclusions from RoHS Directive: 6 months prior to expiration	· Electric and electronic equipment subject to RoHS Directive (2011/65/EU)	-1000 ppm or less in homogeneous material	*3
Exemption	Please refer to the EU RoHS ANNEX III and ANNEX IV.			
Note	<p>*1 The total concentration of four heavy metals (cadmium, hexavalent chromium, lead and mercury) in packaging materials must be considered. In the case of printing inks used on packaging, the total concentration of these four heavy metals included in the solid ingredients of the inks must be considered. EU Directive on packaging materials and Regulations on Heavy Metals in Packaging (U.S.A.).</p> <p>*2 Annex XVII to REACH (restriction), ChemVerbotsV (Germany)</p> <p>*3 RoHS Directive (2011/65/EU)</p>			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
水銀	Mercury	Hg	7439-97-6	1.000
塩化第二水銀	Mercury dichloride	HgCl <sub>2</sub>	7487-94-7	0.739
酸化水銀(II)	Mercury (II) oxide	HgO	21908-53-2	0.926
硫酸第二水銀	Mercury sulphate	HgSO <sub>4</sub>	7783-35-9	0.676
硝酸水銀(II)	Mercury (II) nitrate	Hg(NO <sub>3</sub> ) <sub>2</sub>	10045-94-0	0.618
硫化第二水銀	Mercury (II) sulfide	HgS	1344-48-5	0.862
酸化水銀(I)(黒色)	Mercury(I) oxide (black)	Hg <sub>2</sub> O	15829-53-5	0.962
ジメチル水銀	Dimethyl mercury	(CH <sub>3</sub> ) <sub>2</sub> Hg	593-74-8	0.870
塩化第一水銀	Mercury chloride	Hg <sub>2</sub> Cl <sub>2</sub>	10112-91-1	0.850
その他の水銀化合物	Other mercury compounds	-	JAMP-SN0024	-

(3) Principal uses for substances

Part	Purpose
Lamps (mercury lamps, fluorescent tubes, back lights for liquid crystal displays), electrodes, batteries, electric contacts, plastics, paints, printing inks	Fluorescent materials, electrical contact materials, mercury batteries, color pigments

**Table 2-I-5 Trisubstituted organotin compounds (including bis (tributyltin) oxide (TBTO), tributyltin compounds (TBTs, excluding TBTO) and triphenyltin compounds (TPTs))**

(1) Details

No. I-5	Substance Group: Trisubstituted organotin compounds (including bis (tributyltin) oxide (TBTO), tributyltin compounds (TBTs, excluding TBTO) and triphenyltin compounds (TPTs))			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	[TBTO (CAS No.: 56-35-9) only] · All applications	- Intentional inclusion prohibited	*1
		[Trisubstituted organotin compounds except TBTO (CAS No.: 56-35-9)] · All applications	- Less than 1000 ppm (tin conversion) in article or part thereof	*2
Note	<p>*1 Class I Specified Chemical Substances (TBTO: Cas No.56-35-9) designated by Japanese Chemical Substances Control Act.</p> <p>*2 Annex XVII to REACH (restriction), ChemVerbotsV (Germany)</p>			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ビス(トリブチルスズ)=オキシド (TBTO)	Bis(tri-n-butyltin) oxide	$O(Sn(C_4H_9)_3)_2$	56-35-9	0.398
トリフェニルスズ=N,N-ジメチルジチオカルバマート	Triphenyltin dimethyldithiocarbamate	$(C_6H_5)_3Sn(CH_3)_2NCS_2$	1803-12-9	0.252
トリフェニルスズ=フルオリド	Triphenyltin fluoride	$(C_6H_5)_3SnF$	379-52-2	0.322
酢酸トリフェニルスズ	Triphenyltin acetate	$(C_6H_5)_3SnOC(O)CH_3$	900-95-8	0.290
トリフェニルスズ=クロリド	Triphenyltin chloride	$(C_6H_5)_3SnCl$	639-58-7	0.308
トリフェニルスズ=ヒドロキシド	Triphenyltin hydroxide	$(C_6H_5)_3SnOH$	76-87-9	0.323
トリフェニル [(2, 2, 4, 4-テトラメチル-1-オキソペンチル) オキシ] スタンナン	Stannane, triphenyl[(2,2,4,4-tetramethyl-oxopentyl)oxy]-	$C_{27}H_{32}O_2Sn$	18380-71-7	0.234
[[2, 3-ジメチル-2-(1-メチルエチル)-1-オキソブチル] トリフェニルスタンナン	Stannane, [[2,3-dimethyl-2-(1-methylethyl)-oxobutyl]oxy]triphenyl-	$C_{27}H_{32}O_2Sn$	18380-72-8	0.234
[(1-オキソデシル) オキシ] トリフェニルスタンナン	Stannane, [(1-oxodecyl)oxy]triphenyl-	$C_{28}H_{34}O_2Sn$	47672-31-1	0.228
[(1-オキソウンデシル) オキシ] トリフェニルスタンナン	Stannane, [(1-oxoundecyl)oxy]triphenyl-	$C_{29}H_{36}O_2Sn$	94850-90-5	0.222
トリフェニルスズ=クロロアセタート	Triphenyltin chloroacetate	$(C_6H_5)_3SnOC(O)CH_2Cl$	7094-94-2	0.268
トリブチルスズ=メタクリラート	Tributyltin methacrylate	$(C_4H_9)_3SnC_4H_5O_2$	2155-70-6	0.317
ビス(トリブチルスズ)=フマラート	Bis(tributyltin) fumarate	$C_2H_2(COO)_2((C_4H_9)_3Sn)_2$	6454-35-9	0.342
トリブチルスズ=フルオリド	Tributyltin fluoride	$(C_4H_9)_3SnF$	1983-10-4	0.384
トリブチルスズ=2,3-ジブロモスクシナート	Bis(tributyltin) meso-2,3-dibromosuccinate	$((C_4H_9)_3Sn)_2C_2H_2(Br)_2(COO)_2$	31732-71-5	0.278
トリブチルスズ=アセタート	Tributyltin acetate	$(C_4H_9)_3SnOC(O)CH_3$	56-36-0	0.340
トリブチルスズ=ラウラート	Tributyltin laurate	$(C_4H_9)_3SnC_{12}H_{23}O_2$	3090-36-6	0.243
ビス(トリブチルスズ)=フタラート	Bis(tributyltin) phthalate	$(C_6H_4)(COO)_2((C_4H_9)_3Sn)_2$	4782-29-0	0.319
アルキル=アクリラート・メチル=メタクリラート・トリブチルスズ=メタクリラート、共重合物(アルキル=アクリラートのアルキル基の炭素数が8のものに限る)	Copolymer of alkyl acrylate, methyl-methacrylate and tributyltin-methacrylate(alkyl; C=8)	-	67772-01-4	
トリブチルスズ=スルファマート	Tributyltin sulfamate	$(C_4H_9)_3SnSO_3NH_2$	6517-25-5	0.307
ビス(トリブチルスズ)=マレアート	Bis(tributyltin) maleate	$C_2H_2(COO)_2((C_4H_9)_3Sn)_2$	14275-57-1	0.342
トリブチルスズ=クロリド	Tributyltin chloride	$(C_4H_9)_3SnCl$	1461-22-9 7342-38-3	0.365



トリブチルスズ=シクロペンタンカルボキシレート及びこの類縁化合物の混合物	Mixture of tributyltin -cyclopentanecarboxylate and its -analogs (Tributyltin naphthenate)	(C <sub>4</sub> H <sub>9</sub> ) <sub>3</sub> SnCO <sub>3</sub> C <sub>5</sub> H <sub>9</sub>	85409-17-2	-
トフリブタン-1-イルスタンニル=(1R,4aR,4bR,10aR)-7-イソプロピル-1,4a-ジメチル-1,2,3,4,4a,4b,5,6,10,10a-デカヒドロフェナントレン-1-カルボキシレート	Tributan-1-ylstannyl (1R,4aR,4bR,10aR)-7-isopropyl-1,4a-dimethyl-1,2,3,4,4a,4b,5,6,10,10a-decahydrophenanthrene-1-carboxylate	C <sub>32</sub> H <sub>56</sub> O <sub>2</sub> Sn	26239-64-5	0.201
その他の三置換有機スズ化合物	Other Trisubstituted organotin compounds	-	JAMP-SN0068	-

(3) Principal uses for substances

Part	Purpose
Paints, printing inks	Paints, antifouling (sterilization) pigments, preservatives, stabilizers, antioxidants

**Table 2-I-6 Dibutyltin compounds**

(1) Details

No. I-6	Substance Group: Dibutyltin compounds			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・ All applications	- Less than 1000 ppm (tin conversion) in mixture, article or part thereof	*1
Note	*1 Annex XVII to REACH (restriction)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ジブチルスズオキシド	Dibutyltin oxide	C <sub>8</sub> H <sub>18</sub> OSn	818-08-6	0.477
ジブチルスズ二酢酸	Dibutyltin diacetate	C <sub>12</sub> H <sub>24</sub> O <sub>4</sub> Sn	1067-33-0	0.338
ジブチル [(1-オキシドデシル)オキシ]スズ;ジブチルスズジラウレート	Dibutyltin dilaurate	C <sub>32</sub> H <sub>64</sub> O <sub>4</sub> Sn	77-58-7	0.188
マレイン酸ジ-n-ブチルスズ	Dibutyltin maleate	C <sub>12</sub> H <sub>20</sub> O <sub>4</sub> Sn	78-04-6	0.342
ジブチルスズジクロライド (DBTC)	Dibutyltin dichloride (DBTC)	C <sub>8</sub> H <sub>18</sub> Cl <sub>2</sub> Sn	683-18-1	0.391
その他のジブチルスズ化合物	Other dibutyltin compounds	-	JAMP-SN0072	-

(3) Principal uses for substances

Part	Purpose
Stabilizer for PVC, curing catalyst for silicone resin and urethane resin	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin

**Table 2-I-7 Dioctyltin compounds (DOT)**

(1) Details

No. I-7	Substance Group: Dioctyltin compounds (DOT)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・Textile and leather articles intended to	- Less than 1000 ppm	*1

		come into contact with the skin • Childcare articles • Two-component room temperature vulcanization molding kits (RTV-2 sealant molding kits)	(tin conversion) in article or part thereof	
Note	*1 Annex XVII to REACH (restriction)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ジオクチルスズオキシド	Diocetyl tin oxide	C <sub>16</sub> H <sub>34</sub> OSn	870-08-6	0.326
ジオクチルビス [(1-オキシドデシル)オキシ] スズ	Diocetyl tin dilaurate	C <sub>40</sub> H <sub>80</sub> O <sub>4</sub> Sn	3648-18-8	0.160
ジオクチルスズビス(2-エチルヘキシルチオグリコラート)	Diocetyl tin bis(2-ethylhexyl thioglycolate)	C <sub>36</sub> H <sub>72</sub> O <sub>4</sub> S <sub>2</sub> Sn	15571-58-1	0.158
その他のジオクチルスズ化合物	Other Diocetyl tin compounds	-	-	-

(3) Principal uses for substances

Part	Purpose
Stabilizer for PVC, curing catalyst for silicone resin and urethane resin	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin

**Table 2-I-8 Nickel and its compounds.**

(1) Details

No. I-8	Substance Group: Nickel and its compounds			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	The following types of articles that maintain direct, sustained contact with the skin: • Earrings, necklaces, bracelets, chains, anklets, rings • Wristwatch cases, wristwatch bands, rivet buttons used in clothing, belts, rivets, zippers, and metal marks.	-The rate of nickel release from the article is less than 0.5 µg/cm <sup>2</sup> per week.	*1
Note	*1 Annex XVII to REACH (restriction) The use of articles is prohibited if the rate of nickel released from those articles equals or exceeds 0.5 µg/cm <sup>2</sup> per week. (In cases where the above-mentioned articles have non-nickel coatings on them, the use of the articles will still be prohibited if the rate of nickel released from them under normal usage conditions for at least two years exceeds 0.5 µg/cm <sup>2</sup> per week.)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
一酸化ニッケル	Nickel oxide	NiO	1313-99-1	0.786
炭酸ニッケル	Nickel carbonate	NiCO <sub>3</sub>	3333-67-3	0.494
硫酸ニッケル	Nickel Sulphate	NiSO <sub>4</sub>	7786-81-4	0.379
ニッケル	Nickel	Ni	7440-02-0	1.000
塩化第一ニッケル	Nickel (II) chloride	NiCl <sub>2</sub>	7718-54-9	0.453
その他のニッケル化合物	Other nickel compounds	-	JAMP-SN0027	-

(3) Principal uses for substances

Part	Purpose

Headphones, accessories	Stainless steel, plating
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**Table 2-I-9 Polybrominated biphenyl (PBBs)**

(1) Details

No. I-9	Substance Group: Polybrominated biphenyl (PBBs)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	• Electric and electronic equipment subject to RoHS Directive (2011/65/EU)	-1000 ppm or less in homogeneous material	*1
		• The following types of articles that maintain direct, sustained contact with the skin: • Fiber products such as clothes, underwear, and linens	-Intentional inclusion prohibited	*2
Note	*1 RoHS Directive (2011/65/EU); monitoring chemical substances by Japanese Chemical Substances Control Act. *2 Annex XVII to REACH (restriction)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ポリ臭化ビフェニル類	Polybrominated Biphenyls		59536-65-1 JAMP-SN0065	-
4,4'-ジブロモビフェニル	4,4'-Dibromobiphenyl	C <sub>6</sub> H <sub>4</sub> BrC <sub>6</sub> H <sub>4</sub> Br	92-86-4	-
2-ブロモビフェニル	2-Bromobiphenyl	C <sub>6</sub> H <sub>5</sub> C <sub>6</sub> H <sub>4</sub> Br	2052-07-5	-
3-ブロモビフェニル	3-Bromobiphenyl	C <sub>6</sub> H <sub>5</sub> C <sub>6</sub> H <sub>4</sub> Br	2113-57-7	-
4-ブロモビフェニル	4-Bromobiphenyl	C <sub>6</sub> H <sub>5</sub> C <sub>6</sub> H <sub>4</sub> Br	92-66-0	-
トリブロモビフェニル	1,1'-Biphenyl, 2,2',5'-tribromo-	C <sub>12</sub> H <sub>7</sub> Br <sub>3</sub>	59080-34-1	-
テトラブロモビフェニル	Tetrabromobiphenyl	C <sub>12</sub> H <sub>6</sub> Br <sub>4</sub>	40088-45-7	-
ペンタブロモビフェニル	Pentabromobiphenyl	C <sub>12</sub> H <sub>5</sub> Br <sub>5</sub>	56307-79-0	-
2,2',4,4',5,5'-ヘキサブロモビフェニル	2,2',4,4',5,5'-Hexabromobiphenyl Hexabromobiphenyl	C <sub>6</sub> H <sub>2</sub> Br <sub>3</sub> C <sub>6</sub> H <sub>2</sub> Br <sub>3</sub>	59080-40-9	-
ヘキサブロモ-1,1'-ビフェニル	Hexabromo-1,1'-biphenyl	C <sub>6</sub> H <sub>2</sub> Br <sub>3</sub> C <sub>6</sub> H <sub>2</sub> Br <sub>3</sub>	36355-01-8	-
ファイアーマスターFF-1	Firemaster FF-1	C <sub>12</sub> H <sub>4</sub> Br <sub>6</sub>	67774-32-7	-
ヘプタブロモビフェニル	Heptabromobiphenyl	C <sub>6</sub> Br <sub>5</sub> C <sub>6</sub> H <sub>3</sub> Br <sub>2</sub>	35194-78-6	-
オクタブロモビフェニル	Octabromobiphenyl	C <sub>6</sub> HBr <sub>4</sub> C <sub>6</sub> HBr <sub>4</sub>	61288-13-9	-
ノナブロモ-1,1'-ビフェニル	Nonabiphenyl	C <sub>12</sub> HBr <sub>9</sub>	27753-52-2	-
デカブロモビフェニル	Decabromobiphenyl	C <sub>6</sub> BrC <sub>6</sub> Br <sub>5</sub>	13654-09-6	-
[1,1'-ビフェニル]-ar,ar'-ジオール, テトラブロモ-, (クロロメチル)オキシラン及び4,4'-(1-メチルエチリデン)ビス[フェノール]とのポリマー	[1,1'-Biphenyl]-ar,ar'-diol, tetrabromo-, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol]	(C <sub>15</sub> H <sub>16</sub> O <sub>2</sub> .C <sub>12</sub> H <sub>6</sub> Br <sub>4</sub> O <sub>2</sub> .C <sub>3</sub> H <sub>5</sub> ClO) <sub>x</sub>	68758-75-8	-

(3) Principal uses for substances

Part	Purpose
Flame-retardant plastic enclosure molded items	Plastic flame retardants

**Table 2-I-10 Polybrominated diphenyl ethers (PBDEs)**

(1) Details

No. I-10	Substance Group: Polybrominated diphenyl ethers (PBDEs)
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Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	• Electric and electronic equipment subject to RoHS Directive (2011/65/EU)	-1000 ppm or less in homogeneous material	*1 *3
		[PBDEs excluding DecaBDE (CAS No.: 1163-19-5)] • All applications other than the items subject to RoHS Directive (2011/65/EU)	• Less than 500 ppm as a total amount in article	*2
		[DecaBDE (CAS No.: 1163-19-5) only] • All applications	• Intentional inclusion prohibited	*3 *4
*4 Exemption	<p>«FDA-registered medical devices» The following Official Journal is applicable. TSCA: CHAPTER 53—TOXIC SUBSTANCES CONTROL SUBCHAPTER I—CONTROL OF TOXIC SUBSTANCES Sec. 2602. Definitions. (2)(vi) (<a href="https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf">https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf</a>)</p> <p>(Note) FDA-registered medical devices are not subject to TSCA but Olympus may require suppliers to report the contents of these substances so that Olympus can confirm the exemptions are applied.</p> <p>«Exceptions to US TSCA PBT Rules »</p> <ul style="list-style-type: none"> <li>• Regulated substances, products or articles containing regulated substances, which have already been sold to end-consumers (such as secondhand articles and donations to charity)</li> <li>• Disposal of regulated substances, products or articles containing regulated substances</li> <li>• Production, treatment, distribution in commerce and use of regulated substances, products or articles containing regulated substances for research and development purposes</li> <li>• Processing and distribution in commerce for recycling of plastic containing DecaBDE from products or articles</li> </ul> <p>(Note) Items other than the “FDA-registered medical devices” described above</p>			
Note	<p>*1 RoHS Directive (2011/65/EU) *2 EU POPs regulation *3 Class I Specified Chemical Substances (CAS No. : 1163-19-5) designated by Japanese Chemical Substances Control Act., US TSCA PBT Rules</p>			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ポリ臭化ジフェニルエーテル類	Polybrominated diphenyl ethers	$C_{12}H_xBr_{(10-x)}O$	JAMP-SN0066	-
ブロモジフェニルエーテル	Bromodiphenyl ether	$Br(C_6H_4)O(C_6H_5)$	101-55-3	-
ジブロモジフェニルエーテル	Dibromodiphenyl ethers	$C_6H_4BrOC_6H_4Br$	2050-47-7	-
トリブロモジフェニルエーテル	Tribromodiphenyl ether	$C_{12}H_7Br_3O$	49690-94-0	-
テトラブロモジフェニルエーテル	Tetrabromobiphenyl ethers	$C_{12}H_6Br_4O$	40088-47-9	-
ペンタブロモジフェニルエーテル (注:市販のPeBDPDは、種々の臭素化ジフェニルオキシドを含む複雑な反応混合物である)	Pentabromodiphenyl ether (note:Commercially available PeBDPD is a complex reaction mixture containing a variety of brominated diphenyloxides)	-	32534-81-9 (CAS No. used for commercial grades of PeBDPD)	-
ヘキサブロモジフェニルエーテル	Hexabromodiphenyl ether	$C_{12}H_4Br_6O$	36483-60-0	-

ヘプタブロモジフェニルエーテル	Heptabromodiphenyl ether	C <sub>12</sub> H <sub>3</sub> Br <sub>7</sub> O	68928-80-3	-
オクタブロモジフェニルエーテル	Octabromobiphenyl ether	C <sub>12</sub> H <sub>2</sub> Br <sub>8</sub> O	32536-52-0	-
ノナブロモジフェニルエーテル	Nonabromodiphenyl ether	C <sub>12</sub> HBr <sub>9</sub> O	63936-56-1	-
デカブロモジフェニルエーテル (DecaBDE)	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	Br <sub>5</sub> C <sub>6</sub> OC <sub>6</sub> Br <sub>5</sub>	1163-19-5	-

(3) Principal uses for substances

Part	Purpose
Flame-retardant plastic enclosure molded items	Plastic flame retardants

**Table 2-I-11 Polychlorinated biphenyl (PCBs)**

(1) Details

No. I-11	Substance Group: Polychlorinated biphenyl (PCBs)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・All applications	・Intentional inclusion prohibited	*1
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act., TSCA(USA)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ポリクロロビフェニル	Polychlorobiphenyl	Unspecified	1336-36-3	-
アロクロール(Aroclor)	Aroclor	(C <sub>6</sub> -C <sub>6</sub> )H <sub>x</sub> Cl <sub>y</sub>	12767-79-2	-
クロロジフェニル(アロクロール 1260)	Aroclor 1260	-	11096-82-5	-
クロロビフェニル	Chlorobiphenyl	C <sub>12</sub> H <sub>9</sub> Cl	27323-18-8	-
アロクロール 1254	Aroclor 1254	Unspecified	11097-69-1	-
モノメチル・テトラクロロ・ジフェニルメタン(Ugilec 141)	Monomethyl-tetrachloro-diphenyl methane (Ugilec 141)	C <sub>14</sub> H <sub>10</sub> Cl <sub>4</sub>	76253-60-6	-
モノメチル・ジクロロ・ジフェニルメタン (Ugilec121, Ugilec21)	Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21)	-	81161-70-8	-
モノメチル・ジブロモ・ジフェニルメタン (DBBT)	Monomethyl-dibromo-diphenyl methane (DBBT)	-	99688-47-8	-

(3) Principal uses for substances

Part	Purpose
Insulating oil for transformers and capacitors	Electrical insulation medium, solvents

**Table 2-I-12 Substance Group: Polychlorinated Terphenyls (PCTs)**

(1) Details

No.I-12	Substance Group: Polychlorinated Terphenyls (PCTs)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・All applications	・Less than 50 ppm in mixture or article	*1

Note	*1 Annex XVII to REACH (restriction)
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(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ポリ塩化ターフェニル;PCTs (全ての異性体および同族体)	Polychlorinated terphenyls (PCTs; all isomers and congeners)	Unspecified	61788-33-8	-
テルフェニル類	Terphenyls	C <sub>6</sub> H <sub>4</sub> (C <sub>6</sub> H <sub>5</sub> ) <sub>2</sub>	26140-60-3	-

(3) Principal uses for substances

Part	Purpose
Insulating oil for transformers and capacitors	Electrical insulation medium, solvents

**Table 2-I-13 Polychlorinated naphthalene (number of chlorine: 2 or more)**

(1) Details

No. I-13	Substance Group: Polychlorinated naphthalene (number of chlorine: 2 or more)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	• All applications	-Intentional inclusion prohibited	*1
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act.			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ポリ塩化ナフタレン(塩素数が2以上)	Polychlorinated Naphthalenes(Cl <sub>2</sub> ≥2)	Unspecified	70776-03-3	-
2塩化ナフタレン	Dichloronaphthalene	C <sub>10</sub> H <sub>6</sub> Cl <sub>2</sub>	28699-88-9	-
3塩化ナフタレン	Trichloronaphthalene	C <sub>10</sub> H <sub>5</sub> Cl <sub>3</sub>	1321-65-9	-
4塩化ナフタレン	Tetrachloronaphthalene	C <sub>10</sub> H <sub>4</sub> Cl <sub>4</sub>	1335-88-2	-
5塩化ナフタレン	Pentachloronaphthalene	C <sub>10</sub> H <sub>3</sub> Cl <sub>5</sub>	1321-64-8	-
その他のポリ塩化ナフタレン(塩素数が2以上)	Other polychlorinated Naphthalenes (Cl <sub>2</sub> ≥2)	-	-	-

(3) Principal uses for substances

Part	Purpose
Flexible rubber, elastomer belts, rolls, packing, sealing materials, insulating oil for capacitors	Plastic stabilizers (electrical characteristics, flame-proofing, water-proofing, biocidal characteristics), electrical insulation medium

**Table 2-I-14 Short-chained chlorinated paraffin (having the chain length of 10 - 13)**

(1) Details

No. I-14	Substance Group: Short-chained chlorinated paraffin (having the chain length of 10 - 13)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	• All applications	-Intentional inclusion prohibited	*1
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act., EU POPs regulation			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical	CAS No. or	Metal
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		formula	JAMP-SN	conversion factor
塩素化パラフィン(短鎖)(C10-13)	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	Unspecified	85535-84-8	-
クロロアルカン C10-12	Alkanes, C10-12, chloro	Unspecified	104948-36-9	-
1,1,1,3,5,7,9,11,11-ノナクロロウンデカン	Undecane, 1,1,1,3,5,7,9,11,11-nonachloro-	C11H15Cl9	18993-26-5	-
ヘプタクロロウンデカン	Undecane, heptachloro-	-	219697-10-6	-
ノナクロロウンデカン	Undecane, nonachloro-	-	219697-11-7	-
1,2,10,11,?, ?, ?, ?-オクタクロロウンデカン 塩素化パラフィン (C11、C17-12)	Undecane, 1,2,10,11,?,?,?,?-octachloro-	-	221174-07-8	-
デカクロロウンデカン	Undecane, decachloro-	-	276673-33-7	-
オクタクロロウンデカン	Undecane, octachloro-	C11H16Cl8	36312-81-9	-
クロロワックス	Chlorowax	-	51990-12-6	-
1,1,1,3,6,7,10,11-オクタクロロウンデカン	Undecane, 1,1,1,3,6,7,10,11-octachloro-	-	601523-20-0	-
1,1,1,3,9,11,11,11-オクタクロロウンデカン	Undecane, 1,1,1,3,9,11,11,11-octachloro-	-	601523-25-5	-
クロロアルカン	Alkanes, chloro; chloroparaffins	Unspecified	61788-76-9	-
1,1,1,2-テトラクロロ-ウンデカン	Undecane, 1,1,1,2-tetrachloro-	C11H20Cl4	63981-28-2	-
クロロアルカン C12-24	Alkene, C12-24-, Chloro-	Unspecified	68527-02-6	-
クロロパラフィン (C6-18) (組成不定)	Chlorinated n-paraffins (C6-18)	Unspecified	68920-70-7	-
塩素化マイクロクリスタリン炭化水素ワックス(石油系)	Hydrocarbon waxes (petroleum), microcryst., chlorinated	Unspecified	68938-43-2	-
クロロアルカン (炭化水素化合物) (C12-13)	Alkanes, C12-13, chloro	Unspecified	71011-12-6	-
クロロアルカン (塩化炭化水素) (C10-21)	Alkanes, C10-21, chloro	Unspecified	84082-38-2	-
クロロアルカン類, C10-32	Alkanes, C10-32, chloro	Unspecified	84776-06-7	-
クロロパラフィン油	Paraffin oils, chloro-	Unspecified	85422-92-0	-
クロロパラフィン (C12-14)	Alkane, C12-14-, Chloro-	Unspecified	85536-22-7	-
クロロパラフィン (C10-14)	Alkane, C10-14-, Chloro-	Unspecified	85681-73-8	-
クロロアルカン(C12-16)	Alkanes, C12-16, chloro	Unspecified	866758-65-8	-
塩素化パラフィン (石油)、標準 C>10	Paraffins (petroleum), normal C>10, chloro	Unspecified	97553-43-0	-
クロロアルカン類, C10-26	Alkanes, C10-26, chloro	Unspecified	97659-46-6	-
塩素化パラフィン (SCCP(短鎖)またはMCCP(中鎖)か分からないもの)	Chlorinated Paraffins may or may not be SCCP or MCCP	-	JAMP-SN1020	-

(3) Principal uses for substances

Part	Purpose
Flexible polyvinyl chloride molded items	Polyvinyl chloride plasticizers

**Table 2-I-15 Polyvinyl chloride (PVC)**

(1) Details

No. I-15	Substance Group: Polyvinyl chloride (PVC)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・Packaging materials	・Intentional inclusion prohibited	—
Exemption	Other applications are permitted.			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
塩化ビニル、クロロエチレン	Chloroethene	-	75-01-4	-
ポリ塩化ビニル(PVC)およびその混合物	Polyvinyl chloride (PVC) and its mixture	(CH <sub>2</sub> CHCl) <sub>n</sub>	9002-86-2	-
ポリ塩化ビニル酢酸ビニル共重合体	Vinyl chloride/vinyl acetate copolymer	-	9003-22-9	-

(3) Principal uses for substances

Part	Purpose
Coated wiring cords, electric insulation molded items, chemical-resistant molded parts, plumbing components, transparent covers	Electrical insulation medium, chemical-resistance, transparency

**Table 2-I-16 Hexabromocyclododecane (HBCDD)**

(1) Details

No. I-16	Substance Group: Hexabromocyclododecane (HBCDD)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・All applications	・Intentional inclusion prohibited	*1
		・Substances ・Mixtures	・Intentional inclusion prohibited	*2
Exemption	*2 Applications that are submitted to, and approved by, the European Chemicals Agency will be permitted.			
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act., EU POPs regulation *2 Annex XIV to REACH (authorizations)			

(2) Regulated substances (Japanese Chemical Substances Control Act.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
1,2,5,6,9,10-ヘキサブロモシクロドデカン	1,2,5,6,9,10-hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	3194-55-6
ヘキサブロモシクロドデカン (HBCDD)	Hexabromocyclododecane (HBCDD)	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	25637-99-4
rel-(1R,2R,5S,6R,9R,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン; アルファ-ヘキサブロモシクロドデカン	rel-(1R,2R,5S,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane; Alpha-hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	134237-50-6



rel-(1R,2S,5R,6R,9R,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン; ベータ-ヘキサブロモシクロドデカン	rel-(1R,2S,5R,6R,9R,10S)-1,2,5,6,9,10-hexabromocyclododecane Beta-hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	134237-51-7
rel-(1R,2R,5R,6S,9S,10R)-1,2,5,6,9,10-ヘキサブロモシクロドデカン; ガンマ-ヘキサブロモシクロドデカン	rel-(1R,2R,5R,6S,9S,10R)-1,2,5,6,9,10-hexabromocyclododecane Gamma-hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	134237-52-8
rel-(1R,2S,5R,6S,9R,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	rel-(1R,2S,5R,6S,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	4736-49-6
rel-(1R,2S,5R,6S,9S,10R)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	rel-(1R,2S,5R,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	65701-47-5
(1R,2R,5R,6S,9S,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2R,5R,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	138257-17-7
(1R,2R,5R,6S,9R,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2R,5R,6S,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	138257-18-8
(1R,2S,5S,6R,9S,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2S,5S,6R,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	138257-19-9
(1R,2S,5S,6S,9S,10R)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2S,5S,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	169102-57-2
(1R,2R,5S,6R,9R,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2R,5S,6R,9R,10S)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	678970-15-5
(1R,2S,5R,6S,9S,10S)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2S,5R,6S,9S,10S)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	678970-16-6
(1R,2R,5R,6S,9S,10R)-1,2,5,6,9,10-ヘキサブロモシクロドデカン	(1R,2R,5R,6S,9S,10R)-1,2,5,6,9,10-Hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	678970-17-7
Regulated substances (REACH, EU POPs regulation)			
Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
1,2,5,6,9,10-ヘキサブロモシクロドデカン	1,2,5,6,9,10-hexabromocyclododecane	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	3194-55-6
ヘキサブロモシクロドデカン (HBCDD)	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified:	C <sub>12</sub> H <sub>18</sub> Br <sub>6</sub>	25637-99-4
アルファ-ヘキサブロモシクロドデカン	Alpha-hexabromocyclododecane		134237-50-6,
ベータ-ヘキサブロモシクロドデカン	Beta-hexabromocyclododecane		134237-51-7,
ガンマ-ヘキサブロモシクロドデカン	Gamma-hexabromocyclododecane		134237-52-8

(3) Principal uses for substances

Part	Purpose
Expanded polystyrene molded parts, adhesive agents, fiber coating	Fire-retardant for resins and fibers

**Table 2-I-17 Pentachlorothiophenol (PCTP)**

(1) Details

No. I-17	Substance Group: Pentachlorothiophenol (PCTP)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note

Level 1	Immediate	•All applications	-1% (10, 000 ppm) by weight or less of the weight of an article	*1
Exemption	<p>«FDA-registered medical devices» The following Official Journal is applicable. TSCA: CHAPTER 53—TOXIC SUBSTANCES CONTROL SUBCHAPTER I—CONTROL OF TOXIC SUBSTANCES Sec. 2602. Definitions. (2)(vi) (<a href="https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf">https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf</a>)</p> <p>(Note) FDA-registered medical devices are not subject to TSCA but Olympus may require suppliers to report the contents of these substances so that Olympus can confirm the exemptions are applied.</p> <p>«Exceptions to US TSCA PBT Rules »</p> <ul style="list-style-type: none"> <li>• Regulated substances, products or articles containing regulated substances, which have been already sold to end-consumers (such as secondhand articles and donations to charity)</li> <li>• Disposal of regulated substances, products or articles containing regulated substances</li> <li>• Production, treatment, distribution in commerce and use of regulated substances, products or articles containing regulated substances for research and development purposes</li> </ul> <p>(Note) Items other than the “FDA-registered medical devices” described above</p>			
Note	*1 US TSCA PBT Rules			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
ペンタクロロチオフェノール (PCTP)	Pentachlorothiophenol (PCTP)	C6HCl5S	133-49-3

(3) Principal uses for substances

Part	Purpose
Rubber	Additive to improve stiffness modulus

**Table 2-I-18 Hexachlorobutadiene (HCBD)**

(1) Details

No. I-18	Substance Group: Hexachlorobutadiene (HCBD)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	•All applications	-Intentional inclusion prohibited	*1
Exemption	<p>«FDA-registered medical devices» The following Official Journal is applicable. TSCA: CHAPTER 53—TOXIC SUBSTANCES CONTROL SUBCHAPTER I—CONTROL OF TOXIC SUBSTANCES Sec. 2602. Definitions. (2)(vi) (<a href="https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf">https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf</a>)</p> <p>(Note) FDA-registered medical devices are not subject to TSCA but Olympus may require suppliers to report the contents of these substances so that Olympus can confirm the exemptions are applied.</p> <p>«Exceptions to US TSCA PBT Rules »</p> <ul style="list-style-type: none"> <li>• Regulated substances, products or articles containing regulated substances, which have been already sold to end-consumers (such as secondhand articles and donations to charity)</li> <li>• Disposal of regulated substances, products or articles containing regulated substances</li> <li>• Production, treatment, distribution in commerce and use of regulated substances, products or articles containing regulated substances for research and development purposes</li> </ul> <p>(Note) Only the exceptions related to Olympus Group products are listed above. (Note) Items other than the “FDA-registered medical devices” described above</p>			
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act., US TSCA PBT Rules			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
ヘキサクロブタジエン (HCB)	Hexachlorobutadiene (HCB)	C <sub>4</sub> Cl <sub>6</sub>	87-68-3

(3) Principal uses for substances

Part	Purpose
Rubber compounds	Chemical intermediates

**Table 2-I-19 Hexachlorobenzene (HCB)**

No. I-19	Substance Group: Hexachlorobenzene (HCB)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・ All applications (substances, mixtures and articles)	equal to or below 10ppm	*1
Note	*1 : Commission Delegated Regulation (EU) 2022/2291 amending EU PoPs			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
Hexachlorobenzene (HCB)	Hexachlorobenzene (HCB)	C <sub>6</sub> Cl <sub>6</sub>	118-74-1

(3) Principal uses for substances

Part	Purpose
Pesticides, chlorinated solvents, inks, coatings, paints and toners, wood application, textile application and plastics.	Fungicides, herbicides, smelting accelerators, plasticizers, flame retardants, chemical intermediates

**Table 2-I-20 Asbestos**

(1) Details

No. I-20	Substance Group: Asbestos			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・All applications	-Intentional inclusion prohibited	*1
Note	*1 Annex XVII to REACH (restriction), Industrial Safety and Health Law (Japan) (Specified Chemical Substances Class II: Applicable only to Amosite, Chrysotile and Crocidolite)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
アクチノライト	Actinolite	Unspecified	77536-66-4	-
アモサイト	Amosite	Unspecified	12172-73-5	-
アンソフィライト	Anthophyllite	Unspecified	77536-67-5	-
クリソタイル	Chrysotile	Unspecified	12001-29-5 132207-32-0	-
クロシドライト	Crocidolite	Unspecified	12001-28-4	-

トレモライト	Tremolite	Unspecified	77536-68-6	-
アスベスト繊維	Asbestos fibers	-	1332-21-4 JAMP- SN0056	-

(3) Principal uses for substances

Part	Purpose
Brake lining pads, electrical insulation parts, seals for chemical installations	Friction material, insulation materials, fillers

**Table 2-I-21 Azo dyes and pigments (specific amines formed by degrading azo dyes and pigments)**

(1) Details

No. I-21	Substance Group: Azo dyes and pigments (specific amines formed by degrading azo dyes and pigments)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	<ul style="list-style-type: none"> <li>Use of Azo dyes and pigments forming specific amines by degradation of the parts of articles being routinely touched by skin for a long time (such as earphones, headphones and straps)</li> </ul>	Less than 30 ppm in article	*1
		<ul style="list-style-type: none"> <li>Substances and mixtures that contain the following substances: CAS No.101-77-9: 4,4'-Diaminodiphenylmethane CAS No. 101-14-4: 2,2'-dichloro-4,4'-methylenedianiline</li> </ul>	Intentional inclusion prohibited	*2
Exemption	*2 Applications that are submitted to, and approved by, the European Chemicals Agency will be permitted.			
Note	*1 Annex XVII to REACH (restriction), Consumer Goods Ordinance (BedGgstV) (Germany) *2 Annex XIV to REACH (authorizations)			

(2) Regulated substances

Substance			
Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN
4-アミノアゾベンゼン	4-aminoazobenzene	C <sub>12</sub> H <sub>11</sub> N <sub>3</sub>	60-09-3
2-メトキシアニリン; o-アニシジン	2-Methoxyaniline; o-Anisidine	C <sub>7</sub> H <sub>9</sub> NO	90-04-0
2-ナフチルアミン	2-naphthylamine	C <sub>10</sub> H <sub>9</sub> N	91-59-8
3,3'-ジクロロベンジジン	3,3'-dichlorobenzidine	C <sub>12</sub> H <sub>10</sub> Cl <sub>2</sub> N <sub>2</sub>	91-94-1
ビフェニル-4-イルアミン; 4-アミノビフェニル	Biphenyl-4-ylamine; 4-aminobiphenyl	C <sub>12</sub> H <sub>11</sub> N	92-67-1
ベンジジン	Benzidine	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub>	92-87-5
o-トルイジン	o-toluidine	C <sub>7</sub> H <sub>9</sub> N	95-53-4
o-塩化トルイジン	4-chloro-o-toluidine	C <sub>7</sub> H <sub>8</sub> ClN	95-69-2
2,4-ジアミノトルエン	4-methyl-m-phenylenediamine(toluene-2,4-diamine)	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub>	95-80-7
o-アミノアゾトルエン	o-aminoazotoluene	C <sub>14</sub> H <sub>15</sub> N <sub>3</sub>	97-56-3
5-ニトロ-o-トルイジン	5-nitro-o-toluidine	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	99-55-8
2,2'-ジクロロ-4,4'-メチレンジアニリン	2,2'-dichloro-4,4'-methylenedianiline	C <sub>13</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>2</sub>	101-14-4
4,4'-ジアミノジフェニルメタン	4,4'-diaminodiphenylmethane(MDA);	C <sub>13</sub> H <sub>14</sub> N <sub>2</sub>	101-77-9
4,4'-オキシジアニリン及びその塩	4,4'-oxydianiline and its salts	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> O	101-80-4
p-クロロアニリン	p-chloroaniline	C <sub>6</sub> H <sub>6</sub> ClN	106-47-8

3,3'-ジメトキシベンジジン	3,3'-dimethoxybenzidine	C <sub>14</sub> H <sub>16</sub> N <sub>2</sub> O <sub>2</sub>	119-90-4
3,3'-ジメチルベンジジン	3,3'-dimethylbenzidine	C <sub>14</sub> H <sub>16</sub> N <sub>2</sub>	119-93-7
6-メトキシ-m-トルイジン	6-methoxy-m-toluidine	C <sub>8</sub> H <sub>11</sub> NO	120-71-8
2,4,5-トリメチルアニリン	2,4,5-trimethylaniline	C <sub>9</sub> H <sub>13</sub> N	137-17-7
4,4'-ジアミノジフェニルスルフィド	4,4'-thiodianiline	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> S	139-65-1
2,4'-ジアミノアニソール	2,4-diaminoanisole	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub> O	615-05-4
4,4'-メチレンビス(o-トルイジン)	4,4'-methylenedi-o-toluidine	C <sub>15</sub> H <sub>18</sub> N <sub>2</sub>	838-88-0

(3) Principal uses for substances

Part	Purpose
Fiber products, printing inks	Dyes and pigments

**Table 2-I-22 Ozone depleting substances**

(1) Details

No. I-22	Substance Group: Ozone depleting substances			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・All applications	・Intentional inclusion prohibited	*1
Note	*1 Montreal Protocol, Section 611 on the Clean Air Act Amendments of 1990 (U.S.A.), (EC)No 2037/2000, (EC)No 1005/2009, Law Concerning the Protection of the Ozone Layer (Japan).			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN
<b>・ Annex A Group I : CFC</b>			
トリクロロフルオロメタン ; CFC-11	Trichlorofluoromethane ; CFC-11	CFCl <sub>3</sub>	75-69-4
ジクロロジフルオロメタン ; CFC-12	Dichlorodifluoromethane ; CFC-12	CF <sub>2</sub> Cl <sub>2</sub>	75-71-8
トリクロロトリフルオロエタン ; 1,1,2トリクロロ-1,2,2トリフルオロエタン ; CFC-113	Trichlorofluoroethane ; 1,1,2 Trichloro-1,2,2 trifluoroethane ; CFC-113	C <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	354-58-5 76-13-1
ジクロロテトラフルオロエタン ; CFC-114	Dichlorotetrafluoroethane ; CFC-114	C <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	1320-37-2 76-14-2
モノクロロペンタフルオロエタン ; CFC-115	Monochloropentafluoroethane ; CFC-115	C <sub>2</sub> F <sub>5</sub> Cl	76-15-3
<b>・ Annex A Group II : Halons</b>			
ブロモクロロジフルオロメタン ; ハロン-1211	Bromochlorodifluoromethane ; Halon 1211	CF <sub>2</sub> BrCl	353-59-3
ブロモトリフルオロメタン ; ハロン-1301	Bromotrifluoromethane ; Halon 1301	CF <sub>3</sub> Br	75-63-8
ジブロモテトラフルオロエタン ; ハロン-2402	Dibromotetrafluoroethane ; Halon 2402	C <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	124-73-2
<b>・ Annex B Group I: Other CFCs</b>			
塩化フッ化メタン ; CFC-13	Chlorotrifluoromethane ; CFC-13	CF <sub>3</sub> Cl	75-72-9
ペンタクロロフルオロエタン ; CFC-111	Pentachlorofluoroethane ; CFC-111	C <sub>2</sub> FCl <sub>5</sub>	354-56-3
テトラクロロジフルオロエタン ; CFC-112	Tetrachlorodifluoroethane ; CFC-112	C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	28605-74-5 76-12-0
1.1.1.2-テトラクロロ-2,2-ジフルオロエタン ; CFC-112a	1,1,1,2-Tetrachloro-2,2- difluoroethane ; CFC-112a	C <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	76-11-9
ヘプタクロロフルオロプロパン ; CFC-211	Heptachlorofluoropropane ; CFC-211	C <sub>3</sub> FCl <sub>7</sub>	135401-87-5 422-78-6

1,1,1,2,3,3,3-ヘプタクロロ-2-フルオロプロパン ; CFC-211ba	1,1,1,2,3,3,3-Heptachloro-2-fluoropropane ; CFC-211ba	C <sub>3</sub> Cl <sub>7</sub> F	422-81-1
ヘキサクロロジフルオロプロパン ; CFC-212	Hexachlorodifluoropropane ; 1,1,1,3,3,3-Hexachloro-2,2-difluoropropane ; CFC-212	C <sub>3</sub> F <sub>2</sub> Cl <sub>6</sub>	3182-26-1
ペンタクロロトリフルオロプロパン ; CFC-213	Pentachlorotrifluoropropane ; CFC-213	C <sub>3</sub> F <sub>3</sub> Cl <sub>5</sub>	134237-31-3 2354-06-5
テトラクロロテトラフルオロプロパン ; CFC-214	Tetrachlorotetrafluoropropane ; CFC-214	C <sub>3</sub> F <sub>4</sub> Cl <sub>4</sub>	29255-31-0
1,1,1,3-テトラクロロテトラフルオロプロパン	1,1,1,3-Tetrachlorotetrafluoropropane	C <sub>3</sub> Cl <sub>4</sub> F <sub>4</sub>	2268-46-4
トリクロロペンタフルオロプロパン ; CFC-215	Trichloropentafluoropropane ; 1,2,2-trichloropentafluoropropane ; CFC-215	C <sub>3</sub> F <sub>5</sub> Cl <sub>3</sub>	1599-41-3
1,2,3-トリクロロペンタフルオロプロパン ; CFC-215ba	1,2,3-trichloropentafluoropropane ; CFC-215ba	C <sub>3</sub> Cl <sub>3</sub> F <sub>5</sub>	76-17-5
1,1,2-トリクロロペンタフルオロプロパン ; CFC-215bb	1,1,2-trichloropentafluoropropane ; CFC-215bb	C <sub>3</sub> HCl <sub>3</sub> F <sub>4</sub>	812-30-6
1,1,3-トリクロロペンタフルオロプロパン ; CFC-215ca	1,1,3-trichloropentafluoropropane ; CFC-215ca	C <sub>3</sub> Cl <sub>3</sub> F <sub>5</sub>	1652-81-9
1,1,1-トリクロロペンタフルオロプロパン ; CFC-215cb	1,1,1-trichloropentafluoropropane ; CFC-215cb	C <sub>3</sub> Cl <sub>3</sub> F <sub>5</sub>	4259-43-2
ジクロロヘキサフルオロプロパン ; CFC-216	Dichlorohexafluoropropane ; 1,2-Dichloro-1,1,2,3,3,3-hexafluoropropane ; CFC-216	C <sub>3</sub> F <sub>6</sub> Cl <sub>2</sub>	661-97-2
モノクロロヘプタフルオロプロパン ; CFC-217	Monochloroheptafluoropropane ; CFC-217	C <sub>3</sub> F <sub>7</sub> Cl	422-86-6
<b>• Annex B Group II :tetrachloride</b>			
四塩化炭素 (テトラクロロメタン)	Carbon tetrachloride	CCl <sub>4</sub>	56-23-5
<b>• Annex B Group III :1,1,1-Trichloroethane</b>			
1,1,1-トリクロロエタン	1,1,1-trichloroethane	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	71-55-6
<b>• Annex C Group II :HBFC</b>			
ジブロモフルオロメタン	Dibromofluoromethane	CHFBr <sub>2</sub>	1868-53-7
ブロモジフルオロメタンおよび異性体 (HBFC類)	Bromodifluoromethane and Isomers (HBFCs)	CHF <sub>2</sub> Br	1511-62-2
ブロモフルオロメタン	Bromofluoromethane	CH <sub>2</sub> FBr	373-52-4
テトラブロモフルオロエタン	Tetrabromofluoroethane	C <sub>2</sub> HFBr <sub>4</sub>	306-80-9
トリブロモジフルオロエタン	Tribromodifluoroethane	C <sub>2</sub> HF <sub>2</sub> Br <sub>3</sub>	-
ジブロモトリフルオロエタン	Dibromotrifluoroethane ; 1,2-Dibromo-1,1,2-trifluoroethane	C <sub>2</sub> HF <sub>3</sub> Br <sub>2</sub>	354-04-1
ブロモテトラフルオロエタン	Bromotetrafluoroethane	C <sub>2</sub> HF <sub>4</sub> Br	124-72-1
トリブロモフルオロエタン	Tribromofluoroethane	C <sub>2</sub> H <sub>2</sub> FBr <sub>3</sub>	-
ジブロモジフルオロエタン	Dibromodifluoroethane	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>2</sub>	75-82-1
ブロモトリフルオロエタン	Bromotrifluoroethane	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Br	421-06-7
ジブロモフルオロエタン	Dibromofluoroethane	C <sub>2</sub> H <sub>3</sub> FBr <sub>2</sub>	358-97-4
ブロモジフルオロエタン	Bromodifluoroethane	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Br	420-47-3
2-ブロモ-1,1-ジフルオロエタン	2-Bromo-1,1-difluoroethane	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Br	359-07-9
ブロモフルオロエタン	Bromofluoroethane	C <sub>2</sub> H <sub>4</sub> FBr	762-49-2
ヘキサブロモフルオロプロパン	Hexabromofluoropropane	C <sub>3</sub> HFBr <sub>6</sub>	-
ペンタブロモジフルオロプロパン	Pentabromodifluoropropane	C <sub>3</sub> HF <sub>2</sub> Br <sub>5</sub>	-

テトラブロモトリフルオロプロパン	Tetrabromotrifluoropropane	C <sub>3</sub> HF <sub>3</sub> Br <sub>4</sub>	-
トリブロモテトラフルオロプロパン	Tribromotetrafluoropropane	C <sub>3</sub> HF <sub>4</sub> Br <sub>3</sub>	666-48-8
ジブロモペンタフルオロプロパン	Dibromopentafluoropropane	C <sub>3</sub> HF <sub>5</sub> Br <sub>2</sub>	431-78-7
ブロモヘキサフルオロプロパン	Bromohexafluoropropane	C <sub>3</sub> HF <sub>6</sub> Br	2252-79-1 2252-78-0
ペンタブロモフルオロプロパン	Pentabromofluoropropane	C <sub>3</sub> H <sub>2</sub> FBr <sub>5</sub>	-
テトラブロモジフルオロプロパン	Tetrabromodifluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Br <sub>4</sub>	148875-98-3
トリブロモトリフルオロプロパン	Tribromotrifluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Br <sub>3</sub>	-
ジブロモテトラフルオロプロパン	Dibromotetrafluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	-
ブロモペンタフルオロプロパン	Bromopentafluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Br	460-88-8
テトラブロモフルオロプロパン	Tetrabromofluoropropane	C <sub>3</sub> H <sub>3</sub> FBr <sub>4</sub>	148875-95-0
トリブロモジフルオロプロパン	Tribromodifluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Br <sub>3</sub>	70192-80-2
ジブロモトリフルオロプロパン	Dibromotrifluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Br <sub>2</sub>	70192-83-5 431-21-0
ブロモテトラフルオロプロパン	Bromotetrafluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Br	679-84-5
トリブロモフルオロプロパン	Tribromofluoropropane	C <sub>3</sub> H <sub>4</sub> FBr <sub>3</sub>	75372-14-4
ジブロモジフルオロプロパン	Dibromodifluoropropane	C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Br <sub>2</sub>	460-25-3
ブロモトリフルオロプロパン	Bromotrifluoropropane	C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Br	421-46-5
ジブロモフルオロプロパン	Dibromofluoropropane	C <sub>3</sub> H <sub>5</sub> FBr <sub>2</sub>	51584-26-0
ブロモジフルオロプロパン	Bromodifluoropropane	C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Br	-
ブロモフルオロプロパン	Bromofluoropropane	C <sub>3</sub> H <sub>6</sub> FBr	1871-72-3
1-ブロモ-3-フルオロプロパン	1-Bromo-3-fluoropropane	C <sub>3</sub> H <sub>6</sub> FBr	352-91-0
<b>• Annex C Group III :Bromochloromethane</b>			
ブロモクロロメタン	Bromochloromethane	CH <sub>2</sub> BrCl	74-97-5
<b>• Annex E Group I :Bromomethane</b>			
ブロモメタン(臭化メチル)	Bromomethane (Methyl Bromide)	CH <sub>3</sub> Br	74-83-9
<b>• Annex C Group I :HCFCs</b>			
ジクロロフルオロメタン ; HCFC-21	Dichlorofluoromethane ; HCFC-21	CHFCl <sub>2</sub>	75-43-4
クロロジフルオロメタン ; HCFC-22	Chlorodifluoromethane ; HCFC-22	CHF <sub>2</sub> Cl	75-45-6
クロロフルオロメタン ; HCFC-31	Chlorofluoromethane ; HCFC-31	CH <sub>2</sub> FCl	593-70-4
テトラクロロフルオロエタン ; HCFC-121	Tetrachlorofluoroethane ; HCFC-121	C <sub>2</sub> HFCl <sub>4</sub>	134237-32-4
1,1,1,2-テトラクロロ-2-フルオロエタン ; HCFC-121a	1,1,1,2-tetrachloro-2-fluoroethane ; HCFC-121a	C <sub>2</sub> HCl <sub>4</sub> F	354-11-0
1,1,2,2-テトラクロロ-1-フルオロエタン	1,1,2,2-tetrachloro-1-fluoroethane	C <sub>2</sub> HCl <sub>4</sub> F	354-14-3
トリクロロジフルオロエタン ; HCFC-122	Trichlorodifluoroethane ; HCFC-122	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	41834-16-6
1,2,2-トリクロロ-1,1-ジフルオロエタン ; HCFC-122	1,2,2-trichloro-1,1-difluoroethane ; HCFC-122	C <sub>2</sub> HCl <sub>3</sub> F <sub>2</sub>	354-21-2
1,1,2-トリクロロ-1,2-ジフルオロエタン ; HCFC-122a	Ethane, 1,2-difluoro-1,1,2-trichloro- ; HCFC-122a	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	354-15-4
1,1,1-トリクロロ-2,2-ジフルオロエタン ; HCFC-122b	1,1,1-trichloro-2,2-difluoroethane ; HCFC-122b	C <sub>2</sub> HF <sub>2</sub> Cl <sub>3</sub>	354-12-1
ジクロロトリフルオロエタン ; HCFC-123	Dichlorotrifluoroethane ; HCFC-123	C <sub>2</sub> HF <sub>3</sub> Cl <sub>2</sub>	34077-87-7
2,2-ジクロロ-1,1,1-トリフルオロエタン ; HCFC-123	2,2-dichloro-1,1,1-fluoroethane ; HCFC-123	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	306-83-2
ジクロロ-1,1,2-トリフルオロエタン	Dichloro-1,1,2-trifluoroethane	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	90454-18-5
1,2-ジクロロ-1,1,2-トリフルオロエタン ; HCFC-123a	1,2-dichloro-1,1,2-trifluoroethane ; HCFC-123a	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	354-23-4

1,1-ジクロロ-1,2,2-トリフルオロエタン ; HCFC-123b	1,1-dichloro-1,2,2-trifluoroethane ; HCFC-123b	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	812-04-4
その他のジクロロトリフルオロエタン	Other dichlorotrifluoroethane	-	-
2-クロロ-1,1,1,2-テトラフルオロエタン ; HCFC-124	2-chloro-1,1,1,2-tetrafluoroethane ; HCFC-124	C <sub>2</sub> HF <sub>4</sub> Cl	2837-89-0
クロロテトラフルオロエタン ; HCFC-124	Chlorotetrafluoroethane ; HCFC-124	CHFClCF <sub>3</sub>	63938-10-3
1-クロロ-1,1,2,2-テトラフルオロエタン ; HCFC-124a	1-chloro-1,1,2,2-tetrafluoroethane ; HCFC-124a	C <sub>2</sub> HClF <sub>4</sub>	354-25-6
その他のクロロテトラフルオロエタン	Other chlorotetrafluoroethane	-	-
トリクロロフルオロエタン ; HCFC-131	Trichlorofluoroethane ; HCFC-131	C <sub>2</sub> H <sub>2</sub> FCl <sub>3</sub>	134237-34-6 27154-33-2
1-フルオロ-1,2,2-トリクロロエタン ; HCFC-131	1-Fluoro-1,2,2-trichloroethane ; HCFC-131	C <sub>2</sub> H <sub>2</sub> Cl <sub>3</sub> F	359-28-4
1,1,2-トリクロロ-1-フルオロエタン ; HCFC-131a	1,1,2-trichloro-1-fluoroethane ; HCFC-131a	C <sub>2</sub> H <sub>2</sub> Cl <sub>3</sub> F	811-95-0
1,1,1-トリクロロ-2-フルオロエタン ; HCFC-131b	Ethane, 1,1,1-trichloro-2-fluoro ; HCFC-131b	C <sub>2</sub> H <sub>2</sub> Cl <sub>3</sub> F	2366-36-1
ジクロロジフルオロエタン ; HCFC-132	Dichlorodifluoroethane ; HCFC-132	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>2</sub>	25915-78-0
1,2-ジクロロ-1,1-ジフルオロエタン ; HCFC-132b	1,2-dichloro-1,1-difluoroethane ; HCFC-132b	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	1649-08-7
1,1-ジクロロ-1,2-ジフルオロエタン ; HCFC-132c	1,1-dichloro-1,2-difluoroethane ; HCFC-132c	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	1842-05-3
1,1-ジクロロ-2,2-ジフルオロエタン	1,1-dichloro-2,2-difluoroethane	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	471-43-2
1,2-ジクロロ-1,2-ジフルオロエタン	1,2-dichloro-1,2-difluoroethane	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	431-06-1
クロロトリフルオロエタン ; 1-クロロ-1,2,2-トリフルオロエタン ; HCFC-133	Chlorotrifluoroethane ; 1-chloro-1,2,2-trifluoroethane ; HCFC-133	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl	1330-45-6 431-07-2
2-クロロ-1,1,1-トリフルオロエタン ; HCFC-133a	2-chloro-1,1,1-trifluoroethane ; HCFC-133a	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl	75-88-7
1-クロロ-1,1,2-トリフルオロエタン ; HCFC-133b	1-chloro-1,1,2-trifluoroethane ; HCFC-133b	C <sub>2</sub> H <sub>2</sub> F <sub>3</sub> Cl	421-04-05
ジクロロフルオロエタン ; HCFC-141	Dichlorofluoroethane ; HCFC-141	C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	25167-88-8
1,2-ジクロロ-1-フルオロエタン ; HCFC-141	1,2-dichloro-1-fluoroethane ; HCFC-141	C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	430-57-9
1,1-ジクロロ-2-フルオロエタン ; HCFC-141a	1,1-dichloro-2-fluoroethane ; HCFC-141a	C <sub>2</sub> H <sub>3</sub> FCl <sub>2</sub>	430-53-5
1,1-ジクロロ-1-フルオロエタン ; HCFC-141b	1,1-dichloro-1-fluoroethane ; HCFC-141b	CH <sub>3</sub> CFCl <sub>2</sub>	1717-00-6
その他のジクロロフルオロエタン	Other dichlorofluoroethane	-	-
クロロジフルオロエタン ; HCFC-142	Chlorodifluoroethane ; HCFC-142	C <sub>2</sub> H <sub>3</sub> F <sub>2</sub> Cl	25497-29-4
2-クロロ-1,1-ジフルオロエタン ; HCFC-142	2-Chloro-1,1-difluoroethane ; HCFC-142	CH <sub>3</sub> CF <sub>2</sub> Cl	338-65-8
1-クロロ-1,1-ジフルオロエタン ; HCFC-142b	1-chloro-1,1-difluoroethane ; HCFC-142b	CH <sub>3</sub> CF <sub>2</sub> Cl	75-68-3
1-クロロ-1,2-ジフルオロエタン ; HCFC-142a	1-Chloro-1,2-difluoroethane ; HCFC-142a	CH <sub>3</sub> CF <sub>2</sub> Cl	338-64-7
その他のクロロジフルオロエタン	Other chlorodifluoroethane	-	-
クロロフルオロエタン ; HCFC-151	chlorofluoroethane ; HCFC-151	C <sub>2</sub> H <sub>4</sub> FCI	110587-14-9
1-クロロ-2-フルオロエタン ; HCFC-151	1-chloro-2-fluoroethane ; HCFC-151	C <sub>2</sub> H <sub>4</sub> FCI	762-50-5



1-クロロ-1-フルオロエタン ; HCFC-151	1-chloro-1-fluoroethane ; HCFC-151	C <sub>2</sub> H <sub>4</sub> FC1	1615-75-4
ヘキサクロロフルオロプロパン ; HCFC-221	Hexachlorofluoropropane ; HCFC-221	C <sub>3</sub> HFCl <sub>6</sub>	134237-35-7 29470-94-8
1,1,1,2,2,3-ヘキサクロロ-1-フルオロプロパン ; HCFC-221ab	1,1,1,2,2,3-Hexachloro-1-fluoropropane ; HCFC-221ab	C <sub>3</sub> HFCl <sub>6</sub>	422-26-4
ペンタクロロジフルオロプロパン ; HCFC-222	Pentachlorodifluoropropane ; HCFC-222	C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub>	134237-36-8
1,1,1,3,3,-ペンタクロロ-2,2-ジフルオロプロパン ; HCFC-222ca	1,1,1,3,3-Pentachloro-2,2-difluoropropane ; HCFC-222ca	C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub>	422-49-1
1,2,2,3,3-ペンタクロロ-1,1-ジフルオロプロパン ; HCFC-222aa	1,2,2,3,3-Pentachloro-1,1-difluoropropane ; HCFC-222aa	C <sub>3</sub> HF <sub>2</sub> Cl <sub>5</sub>	422-30-0
テトラクロロトリフルオロプロパン ; HCFC-223	Tetrachlorotrifluoropropane ; HCFC-223	C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub>	134237-37-9
1,1,3,3-テトラクロロ-1,2,2-トリフルオロプロパン	1,1,3,3-Tetrachloro-1,2,2-trifluoropropane	C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub>	422-52-6
1,1,1,3-テトラクロロ-2,2,3-トリフルオロプロパン	1,1,1,3-Tetrachloro-2,2,3-trifluoropropane	C <sub>3</sub> HF <sub>3</sub> Cl <sub>4</sub>	422-50-4
トリクロロテトラフルオロプロパン ; HCFC-224	Trichlorotetrafluoropropane ; HCFC-224	C <sub>2</sub> HF <sub>4</sub> Cl <sub>3</sub>	134237-38-0
1,3,3-トリクロロ-1,1,2,2-テトラフルオロプロパン ; HCFC-224	1,3,3-Trichloro-1,1,2,2-tetrafluoropropane ; HCFC-224	C <sub>2</sub> HF <sub>4</sub> Cl <sub>3</sub>	422-54-8
1,1,3-トリクロロ-1,2,2,3-テトラフルオロプロパン	1,1,3-Trichloro-1,2,2,3-tetrafluoropropane	C <sub>2</sub> HF <sub>4</sub> Cl <sub>3</sub>	422-53-7
1,1,1-トリクロロ-2,2,3,3-テトラフルオロプロパン	1,1,1-Trichloro-2,2,3,3-tetrafluoropropane	C <sub>3</sub> HF <sub>4</sub> Cl <sub>3</sub>	422-51-5
ジクロロペンタフルオロプロパン ; HCFC-225	Dichloropentafluoropropane ; HCFC-225	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	127564-92-5
2,2-ジクロロ-1,1,1,3,3,-ペンタフルオロプロパン ; HCFC-225aa	2,2-Dichloro-1,1,1,3,3-pentafluoropropane ; HCFC-225aa	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	128903-21-9
2,3-ジクロロ-1,1,1,2,3-ペンタフルオロプロパン ; HCFC-225ba	2,3-dichloro-1,1,1,2,3-pentafluoropropane ; HCFC-225ba	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	422-48-0
1,2-ジクロロ-1,1,2,3,3-ペンタフルオロプロパン ; HCFC-225bb	1,2-dichloro-1,1,2,3,3-pentafluoropropane ; HCFC-225bb	C <sub>3</sub> HF <sub>5</sub> Cl <sub>2</sub>	422-44-6
3,3-ジクロロ-1,1,1,2,2-ペンタフルオロプロパン ; HCFC-225ca	3,3-dichloro-1,1,1,2,2-pentafluoropropane ; HCFC-225ca	C <sub>3</sub> HCl <sub>2</sub> F <sub>5</sub>	422-56-0
1,3-ジクロロ-1,2,2,3,3,-ペンタフルオロプロパン ; HCFC-225cb	1,3-dichloro-1,1,2,2,3-pentafluoropropane ; HCFC-225cb	C <sub>3</sub> HCl <sub>2</sub> F <sub>5</sub>	507-55-1
1,1-ジクロロ-1,2,2,3,3-ペンタフルオロプロパン ; HCFC-225cc	1,1-dichloro-1,2,2,3,3-pentafluoropropane ; HCFC-225cc	C <sub>3</sub> HCl <sub>2</sub> F <sub>5</sub>	13474-88-9
1,2-ジクロロ-1,1,3,3,3-ペンタフルオロプロパン ; HCFC-225da	1,2-dichloro-1,1,3,3,3-pentafluoropropane ; HCFC-225da	C <sub>3</sub> HCl <sub>2</sub> F <sub>5</sub>	431-86-7
1,3-ジクロロ-1,1,2,3,3-ペンタフルオロプロパン ; HCFC-225ea	1,3-dichloro-1,1,2,3,3-pentafluoropropane ; HCFC-225ea	C <sub>3</sub> HCl <sub>2</sub> F <sub>5</sub>	136013-79-1
1,1-ジクロロ-1,2,3,3,3-ペンタフルオロプロパン ; HCFC-225eb	1,1-dichloro-1,2,3,3,3-pentafluoropropane ; HCFC-225eb	C <sub>3</sub> HCl <sub>2</sub> F <sub>5</sub>	111512-56-2
その他のジクロロペンタフルオロプロパン	Other dichloropentafluoropropane	-	-
クロロヘキサフルオロプロパン ; HCFC-226	Chlorohexafluoropropane ; HCFC-226	C <sub>3</sub> HF <sub>6</sub> Cl	134308-72-8
2-クロロ-1,1,1,3,3,3-ヘキサフルオロプロパン ; HCFC-226da	2-Chloro-1,1,1,3,3,3-hexafluoropropane ; HCFC-226da	C <sub>3</sub> HF <sub>6</sub> Cl	431-87-8

ペンタクロロフルオロプロパン ; HCFC-231	Pentachlorofluoropropane ; HCFC-231	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub>	134190-48-0
1,1,1,2,3-ペンタクロロ-2-フルオロプロパン	1,1,1,2,3-Pentachloro-2-fluoropropane	C <sub>3</sub> H <sub>2</sub> FCl <sub>5</sub>	421-94-3
テトラクロロジフルオロプロパン ; HCFC-232	Tetrachlorodifluoropropane ; HCFC-232	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	134237-39-1
1,1,1,3-テトラクロロ-3,3-ジフルオロプロパン	1,1,1,3-Tetrachloro-3,3-difluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>2</sub> Cl <sub>4</sub>	460-89-9
トリクロロトリフルオロプロパン ; HCFC-233	Trichlorotrifluoropropane ; HCFC-233	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	134237-40-4
1,1,1-トリクロロ-3,3,3-トリフルオロプロパン	1,1,1-trichloro-3,3,3-trifluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>3</sub> Cl <sub>3</sub>	7125-83-9
ジクロロテトラフルオロプロパン ; HCFC-234	Dichlorotetrafluoropropane ; HCFC-234	C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	127564-83-4
1,2-ジクロロ-1,2,3,3-テトラフルオロプロパン	1,2-Dichloro-1,2,3,3-tetrafluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>4</sub> Cl <sub>2</sub>	425-94-5
クロロペンタフルオロプロパン ; HCFC-235	Chloropentafluoropropane ; HCFC-235	C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Cl	134237-41-5
1-クロロ-1,1,3,3,3-ペンタフルオロプロパン	1-chloro-1,1,3,3,3-pentafluoropropane	C <sub>3</sub> H <sub>2</sub> F <sub>5</sub> Cl	460-92-4
テトラクロロフルオロプロパン ; HCFC-241	Tetrachlorofluoropropane ; HCFC-241	C <sub>3</sub> H <sub>3</sub> FCl <sub>4</sub>	134190-49-1
1,1,2,3-テトラクロロ-1-フルオロプロパン	1,1,2,3-Tetrachloro-1-fluoropropane	C <sub>3</sub> H <sub>3</sub> FCl <sub>4</sub>	666-27-3
トリクロロジフルオロプロパン ; HCFC-242	Trichlorodifluoropropane ; HCFC-242	C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Cl <sub>3</sub>	134237-42-6
1,3,3-トリクロロ-1,1-ジフルオロプロパン	1,3,3-Trichloro-1,1-difluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>2</sub> Cl <sub>3</sub>	460-63-9
ジクロロトリフルオロプロパン ; HCFC-243	Dichlorotrifluoropropane ; HCFC-243	C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub>	134237-43-7
1,1-ジクロロ-1,2,2-トリフルオロプロパン	1,1-dichloro-1,2,2-trifluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub>	7125-99-7
2,3-ジクロロ-1,1,1-トリフルオロプロパン	2,3-dichloro-1,1,1-trifluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub>	338-75-0
3,3-ジクロロ-1,1,1-トリフルオロプロパン	3,3-Dichloro-1,1,1-trifluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>3</sub> Cl <sub>2</sub>	460-69-5
クロロテトラフルオロプロパン ; HCFC-244	Chlorotetrafluoropropane ; HCFC-244	C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Cl	134190-50-4
3-クロロ-1,1,2,2-テトラフルオロプロパン	3-chloro-1,1,2,2-tetrafluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Cl	679-85-6
1-クロロ-1,1,2,2-テトラフルオロプロパン	1-chloro-1,1,2,2-tetrafluoropropane	C <sub>3</sub> H <sub>3</sub> F <sub>4</sub> Cl	421-75-0
トリクロロフルオロプロパン ; HCFC-251	Trichlorofluoropropane ; HCFC-251	C <sub>3</sub> H <sub>4</sub> FCl <sub>3</sub>	134190-51-5
1,1,3-トリクロロ-1-フルオロプロパン	1,1,3-trichloro-1-fluoropropane	C <sub>3</sub> H <sub>4</sub> FCl <sub>3</sub>	818-99-5
1,1,2-トリクロロ-1-フルオロプロパン ; HCFC-251dc	1,1,2-trichloro-1-fluoropropane ; HCFC-251dc	C <sub>3</sub> H <sub>4</sub> FCl <sub>3</sub>	421-41-0
ジクロロジフルオロプロパン ; HCFC-252	Dichlorodifluoropropane ; HCFC-252	C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Cl <sub>2</sub>	134190-52-6
1,3-ジクロロ-1,1-ジフルオロプロパン ; HCFC-252fb	1,3-Dichloro-1,1-difluoropropane ; HCFC-252fb	C <sub>3</sub> H <sub>4</sub> F <sub>2</sub> Cl <sub>2</sub>	819-00-1
クロロトリフルオロプロパン ;	Chlorotrifluoropropane ; HCFC-253	C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Cl	134237-44-8

<b>HCFC-253</b>			
3-クロロ-1,1,1-トリフルオロプロパン;HCFC253fb	3-chloro-1,1,1-trifluoropropane ; HCFC 253fb	C <sub>3</sub> H <sub>4</sub> F <sub>3</sub> Cl	460-35-5
ジクロロフルオロプロパン ; HCFC-261	Dichlorofluoropropane ; HCFC-261	C <sub>3</sub> H <sub>5</sub> FCl <sub>2</sub>	134237-45-9
1,1-ジクロロ-1-フルオロプロパン	1,1-dichloro-1-fluoropropane	C <sub>3</sub> H <sub>5</sub> FCl <sub>2</sub>	7799-56-6
1,2-ジクロロ-2-フルオロプロパン ; HCFC-261b	1,2-dichloro-2-fluoropropane ; HCFC-261b	C <sub>3</sub> H <sub>5</sub> FCl <sub>2</sub>	420-97-3
クロロジフルオロプロパン ; HCFC-262	Chlorodifluoropropane ; HCFC-262	C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Cl	134190-53-7
1-クロロ-2,2-ジフルオロプロパン	1-chloro-2,2-difluoropropane	C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Cl	420-99-5
2-クロロ-1,3-ジフルオロプロパン	2-chloro-1,3-difluoropropane	C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Cl	102738-79-4
1-クロロ-1,1-ジフルオロプロパン ; HCFC-262fc	1-chloro-1,1-difluoropropane ; HCFC-262fc	C <sub>3</sub> H <sub>5</sub> F <sub>2</sub> Cl	421-02-3
クロロフルオロプロパン ; HCFC-271	Chlorofluoropropane ; HCFC-271	C <sub>3</sub> H <sub>6</sub> FCl	134190-54-8
2-クロロ-2-フルオロプロパン	2-chloro-2-fluoropropane	C <sub>3</sub> H <sub>6</sub> FCl	420-44-0
1-クロロ-1-フルオロプロパン	1-chloro-1-fluoropropane	-	430-55-7
<b>• Others</b>			
ジフルオロジブロモメタン	Difluorodibromomethane	CBr <sub>2</sub> F <sub>2</sub>	75-61-6
1-ブロモプロパン(臭化n-プロピル)	1-Bromopropane (n-propyl bromide)	C <sub>3</sub> H <sub>7</sub> Br	106-94-5
ブロモエタン(臭化エチル)	Bromoethane (ethyl bromide)	C <sub>2</sub> H <sub>5</sub> Br	74-96-4
トリフルオロイオドメタン(ヨウ化トリフルオロメチル)	Trifluoroiodomethane (trifluoromethyl iodide)	CF <sub>3</sub> I	2314-97-8
クロロメタン(塩化メチル)	Chloromethane (methyl chloride)	CH <sub>3</sub> Cl	74-87-3

(3) Principal uses for substances

Part	Purpose
Compressors, foamed plastics, fire extinguishers	Refrigerants, foaming agents, extinguishants (Labeling requirements apply not only to products, but also to cleaning agents and other items used in production processes.)

**Table 2-I-23 Perfluorooctanesulfonic acid (PFOS) and PFOS analogs**

(1) Details

No. I-23	Substance Group: Perfluorooctanesulfonic acid (PFOS) and PFOS analogs			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・All applications	・Intentional inclusion prohibited	*1
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act., EU POPs Regulation, Canadian Environmental Protection Act (CEPA 1999 SOR)			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor

ペルフルオロ-1-オクタンスルホン酸カリウム(PFOS)	Perfluorooctane sulfonate potassium salt	C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X (X = Other derivatives including hydroxyls, metal salts, halogenated compounds, amides and polymers)	2795-39-3 JAMP-SN0035	-
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(3) Principal uses for substances

Part	Purpose
Paints, coating materials, industrial cleaning agents, semiconductor manufacturing processes, electroplating processes	Smoothing agents, surfactants, anti-foaming agents

**Table 2-I-24 Specific benzotriazole: 2-(2H-1,2,3-Benzotriazol-2-yl)-4,6-di-tert-butylphenol**

(1) Details

No. I-24	Substance Group: Specific benzotriazole: 2-(2H-1,2,3-Benzotriazol-2-yl)-4,6-di-tert-butylphenol			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	Anti-UV materials and UV absorbers used in the following applications <ul style="list-style-type: none"> <li>・Molded plastic parts</li> <li>・Decorative laminates</li> <li>・Photographic paper</li> <li>・Adhesives (excluding animal and plant-based adhesives), putties, stopping and sealing fillers</li> <li>・Paints and printing inks</li> </ul>	-Intentional inclusion prohibited	*1
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act.			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
特定ベンゾトリアゾール：2-(2H-1,2,3-ベンゾトリアゾール-2-イル)-4,6-ジ-tert-ブチルフェノール	Specific benzotriazole:2-(2H-1,2,3-Benzotriazol-2-yl)-4,6-di-tert-butylphenol	C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O	3846-71-7

(3) Principal uses for substances

Part	Purpose
Molded plastic parts, decorative laminates, photographic paper, adhesives (excluding animal and plant-based adhesives), putties, stopping and sealing fillers, paints and printing inks	Anti-UV materials and UV absorbers

**Table 2-I-25 Formaldehyde**

(1) Details

No. I-25	Substance Group: Formaldehyde CAS No: 50-00-0			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・Wood products and parts (excluding packaging materials) using materials such	-Less than 0.05ppm as gas discharge from	*1

		as particle boards and MDF (medium density fiberboard)	product	
		· Fabrics	· Less than 75 ppm in product	*2
Level 2	February 6, 2026	· Furniture and wood products	· The concentration of formaldehyde released from molded products is 0.062 mg/m <sup>3</sup> or less	*3 *4
		· Other than furniture and wood products	· The concentration of formaldehyde released from molded products is 0.080 mg/m <sup>3</sup> or less	
Exemption	*4 The following items are exempted: - Devices within the scope of (EU)2015/745 (EU MDR) - Personal protective equipment within the scope of (EU) 2016/425 (EU PPER) - Biocidal products within the scope of (EU) No 528/2012 (EU BPR)			
Note	*1 ChemVerbotsV (Germany), Formaldehyde Regulations (Denmark), California USA CARB Regulations, U.S. federal law 111-199/TSCA Article 601 *2 Austria BGB I 1990/194, Formaldehyde Regulation §2, 12/2/1990 Lithuanian Health Standard NH 96:2000 (health standards and regulations) *3 Annex XVII to REACH (restriction)			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
ホルムアルデヒド	Formaldehyde	CH <sub>2</sub> O	50-00-0

(3) Principal uses for substances

Part	Purpose
Wood products using materials such as particle boards and MDF (medium density fiberboard)	Adhesives and preservatives for wood

**Table 2-I-26 Dimethylfumarate (DMF)**

(1) Details

No. I-26	Substance Group: Dimethylfumarate (DMF) CAS No: 624-49-7			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	· All applications	· Less than 0.1ppm in article or part thereof	*1
Note	*1 Annex XVII to REACH (restriction)			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
ジメチルフマレート(DMF)	Dimethyl fumarate	C <sub>6</sub> H <sub>8</sub> O <sub>4</sub>	624-49-7

(3) Principal uses for substances

Part	Purpose
Biocide, electronic leather seats including recliners and massage chairs	Biocide, mold treatment

**Table 2-I-27 Fluorinated Greenhouse Gases (PFC, SF<sub>6</sub>, HFC)**

(1) Details

No. I-27	Substance Group: Fluorinated Greenhouse Gases (PFC, SF <sub>6</sub> , HFC)			
Prohibition	Date of ban	Applications	Control Value	Note

Level	on delivery			
Level 1	Immediate	1) SF6, HFC ·All applications	-Intentional inclusion prohibited	*1
		2) PFC ·All applications listed below Disposable containers, can-cooling systems containing refrigerants, fire prevention systems and fire extinguishers, household windows, other windows, shoes, tires, one-component foaming agents		
Note	*1 (EC)No 517/2014 The Regulation on certain fluorinated greenhouse gases			

(2) Regulated substances

Substance (Japanese)	Substance (English)	CAS No. or JAMP No.
テトラフルオロメタン (4 フッ化炭素、PFC-14)	Tetrafluoromethane (Carbon tetrafluoride, PFC-14)	75-73-0
ヘキサフルオロエタン(PFC-116)	Hexafluoroethane (PFC-116)	76-16-4
オクタフルオロプロパン(PFC-218)	Octafluoropropane (PFC-218)	76-19-7
デカフルオロブタン(PFC-31-10)	Decafluorobutane (PFC-31-10)	355-25-9
ドデカフルオロペンタン(PFC-41-12)	Dodecafluoropentane (PFC-41-12)	678-26-2
テトラデカフルオロヘキサン(PFC-51-14)	Tetradecafluorohehexane (PFC-51-14)	355-42-0
オクタフルオロシクロブタン(PFC-c318)	Octafluorocyclobutane (PFC-c318)	115-25-3
6 フッ化硫黄(SF6)	Sulfur Hexafluoride (SF6)	2551-62-4
トリフルオロメタン	Trifluoromethane	75-46-7
ジフルオロメタン	Difluoromethane	75-10-5
フルオロメタン	Methyl fluoride	593-53-3
1,1,1,2,2,3,4,5,5,5-デカフルオロペンタン (HFC-43-10mee)	Pentane, 1,1,1,2,2,3,4,5,5,5-decafluoro- (HFC-43-10mee)	138495-42-8
ペンタフルオロエタン	Ethane, pentafluoro-	354-33-6
1,1,2,2-テトラフルオロエタン (HFC-134)	1,1,2,2-Tetrafluoroethane (HFC-134)	359-35-3
1,1,1,2-テトラフルオロエタン (HFC-134a)	1,1,1,2-Tetrafluoroethane (HFC-134a)	811-97-2
1,1-ジフルオロエタン (HFC-152a)	1,1-Difluoroethane (HFC-152a)	75-37-6
1,1,2-トリフルオロエタン(HFC-143)	1,1,2-Trifluoroethane.(HFC-143)	430-66-0
1,1,1-トリフルオロエタン	Ethane, 1,1,1-trifluoro-	420-46-2
1,1,1,2,3,3,3-ヘプタフルオロプロパン	Propane, 1,1,1,2,3,3,3-heptafluoro-	431-89-0
1,1,1,2,2,3-ヘキサフルオロプロパン (HFC-236cb)	1,1,1,2,2,3-hexafluoro-propane (HFC-236cb)	677-56-5
1,1,1,2,3,3-ヘキサフルオロプロパン(HFC-236ea)	1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431-63-0
1,1,1,3,3,3-ヘキサフルオロプロパン(HFC-236fa)	1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	690-39-1
1,1,2,2,3-ペンタフルオロプロパン(HFC-245ca)	1,1,2,2,3-Pentafluoropropane (HFC-245ca)	679-86-7
1,1,1,3,3-ペンタフルオロプロパン	1,1,1,3,3-Pentafluoropropane	460-73-1
1,1,1,3,3-ペンタフルオロブタン	1,1,1,3,3-Pentafluorobutane	406-58-6
1,1,1,2,2-ペンタフルオロプロパン	1,1,1,2,2-Pentafluoropropane	1814-88-6
1,1,1,2,2,3,3-ヘプタフルオロプロパン	1,1,1,2,2,3,3-Heptafluoropropane	2252-84-8
ジフルオロエタン	Difluoroethane	25497-28-3
ヘキサフルオロプロパン	Propane, hexafluoro-	27070-61-7
トリフルオロエタン	Trifluoroethane	27987-06-0
フルオロエタン	Ethyl fluoride	353-36-6
1,2-ジフルオロエタン	1,2-Difluoroethane	624-72-6

1,1-ジフルオロエチレン	Vinylidene fluoride	75-38-7
ハイドロフルオロカーボン(HFC)類	Hydrofluorocarbons (HFC's)	SN0062

(3) Principal uses for substances

Part	Purpose
Tires, windows, fire extinguishers, shoes, disposable containers, aerosols	Refrigerants, blowing agents, extinguishants, cleaning agents, insulating media, caustic gas

**Table 2-I-28 Phthalate esters (BBP, DBP, DEHP, DIBP)**

(1) Details

No. I-28	Substance Group: Phthalate esters (BBP, DBP, DEHP, DIBP)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	·Substances and mixtures that contain DEHP, BBP, DBP and/or DIBP	-Intentional inclusion prohibited	*1
		-DEHP, BBP, DBP, DIBP: Articles specified in Categories 1 through 11 of Annex I to RoHS Directive (2011/65/EU)	-1000 ppm or less in homogeneous material	*2
		-Articles containing plasticized material that includes DEHP, BBP, DBP and/or DIBP "Plasticized material" means any of the following homogeneous materials: - Polyvinyl chloride (PVC), polyvinylidene chloride (PVDC), any other polymer similar to polyvinyl acetate (PVA), and any other plastics, excluding polyolefin - Polyurethane and any other foamed rubber and plastics, excluding rubber, silicone rubber and natural latex coatings - Surface coatings, non-slip coatings, finishes, decals, printed designs, - Adhesives, sealants, paints and inks	-Less than 1000 ppm in total of these four substances in homogeneous material	*3
Exemption	<p>*1 Applications that are submitted to, and approved by, the European Chemicals Agency will be permitted.</p> <p>*3 Exempted applications are as follows:</p> <ul style="list-style-type: none"> <li>• Electrical and electronic equipment subject to RoHS Directive (2011/65/EU)</li> <li>• Medical devices, or parts thereof, subject to Medical Device Directive (93/42/EEC), In-Vitro Diagnostic Devices Directive (98/79/EC) and Active Implantable Medical Devices Directive (90/385/EEC)</li> <li>• Articles exclusively for industrial or agricultural use, or for use exclusively in the open air, provided that no plasticized material comes into contact with human mucous membranes or prolonged contact with human skin</li> <li>• Measuring devices for laboratory use, or parts thereof</li> </ul>			
Note	<p>*1 Annex XIV to REACH (authorizations)</p> <p>*2 Annex II to RoHS Directive (2011/65/EU), addition of prohibited substances, (EU) 2015/863</p> <p>*3 Annex XVII to REACH (restriction)</p>			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
フタル酸n-ブチルベンジル(BBP)	Benzyl butyl phthalate (BBP)	C <sub>19</sub> H <sub>20</sub> O <sub>4</sub>	85-68-7	-
フタル酸ジ-n-ブチル(DBP)	Dibutyl phthalate (DBP)	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	84-74-2	-

フタル酸ビス(2-エチルヘキシル)(DEHP)	Bis (2-ethylhexyl)phthalate (DEHP)	C <sub>24</sub> H <sub>38</sub> O <sub>4</sub>	117-81-7	-
フタル酸ジイソブチル(DIBP)	Diisobutyl phthalate	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	84-69-5	-

(3) Principal uses for substances

Part	Purpose
Flexible polyvinyl chloride molded items, rubber, elastomer	Plastic plasticizers, dye, pigment, paint, ink, adhesive, lubricant

**Table 2-I-29 Perfluorooctanoic acid (PFOA), its salts, PFOA-related substances and certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC)**

(1) Details

No. I-29	Substance Group: Perfluorooctanoic acid (PFOA), its salts, <b>PFOA-related substances</b> and certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	< PFOA and its salts > • Substances or mixtures	• Intentional inclusion prohibited	*1
		< PFOA, its salts and PFOA-related substances > • Substances or mixtures • Articles other than invasive and implantable medical devices*3	• Less than 25ppb as PFOA including salts, or less than 1ppm as a total of all PFOA-related substances, in mixture or article	*2 *4 *8
		< Certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC) > • Surface coating on article	• Intentional inclusion prohibited	*6 *7
Level 2	January 4, 2025	< PFOA, its salts and PFOA-related substances > • Substances or mixtures • Articles (only invasive and implantable medical devices)*3*6	• Less than 25ppb as PFOA including salts, or less than 1ppm as a total of all PFOA-related substances, in mixture or article	*2 *4
Exemption	<p>*7</p> <ul style="list-style-type: none"> <li>- Medical devices under FDA</li> <li>- All applications that they have already used for before 2015.</li> <li>- Impurities</li> <li>- 13 specific usages defined by US TSCA.</li> </ul> <p>E.g., for use in an antireflective coating, photoresists, or surfactant for use in photo microlithography or other process to produce semiconductors or similar components for electronics or other miniaturized devices. (<a href="https://www.govinfo.gov/content/pkg/FR-2020-07-27/pdf/2020-13738.pdf">https://www.govinfo.gov/content/pkg/FR-2020-07-27/pdf/2020-13738.pdf</a>)</p> <p>*8 Medical devices other than invasive and implantable medical devices: The control value should be under 2 ppm (0.0002wt%).</p>			
Note	<p>*1: Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act</p> <p>*2: Enforcement of the revised EU POPs regulation (EU 2021/115)</p> <p>*3: The definitions of medical devices and implantable medical devices are as provided by the Medical Device Directive 93/42/EEC.</p> <p>*4: PFOA-related substances are any related substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the formula C<sub>7</sub>F<sub>15</sub>- directly attached to another carbon atom, as one of the structural elements, or any related substance (including its salts and polymers) having a linear or branched perfluorooctyl group with the formula</p>			



	<p>C8F17-, as one of the structural elements. The following substances are excluded from this designation:</p> <ul style="list-style-type: none"> <li>- C8F17-X, where X = F, Cl, Br.</li> <li>- C8F17-C(=O)OH, C8F17-C(=O)O-X or C8F17-CF2-X (X = any group, including salts).</li> </ul> <p>*5: Only applies to the invasive and implantable medical devices that are submitted and approved.</p> <p>*6: Significant New Use Rules (SNURs) under US TSCA: §721.9582 and §721.10536 of 40 CFR Part 721 (Significant New Uses of Chemical Substances) The regulated substances are Perfluorooctanoic acid (PFOA), its salts and the following certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC).</p>
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(2) Examples of substances < PFOA, its salts and PFOA-related substances: Japanese Chemical Substances Control Act, EU POPs regulation >

(The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ペルフルオロオクタン酸	Pentadecafluorooctanoic acid; PFOA - perfluorooctanoic acid	C8HF15O2	335-67-1	
ペンタデカフルオロオクタン酸フルオリド	Pentadecafluorooctyl fluoride	C8F16O	335-66-0	-
ペンタデカフルオロオクタン酸銀(I)	Pentadecafluorooctanoic acid silver(I) salt	C8AgF15O2	335-93-3	-
ペンタデカフルオロオクタン酸ナトリウム	Perfluorooctanoic acid sodium salt; Sodium salt of PFOA	C8F15NaO2	335-95-5	
ペンタデカフルオロオクタン酸メチル	Methyl perfluorooctanoate	C9H3F15O2	376-27-2	-
ペルフルオロオクタン酸カリウム	Potassium salt of PFOA	C8F15KO2	2395-00-8	-
ペンタデカフルオロオクタン酸エチル	Ethyl perfluorooctanoate	C10H5F15O2	3108-24-5	-
ペンタデカフルオロオクタン酸アンモニウム	Ammonium pentadecafluorooctanoate (APFO); Ammonium salt of PFOA	C8H4F15NO2	3825-26-1	-
PFOA とその塩	PFOA and its salts	-	JAMP-SN0036	-
ペルフルオロオクタン酸 (PFOA) の塩	PFOA salts	-	JAMP-SN0102	-
PFOA 関連のポリマー	PFOA-related polymer	-	JAMP-SN0103	-

(3) Regulated substances < Certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC): US TSCA >

Substance (Japanese)	Substance (English)	CAS No. or JAMP-SN
1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-ヘプタデカフルオロ-8-ヨードオクタン	Perfluorooctyl iodide	507-63-1
2-(ペルフルオロオクチル)エタノール	Tetrahydroperfluoro-1-decanol	678-39-7
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-ヘンエイコサフルオロドデカン-1-オール	Perfluoro-1-dodecanol	865-86-1

1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-ヘ プタデカフルオロ-10-ヨードデカン	Perfluorodecyl iodide	2043-53-0
1-ヨード- 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 11,12,12,12-ヘニコサフルオロドデ カン	1,1,2,2-Tetrahydroperfluorododecyl iodide	2043-54-1
α-[2-(アクリロイルオキシ)エチル]- ω-フルオロペルフルオロ(ポリ(2~7) エチレン)	Perfluorodecylethyl acrylate	17741-60-5
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10 -ヘプタデカフルオロデシル=アク リラート	1,1,2,2-Tetrahydroperfluorodecyl acrylate	27905-45-9
1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,11,11,12,12-ペンタコサフル オロ-14-ヨードテトラデカン	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12 -Pentacosafuoro-14-iodotetradecane	30046-31-2
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 11,12,12,13,13,14,14,14-ペンタコ サフルオロテトラデカン-1-オール	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14 ,14,14-Pentacosafuorotetradecan-1-ol	39239-77-5
3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11, 11,12,12,13,13,14,14,15,15,16,16,1 6-ノナコサフルオロヘキサデカン- 1-オール	3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14 ,14,15,15,16,16,16-Nonacosafuorohexadecan-1-ol	60699-51-6
1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9, 10,10,11,11,12,12,13,13,14,14-ノ ナコサフルオロ-16-ヨードヘキサデ カン	1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12, ,13,13,14,14-Nonacosafuoro-16-iodohexadecane	65510-55-6
ナトリウム=2-メチル-2-{3- [(1,1,2,2-テトラヒドロペルフルオ ロアルキル(C4-C16)スルファニル) プロパナミド]プロパン-1-スルホナ ート	Sodium;2-methylpropane-1-sulfonate	68187-47-3
γ-ω-ペルフルオロアルコール(C8- C14)	1,1,2,2-Tetrahydroperfluoroalkyl (C8-C14) alcohol	68391-08-2
チオール、C8-20、ガンマ-オメガ-パー フルオロ、アクリルアミドを含む テロマー	Thiols, C8-20, gamma-omegaperfluoro,telomers with acrylamide	70969-47-0
ケイ酸 (H4SiO4), 二ナトリウム塩, クロロトリメチルシランと 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10 -ヘプタデカフルオロ-1-デカノール との反応生成物	Silicic acid (H4SiO4), sodium salt (1:2), reaction products with chlorotrimethylsilane and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro- 1-decanol	125476-71-3
チオール、C4-20、γ-オメガ-パーフ ルオロ、アクリルアミドとアクリル 酸のテロマー、ナトリウム塩	Thiols, C4-20, gamma-omegaperfluoro, telomers with acrylamide and acrylic acid, sodium salts)	1078712-88- 5
1-プロパナミニウム、3-アミノ-N- (カルボキシメチル)-N、N-ジメチ ル-、N-(2-((ガンマ-オメガ-ペル フルオロ-C4-20-アルキル)チオ)ア セチル)誘導体、内部塩	1-Propanaminium, 3-amino-N-(carboxymethyl)- N,N-dimethyl-, N-(2-((gamma-omega-perfluoro-C4- 20-alkyl)thio)acetyl) derivs., inner salts	1078715-61- 3

ポリフルオロアルキルベタイン (一般名)	Polyfluoroalkyl betaine (generic)	-(CBI)
変性フルオロアルキルウレタン (一般名)	Modified fluoroalkyl urethane (generic)	-(CBI)
過フッ素化ポリアミン (一般名)	Perfluorinated polyamine (generic)	-(CBI)

(4) Principal uses for substances

Part	Purpose
Surface coating agents, extinguishants	Additives, leveling agents for paints, aqueous film-forming foam extinguishants, surfactants

**Table 2-I-30 Polycyclic-aromatic hydrocarbons (PAH)**

(1) Details

No. I-30	Substance Group: Polycyclic-aromatic hydrocarbons (PAH)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	<ul style="list-style-type: none"> <li>Rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with human skin or the oral cavity under normal or reasonably foreseeable conditions of use</li> </ul>	-Less than 1mg/kg of any of the listed PAHs in components of articles for the general public (less than 0.0001% [1ppm] of the weight of such components)	*1
Note	*1 Annex XVII to REACH (restriction)			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN
ベンゾ(a)ピレン	Benzo[a]pyrene (BaP)	C <sub>20</sub> H <sub>12</sub>	50-32-8
ベンゾ(e)ピレン	Benzo[e]pyrene (BeP)	C <sub>20</sub> H <sub>12</sub>	192-97-2
ベンゾ(a)アントラセン	Benzo[a]anthracene (BaA)	C <sub>20</sub> H <sub>12</sub>	56-55-3
クリセン	Chrysene (CHR)	C <sub>20</sub> H <sub>12</sub>	218-01-9
ベンゾ(b)フルオランテン	Benzo[b]fluoranthene (BbFA)	C <sub>20</sub> H <sub>12</sub>	205-99-2
ベンゾ(j)フルオランテン	Benzo[j]fluoranthene (BjFA)	C <sub>20</sub> H <sub>12</sub>	205-82-3
ベンゾ(k)フルオランテン	Benzo[k]fluoranthene (BkFA)	C <sub>20</sub> H <sub>12</sub>	207-08-9
ジベンゾ(a,h)アントラセン	Dibenzo[a,h]anthracene (DBAhA)	C <sub>22</sub> H <sub>14</sub>	53-70-3

(3) Principal uses for substances

Part	Purpose
Byproducts generated by combustion of petroleum products Volatile PAHs are contained in some industrial articles (essential oils, lubricants, biocides, adhesives, and paints)	-

**Table 2-I-31 Pentachlorophenol and its salts and esters**

(1) Details

No. I-31	Subject Group: Pentachlorophenol and its salts and esters			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	-All applications	Intentional inclusion prohibited	*1
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act., the EU POPs regulation			

(2) Examples of substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ペンタクロロフェノール	Pentachlorophenol	C <sub>6</sub> Cl <sub>5</sub> OH	87-86-5	-
ペンタクロロフェノールナトリウム	Sodium pentachlorophenol	C <sub>6</sub> Cl <sub>5</sub> NaO	131-52-2	-
ペンタクロロフェノールナトリウム一水和物	Sodium pentachlorophenol monohydrate	C <sub>6</sub> Cl <sub>5</sub> NaO · H <sub>2</sub> O	27735-64-4	-
ペンタクロロフェニルラウレート	Pentachlorophenyl laurate	C <sub>18</sub> H <sub>23</sub> Cl <sub>5</sub> O <sub>2</sub>	3772-94-9	-
ペンタクロロアニソール	Pentachloreanisole	C <sub>7</sub> H <sub>3</sub> Cl <sub>5</sub> O	1825-21-4	-
メチル水銀ペンタクロロフェノキシド	Methyl(pentachlorophenolato)mercury	C <sub>7</sub> H <sub>4</sub> Cl <sub>5</sub> HgO	5902-76-1	-
ペンタクロロフェノール=ナトリウム塩	Phenol, pentachloro-, sodium salt, decahydrate	C <sub>6</sub> Cl <sub>5</sub> NaO · (H <sub>2</sub> O) <sub>10</sub>	27735-63-3	-
カルシウム=ビス (ペンタクロロフェノラート)	Calcium bis(pentachlorophenolate)	C <sub>12</sub> CaCl <sub>10</sub> O <sub>2</sub>	55868-72-9	-
ペンタクロロフェノール塩類及びこれを含む製剤	PCP-Na hydrate	C <sub>6</sub> H <sub>2</sub> Cl <sub>5</sub> NaO <sub>2</sub>	123333-54-0	-

(3) Principal uses for substances

Part	Purpose
Wood products, leather products	Preservative

**Table 2-I-32 Certain CMR substances**

(1) Details

No. I-32	Subject Group: Certain CMR substances			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	<ul style="list-style-type: none"> <li>Clothing or related accessories such as bags (shoulder bags), neck straps and hand straps</li> <li>Textiles other than clothing which, under normal or reasonably foreseeable conditions of use, come into contact with human skin to an extent similar to clothing</li> <li>Footwear</li> </ul>	<ul style="list-style-type: none"> <li>Control values vary among controlled substances. For details, please refer to the control value of each substance.</li> </ul>	*1
Exemption	<ul style="list-style-type: none"> <li>Medical devices subject to Medical Devices Regulation((EU) 2017/745)</li> <li>Personal protective equipment subject to Personal Protective Equipment Regulation ((EU) 2016/425)</li> <li>Clothing, related accessories or footwear, or parts of clothing, related accessories or footwear, made exclusively of natural leather, fur or hide</li> <li>Non-textile fasteners and non-textile decorative attachments</li> <li>Second-hand clothing, related accessories, textiles other than clothing, or footwear</li> <li>Wall-to-wall carpets and textile floor coverings for indoor use, rugs and runners</li> </ul>			
Note	*1: Annex XVII to REACH (restriction), Entry 72, Appendix 12			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Control value	CAS No. or JAMP-SN
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カドミウム及びその化合物	Cadmium and its compounds	・1 mg/kg after extraction (expressed as Cd metal that can be extracted from the material)	Please see Table 2-I-1 (2).
六価クロム化合物	Chromium VI compounds	・1 mg/kg after extraction (expressed as Cr VI that can be extracted from the material)	Please see Table 2-I-2 (2).
ヒ素化合物	Arsenic compounds	・1 mg/kg after extraction (expressed as As metal that can be extracted from the material)	Please see examples table (2) of this chapter below.
鉛及びその化合物	Lead and its compounds	・1 mg/kg after extraction (expressed as Pb metal that can be extracted from the material)	Please see Table 2-I-3 (2).
ベンゼン	Benzene	・Less than 5ppm	71-43-2
ベンゾ[a]アントラセン	Benz[a]anthracene	・Less than 1ppm	56-55-3
ベンゾ[b]フルオランテン	Benz[e]acephenanthrylene	・Less than 1ppm	205-99-2
ベンゾ[a]ピレン ベンゾ[def]クリセン	benzo[a]pyrene; benzo[def]chrysene	・Less than 1ppm	50-32-8
ベンゾ[e]ピレン	Benzo[e]pyrene	・Less than 1ppm	192-97-2
ベンゾ[j]フルオランテン	Benzo[j]fluoranthene	・Less than 1ppm	205-82-3
ベンゾ[k]フルオランテン	Benzo[k]fluoranthene	・Less than 1ppm	207-08-9
クリセン	Chrysene	・Less than 1ppm	218-01-9
ジベンゾ[a,h]アントラセン	Dibenz[a,h]anthracene	・Less than 1ppm	53-70-3
p-(トリクロロメチル)クロロベンゼン	$\alpha, \alpha, \alpha, 4$ -tetrachlorotoluene; p-chlorobenzotrichloride	・Less than 1ppm	5216-25-1
トリクロロメチルベンゼン	$\alpha, \alpha, \alpha$ -trichlorotoluene; benzotrichloride	・Less than 1ppm	98-07-7
クロロメチルベンゼン	$\alpha$ -chlorotoluene; benzyl chloride	・Less than 1ppm	100-44-7
ホルムアルデヒド	Formaldehyde	・Less than 75ppm	50-00-0
ジアルキル(c=6,7(主成分),8,分岐型)=フタラート	1,2-benzenedicarboxylic acid; di-C 6-8-branched alkylesters, C 7-rich	・Less than 1000ppm	71888-89-6
ビス(2-メトキシエチル)=フタラート	Bis(2-methoxyethyl) phthalate	・Less than 1000ppm	117-82-8
ジイソペンチル=フタラート	Diisopentylphthalate	・Less than 1000ppm	605-50-5
ジペンタル-1-イル=フタラート(DPP)	Di-n-pentyl phthalate (DPP)	・Less than 1000ppm	131-18-0
ジヘキサン-1-イル=フタラート(DnHP)	Di-n-hexyl phthalate (DnHP)	・Less than 1000ppm	84-75-3
1-メチル-2-ピロリドン(NMP)	N-methyl-2-pyrrolidone; 1-methyl-2-pyrrolidone (NMP)	・Less than 3000ppm	872-50-4

N,N-ジメチルアセトアミド (DMAC)	N,N-dimethylacetamide (DMAC)	・Less than 3000ppm	127-19-5
N,N-ジメチルホルムアミド	N,N-dimethylformamide; dimethyl formamide (DMF)	・Less than 3000ppm	68-12-2
1,4,7,8-テトラアミノアントラキノン; C.I.ディスパーブルー1	1,4,5,8-tetraaminoanthraquinone; C.I. Disperse Blue 1	・Less than 50ppm	2475-45-8
4,4-(4-イミノシクロヘキサ-2,5-ジエニデンメチレン)ジアニリン 塩酸塩	Benzenamine, 4,4' -(4-iminocyclohexa-2,5-dienylidenemethylene)dianiline hydrochloride; C.I. Basic Red 9	・Less than 50ppm	569-61-9
C.I.ベーシックバイオレット3	[4-[4,4' -bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride; C.I. Basic Violet 3 with $\geq 0,1$ % of Michler's ketone (EC no. 202-027-5)	・Less than 50ppm	548-62-9
4-クロロ-2-メチルアニリウム=クロリド	4-chloro-o-toluidinium chloride	・Less than 30ppm	3165-93-3
2-ナフタレンアミン・酢酸	2-Naphthylammoniumacetate	・Less than 30ppm	553-00-4
硫酸 2,4-ジアミノエーテル	4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	・Less than 30ppm	39156-41-7
2,4,5-トリメチルアニリン・塩酸塩	2,4,5-trimethylaniline hydrochloride	・Less than 30ppm	21436-97-5
キノリン	Quinoline	・Less than 50ppm	91-22-5

(2) Examples of arsenic compounds among certain CMR substances (The table below does not cover all the substances in this substance group.)

Substance (Japanese)	Substance (English)	Chemical formula	CAS No. or JAMP-SN	Metal conversion factor
ヒ素	Arsenic	As	7440-38-2	1.000
ヒ酸	Arsenic acid	AsH3O4	7778-39-4	0.528
亜ヒ酸銀	Trisilverarsenite	Ag <sub>3</sub> AsH3O3	7784-08-9	0.167
亜ヒ酸鉛	Lead arsenite	As2O4Pb	10031-13-7	0.356
ヒ酸鉛	Lead arsenate	Pb3(AsO4)2	10102-48-4	0.267
ヒ酸鉄(III)	Ferric arsenate	AsFeO4	10102-49-5	0.384
亜ヒ酸鉛(II)	Zinc arsenite	As2O4Zn	10326-24-6	0.537
ヒ化マンガン	Manganese arsenide	MnAs	12005-95-7	0.577
ヒ化亜鉛	Zinc arsenide	Zn3As3	12006-40-5	0.433
ヒ化スズ	Tin arsenide	SnAs	12044-32-5	0.386
ヒ化ガリウム	Gallium arsenide	AsGa	1303-00-0	0.518
五酸化二ヒ素	Arsenic pentoxide	As2O5	1303-28-2	0.652
三酸化二ヒ素	Diarsenic trioxide	As2O3	1327-53-3	0.757
ヒ酸トリエチル	Triethyl arsenate	C6H15AsO4	15606-95-8	0.331
亜ヒ酸カルシウム	Calcium arsenite	As2Ca3O6	27152-57-4	0.409
ビス(ヒ酸)三鉛(II)	Trilead diarsenate	As2O8Pb3	3687-31-8	0.167
ビス(ヒ酸)三カルシウム	Calcium arsenate	As2Ca3O8	7778-44-1	0.376
ヒ酸水素鉛(II)	Lead hydrogen arsenate	AsH3O4.Pb	7784-40-9	0.215

ヒ酸二水素カリウム	Potassium arsenate	AsH <sub>2</sub> KO <sub>4</sub>	7784-41-0	0.416
ヒ酸及びその塩	arsenic acid and its salts	-	JAMP-SN0009	-
その他のヒ素化合物	Arsenic compounds	-	JAMP-SN0010	-

(3) Principal uses for substances

Part	Purpose
Clothing or accessories such as bags, textiles, footwear	Pigments, germicides, biocides

**Table 2-I-33 Phenol, Isopropylated Phosphate (3:1)**

(1) Details

No. I-33	Substance Group: Phenol, Isopropylated Phosphate (3:1) (PIP 3:1)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	・Substances and mixtures, excluding adhesives and sealants	・Intentional inclusion prohibited	*1
Level 2	April 30, 2024	・Articles	・Intentional inclusion prohibited	*2
Level 2	July 6, 2024	・Adhesives and sealants	・Intentional inclusion prohibited	*1
Exemption	<p>«FDA-registered medical devices»  The following Official Journal is applicable.  TSCA: CHAPTER 53—TOXIC SUBSTANCES CONTROL SUBCHAPTER I—CONTROL OF TOXIC SUBSTANCES Sec. 2602. Definitions. (2)(vi)  (<a href="https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf">https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf</a>)</p> <p>(Note) FDA-registered medical devices are not subject to TSCA but Olympus may require suppliers to report the contents of these substances so that Olympus can confirm the exemptions are applied.</p> <p>«Exceptions to US TSCA PBT Rules »</p> <ul style="list-style-type: none"> <li>Regulated substances, products or articles containing regulated substances, which have already been sold to end-consumers (such as secondhand articles and donations to charity)</li> <li>Disposal of regulated substances, products or articles containing regulated substances</li> <li>Production, treatment, distribution in commerce and use of regulated substances, products or articles containing regulated substances for research and development purposes</li> <li>Processing and distribution in commerce of “hydraulic fluids that meet specifications and requirements of the Defense Department”, “lubricants and greases”, “new and replacement parts for aerospace vehicles and automobiles”, etc.; plastic containing recycled PIP(3:1); and products and articles using plastic that contains recycled PIP(3:1), etc.</li> </ul> <p>(Note) Only the exceptions related with Olympus Group products are listed above.  (Note) Items other than “FDA-registered medical devices” described above.</p>			
Note	*1 US TSCA PBT Rules *2 US TSCA 40 CFR Part 751 [EPA-HQ-OPPT-2021-0598; FRL-6015.6-02-OCSPP]			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
リン酸トリス(イソプロピルフェニル) PIP (3:1)	Phenol, Isopropylated Phosphate (3:1) (PIP 3:1)	Unspecified	68937-41-7

(3) Principal uses for substances

Part	Purpose
Polyvinyl chloride (PVC)	Flame-retardant plasticizers

**Table 2-I-34 2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP)**

(1) Details

No. I-34	Substance Group: 2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP)			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	•All applications, excluding articles	-Intentional inclusion prohibited	*1
Exemption	<p>«FDA-registered medical devices»  The following Official Journal is applicable.  TSCA: CHAPTER 53—TOXIC SUBSTANCES CONTROL SUBCHAPTER I—CONTROL OF TOXIC SUBSTANCES Sec. 2602. Definitions. (2)(vi)  (<a href="https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf">https://www.govinfo.gov/content/pkg/USCODE-2018-title15/pdf/USCODE-2018-title15-chap53.pdf</a>)</p> <p>(Note) FDA-registered medical devices are not subject to TSCA but Olympus may require suppliers to report the contents of these substances so that Olympus can confirm the exemptions are applied.</p> <p>«Exceptions to US TSCA PBT Rules »</p> <ul style="list-style-type: none"> <li>• Regulated substances, products or articles containing regulated substances, which have already been sold to end-consumers (such as secondhand articles and donations to charity)</li> <li>• Disposal of regulated substances, products or articles containing regulated substances</li> <li>• Production, treatment, distribution in commerce and use of regulated substances, products or articles containing regulated substances for research and development purposes</li> </ul> <p>(Note) Items other than “FDA-registered medical devices” described above</p>			
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act. US TSCA PBT Rules			

(2) Regulated substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
2,4,6-トリ-tert-ブチルフェノール (2,4,6-TTBP)	2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP)	C18H30O	732-26-3

(3) Principal uses for substances

Part	Purpose
Lubricants	Additives

**Table 2-I-35 Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances**

(1) Details

No. I-35	Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances			
Prohibition Level	Date of ban on delivery	Applications	Control Value	Note
Level 1	Immediate	<p>-All applications (Except for the following applications)</p> <p>-Semiconductors on their own,  -Semiconductors incorporated in semi-finished and finished electronic equipment.</p> <p>-Fluoroplastics and fluoroelastomers that contain perfluoroalkoxy groups.</p>	<p>- Less than 25 ppb for the sum of C9-C14 PFCAs and their salts</p> <p>- Less than the concentration of 260 ppb for the sum of C9-C14 PFCA-related substances</p> <p>- The concentration of 2,000 ppb or below for the sum of C9-C14 PFCAs until February 25, 2024</p> <p>- The concentration of 100 ppb or below for the sum of C9-C14 PFCAs from</p>	*1



			February 26, 2024	
Level 2	January 5, 2025	-Invasive and implantable medical devices	- Less than 25 ppb for the sum of C9-C14 PFCAs and their salts - Less than the concentration of 260 ppb for the sum of C9-C14 PFCA-related substances	*1
Exemption	-C9-C14 PFCAs, their salts and related substances 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. (The concentration of 1,000 ppb or below)			
Note	<p>*1 : EU REACH Annex XVII, Entry 68</p> <p>Linear and branched perfluorocarboxylic acids of the formula <math>C_nF_{2n+1}-C(=O)OH</math> where <math>n = 8, 9, 10, 11, 12, \text{ or } 13</math> (C9-C14 PFCAs), including their salts, and any combinations thereof;</p> <p>Any C9-C14 PFCA-related substance having a perfluoro group with the formula <math>C_nF_{2n+1}</math> directly attached to another carbon atom, where <math>n = 8, 9, 10, 11, 12, \text{ or } 13</math>, including their salts and any combinations thereof;</p> <p>Any C9-C14 PFCA-related substance having a perfluoro group with the formula <math>C_nF_{2n+1}</math> that it is not directly attached to another carbon atom, where <math>n = 9, 10, 11, 12, 13 \text{ or } 14</math> as one of the structural elements, including their salts and any combinations thereof.</p> <p>The following substances are excluded from this designation:</p> <ul style="list-style-type: none"> <li>- <math>C_nF_{2n+1}-X</math>, where <math>X = F, Cl, \text{ or } Br</math> (where <math>n = 9, 10, 11, 12, 13 \text{ or } 14</math>, including any combinations thereof),</li> <li>- <math>C_nF_{2n+1}-C(=O)OX'</math> where <math>n &gt; 13</math> and <math>X' = \text{any group}</math>, including salts</li> </ul>			

### (2) Examples of substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
パーフルオロノナン酸	Perfluorononan-1-oic acid	C9HF17O2	375-95-1
パーフルオロデカン酸	Nonadecafluorodecanoic acid	C10HF19O2	335-76-2
パーフルオロウンデカン酸	Henicosafleuroundecanoic acid	C11HF21O2	2058-94-8
パーフルオロドデカン酸	Tricosafleurododecanoic acid	C12HF23O2	307-55-1
パーフルオロトリデカン酸	Pentacosafleurotridecanoic acid	C13HF25O2	72629-94-8
パーフルオロテトラデカン酸	Heptacosafleurotetradecanoic acid	C14HF27O2	376-06-7

Notes: This table only lists substances up to C9-C14 PFCA. Please refer to the Official Journal available at the following URL for information about their salts and C9-C14 PFCA-related substances: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L.2021.282.01.0029.01.ENG&toc=OJ%3AL%3A2021%3A282%3ATOC>

### (3) Principal uses for substances

Part	Purpose
Fluoro-resin / rubber, coating agents, industrial detergents, semiconductor manufacturing process	Additives, surfactants

**Table 2-I-36 Perfluorohexanoic acid (PFHxS) and its salts and PFHxS related substances**

(1) Details

No. I-36 Perfluorohexanoic acid (PFHxS) and its salts and PFHxS related substances				
Prohibition Level	Date of ban on delivery*1	Applications	Control Value	Note
Level 1	Immediate	Chemicals	-Do not contain	*1
		Chemicals,Articles	-PFHxS and its salts: less than 25ppb -PFHxS related substances: less than 1,000ppb	*2
		-Etching agents used for metal processing -Surface treatment agents for plating or their preparation additives -Fabric treated to provide water-repellent or oil-repellent properties -Clothing that has been treated to provide water-repellent or oil-repellent properties -Floor coverings treated to provide water-repellent or oil-repellent properties -Water repellent agent/oil repellent agent and fiber protectant -Anti-reflective agents used in semiconductor manufacturing -Etching agents used in semiconductor manufacturing -Resist for semiconductors	-Do not export containing products to Japan.	*1
Exemption	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act: If it is contained as a by-product, it will not be treated as a Class 1 Specified Chemical Substance if BAT has been reported to the Japanese government agency. <a href="https://www.meti.go.jp/policy/chemical_management/kasinhou/about/class1specified_history.html">https://www.meti.go.jp/policy/chemical_management/kasinhou/about/class1specified_history.html</a>			
Note	*1 Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act *2 Annex I to EU POPs Regulation (EU)2019/1021			

(2) Examples of substances

Substance (Japanese)	Substance (English)	Chemical formula	CAS No or JAMP-SN
パーフルオロヘキサン-1-スルホン酸	Perfluorohexane-1-sulphonic acid	C6HF13O3S	355-46-4
ベンジル (トリフェニル) ホスホニウム=トリデカフルオロヘキサン-1-スルホナート	Phosphonium, triphenyl(phenylmethyl)-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C31H22F13O3 PS	1000597-52-3

テトラブチルアンモニウム＝トリデカフルオロヘキサ－１－スルホナート	N,N,N-tributylbutan-1-aminium tridecafluorohexane-1-sulfonate	C22H36F13NO3S	108427-54-9
テトラエチルアンモニウム＝トリデカフルオロヘキサ－１－スルホナート	N,N,N-triethylethanaminium tridecafluorohexane-1-sulfonate	C14H20F13NO3S	108427-55-0
ピロリジンとトリデカフルオロヘキサ－１－スルホン酸の化合物（１：１）	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. With pyrrolidine (1:1)	C4H9N.C6HF13O3S	1187817-57-7
（４－{〔４－（ジエチルアミノ）フェニル〕〔４－（エチルアミノ）－１－ナフチル〕メチリデン}シクロヘキサ－２，５－ジエン－１－イリデン）（ジエチル）アンモニウム＝トリデカフルオロヘキサ－１－スルホナート	Ethanaminium, N-[4-[[4-(diethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-ethyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C39H40F13N3O3S	1310480-24-0
（４－{〔４－（ジメチルアミノ）フェニル〕〔４－（エチルアミノ）－１－ナフチル〕メチリデン}シクロヘキサ－２，５－ジエン－１－イリデン）（ジメチル）アンモニウム＝トリデカフルオロヘキサ－１－スルホナート	Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(ethylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C35H32F13N3O3S	1310480-27-3
（４－{〔４－アニリノ－１－ナフチル〕〔４－（ジメチルアミノ）フェニル〕メチリデン}シクロヘキサ－２，５－ジエン－１－イリデン）（ジメチル）アンモニウム＝トリデカフルオロヘキサ－１－スルホナート	Methanaminium, N-[4-[[4-(dimethylamino)phenyl][4-(phenylamino)-1-naphthalenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C39H32F13N3O3S	1310480-28-4
β－シクロデキストリンとトリデカフルオロヘキサ－１－スルホナートの化合物（１：１）	Beta-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid ion(1-)(1:1)	C42H70O35.C6F13O3S	1329995-45-0

γ-シクロデキストリン=モノ (1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 6-トリデ カフルオロヘキサン-1-スル ホナート)	Gamma-Cyclodextrin, compd. with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro- 1-hexanesulfonic acid ion(1-)(1:1)	C48H80O40.C6 F13O3S	1329995-69-8
トリフェニルスルホニウム=ト リデカフルオロヘキサン-1- スルホナート	Sulfonium, triphenyl-, 1,1,2,2,3,3,4, 4,5,5,6,6,6-tridecafluoro-1-hexanesulf onate (1:1)	C24H15F13O3 S2	144116-10-9
1-(カルボキシメチル)-4- (2-{4-[4-(2,2-ジ フェニルビニル)フェニル]- 1,2,3,3a,4,8b-ヘ キサヒドロシクロペンタ[b]イ ンドール-7-イル}ビニル)キノ リン-1-イウム=トリデカ フルオロヘキサン-1-スルホ ナート	Quinolinium, 1-(carboxymethyl)-4-[2 -[4-[4-(2,2-diphenylethenyl)phenyl]-1, 2,3,3a,4,8b-hexahydrocyclopent[b]ind ol-7-yl]ethenyl]-, 1,1,2,2,3,3,4,4,5,5,6, 6,6-tridecafluoro-1-hexanesulfonate (1:1)	C50H37F13N2 O5S	1462414-59-0
ジフェニルヨードニウム=トリ デカフルオロヘキサン-1-ス ルホナート	Iodonium, diphenyl-, 1,1,2,2,3,3,4,4, 5,5,6,6,6-tridecafluoro-1-hexanesulfo nate (1:1)	C18H10F13IO3 S	153443-35-7
テトラメチルアンモニウム=ト リデカフルオロヘキサン-1- スルホナート	Methanaminium, N,N,N-trimethyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tri decafluoro-1-hexanesulfonic acid (1: 1)	C10H12F13NO 3S	189274-31-5
2-メチルプロパン-2-アミ ンとトリデカフルオロヘキサン -1-スルホン酸の化合物(1: 1)	1-Hexanesulfonic acid, 1,1,2,2,3,3,4, 4,5,5,6,6,6-tridecafluoro-, compd.wit h 2-methyl-2-propanamine (1:1)	C4H11N.C6HF 13O3S	202189-84-2
ビス(4-tert-ブチルフ ェニル)ヨードニウム=トリデ カフルオロヘキサン-1-スル ホナート	Iodonium, bis[4-(1,1-dimethylethyl)p henyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tride cafluoro-1-hexanesulfonate (1:1)	C26H26F13IO3 S	213740-81-9
ガリウム=トリス(トリデカフ ルオロヘキサン-1-スルホナ ート)	1-Hexanesulfonic acid, 1,1,2,2,3,3,4, 4,5,5,6,6,6-tridecafluoro-, gallium sa lt (9CI)	C18F39GaO9S 3	341035-71-0

フェニル (ジ- p -トリル) スルホニウム=トリデカフルオロヘキサ-1-スルホナート	Sulfonium, bis(4-methylphenyl)phenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C26H19F13O3S2	341548-85-4
スカンジウム=トリス (トリデカフルオロヘキサ-1-スルホナート)	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, scandium (3+) salt (3:1)	C18F39O9S3Sc	350836-93-0
カリウム=1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 6-トリデカフルオロヘキサ-1-スルホナート	Potassium perfluorohexane-1-sulfonate	C6F13KO3S	3871-99-6
ネオジム=トリス (トリデカフルオロヘキサ-1-スルホナート)	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, neodymium(3+) salt (3:1)	C18F39NdO9S3	41184-65-0
イットリウム=トリス (トリデカフルオロヘキサ-1-スルホナート)	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, yttrium(3+) salt (3:1)	C18F39O9S3Y	41242-12-0
S, S, S', S' -テトラフェニル [スルファンジイルビス (4, 1-フェニレン)] ビス (スルホニウム) =ビス (トリデカフルオロヘキサ-1-スルホナート)	Sulfonium, (thiodi-4,1-phenylene)bis[diphenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:2)	C48H28F26O6S5	421555-73-9
ビス (4-tert-ペンチルフェニル) ヨードニウム=トリデカフルオロ-1-ヘキサンスルホナート	Iodonium, bis[4-(1,1-dimethylpropyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic	C28H30F13IO3S	421555-74-0
トリス (4-tert-ブチルフェニル) スルホニウム=トリデカフルオロヘキサ-1-スルホナート	Sulfonium, tris[4-(1,1-dimethylethyl)phenyl]-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C36H39F13O3S2	425670-70-8
リチウム=1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 6-トリデカフルオロヘキサ-1-スルホナート	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, lithium salt (1:1)	C6F13LiO3S	55120-77-9
アンモニウム=トリデカフルオロヘキサ-1-スルホナート	Ammonium perfluorohexane-1-sulfonate	C6H4F13NO3S	68259-08-5

亜鉛＝ビス（トリデカフルオロヘキサネー１－スルホナート）	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, zinc salt	C12F26O6S2Zn	70136-72-0
トリデカフルオロヘキサネー１－スルホン酸と２，２’－イミノジエタノールの化合物（１：１）	Tridecafluorohexanesulphonic acid, compound with 2,2'-iminodiethanol (1:1)	C6HF13O3S.C4H11NO2	70225-16-0
トリデカフルオロヘキサネー１－スルホン酸とトリエチルアミンの化合物（１：１）	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, compd. with N,N-diethylethanamine (1:1)	C6HF13O3S.C6H15N	72033-41-1
ナトリウム＝１，１，２，２，３，３，４，４，５，５，６，６，６－トリデカフルオロヘキサネー１－スルホナート	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, sodium salt	C6F13NaO3S	82382-12-5
ビス（tert-ブチルフェニル）ヨードニウム＝トリデカフルオロヘキサネー１－スルホナート	Iodonium, bis[(1,1-dimethylethyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1) (9CD)	C26H26F13IO3S	866621-50-3
ジフェニル（p-トリル）スルホニウム＝トリデカフルオロヘキサネー１－スルホナート	Sulfonium, (4-methylphenyl)diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C25H17F13O3S2	910606-39-2
[4-（メタクリロイルオキシ）フェニル]（ジフェニル）スルホニウム＝トリデカフルオロヘキサネー１－スルホナート	Sulfonium, [4-[(2-methyl-1-oxo-2-propen-1-yl)oxy]phenyl]diphenyl-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C28H19F13O5S2	911027-68-4
２－エチル－２－アダマンチル＝メタクリレート・３－ヒドロキシ－１－アダマンチル＝メタクリレート・[4-（メタクリロイルオキシ）フェニル]（ジフェニル）スルホニウム＝トリデカフルオロヘキサネー１－スルホナート・２－オキソオキソラン－３－イル＝メタクリレート重合体	Sulfonium, [4-[(2-methyl-1-oxo-2-propenyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonic acid (1:1), polymer with 2-ethyltricyclo[3.3.1.1 <sup>3,7</sup> ]dec-2-yl 2-methyl-2-propenoate, 3-hydroxytricyclo[3.3.1.1 <sup>3,7</sup> ]dec-1-yl 2-methyl-2-propenoate and tetrahydro-2-oxo-3-furanyl 2-methyl-2-propenoate	(C16H24O2.C14H20O3.C28H19F13O5S2.C8H10O4.)x	911027-69-5
セシウム＝トリデカフルオロヘキサネー１－スルホナート	1-Hexanesulfonic acid, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-, cesium salt (1:1)	C6CsF13O3S	92011-17-1

19-(4-tert-butylphenyl)-4a,6,7,9,10,12,13,19a-octahydrodibenz[ <i>k,n</i> ][1,4,7,10,13]tetraoxathia-cyclopentadecinium, 19-[4-(1,1-dimethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	Dibenzo[ <i>k,n</i> ][1,4,7,10,13]tetraoxathia-cyclopentadecinium, 19-[4-(1,1-dimethyl)phenyl]-6,7,9,10,12,13-hexahydro-, 1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-1-hexanesulfonate (1:1)	C <sub>34</sub> H <sub>35</sub> F <sub>13</sub> O <sub>7</sub> S <sub>2</sub>	928049-42-7
パーフルオロアルカンスルホン酸カリウム塩	Sulfonic acids,C6-12-alkane,perfluoro,potassium salts	C <sub>n</sub> F <sub>2n+1</sub> SO <sub>3</sub> K(n=6-12)	69391-09-3
パーフルオロアルカンスルホン酸	Sulfonic acids,C6-12-alkane,perfluoro	C <sub>n</sub> F <sub>2n+1</sub> SO <sub>3</sub> H(n=6-12)	93572-72-6
2-{エチル[(トリデカフルオロヘキシル)スルホニル]アミノ}エチル=アクリラート	2-[ethyl[(tridecafluorohexyl)sulphonyl]amino]ethyl acrylate:2-Propenoic acid, 2-[ethyl[(1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluorohexyl)sulfonyl]amino]ethyl ester	C <sub>13</sub> H <sub>12</sub> F <sub>13</sub> NO <sub>4</sub> S	1893-52-3

(3) Principal uses for substances

Part	Purpose
Water-forming foam fire extinguishing agents, metal plating, coatings, textiles, leather goods and upholstery	Lubrication, polishing, cleaning and protection from moisture, fungi, etc.

Table 3 Criteria for managing controlled substances

**Table 3-II-1 Candidate List of Substances of Very High Concern in REACH (SVHC)**

No. II-1	Substance Group: Candidate List of Substances of Very High Concern in REACH (SVHC)		
Applications		Control Values	Note
• All applications		- 1000ppm	*1
Note	*1 The candidate list of substances of very high concern in REACH (SVHC) will be periodically updated. Please refer to the website of the European Chemicals Agency (ECHA). ( <a href="https://www.echa.europa.eu/candidate-list-table">https://www.echa.europa.eu/candidate-list-table</a> )		

**Table 3-II-2 Substances subject to the European Union's Medical Device Regulation (EU-MDR) or In Vitro Diagnostic Medical Device Regulation (EU-IVDR)**

No. II-2	Substance group: Substances subject to the European Union's Medical Device Regulation (EU-MDR) or In Vitro Diagnostic Medical Device Regulation (EU-IVDR)		
Applicable regulation	Applications	Control Values	Note
The European Union's Medical Device Regulation (EU-MDR)	Devices, or those parts thereof or those materials used therein that: - Are invasive and come into direct contact with the human body, - (re)administer medicines, body fluids or other substances, including gases, to or from the body, or, - transport or store such medicines, body fluids or substances, including gases, to be (re)administered to the body.	- 1000ppm *2	*1
The European Union's In Vitro Diagnostic Medical Device Regulation (EU-IVDR)	Components and subsidiary materials that come into direct or indirect contact with the patient		
Note	<p>*1: The substances subject to EU-MDR or EU-IVDR are defined in items (1) and (2) below. Substances in item (3) may be added to this substance group in the future. Please refer to EU 2017/745 at Annex I, 10.4.1 (b) for details.</p> <p>(1) Category 1A/1B substances that are carcinogenic, mutagenic or toxic to reproduction, listed in Table 3.1 of Annex VI to the CLP regulation, List of harmonized classification and labelling of hazardous substances. Please refer to the following website for the table. (<a href="https://echa.europa.eu/information-on-chemicals/annex-vi-to-clp">https://echa.europa.eu/information-on-chemicals/annex-vi-to-clp</a>)</p> <p>(2) Substances that are on the candidate list of Substances of Very High Concern in REACH (SVHC), and have endocrine disrupting effects on humans. The candidate list of SVHC will be periodically updated. Please refer to the website of the European Chemicals Agency (ECHA). (<a href="https://www.echa.europa.eu/candidate-list-table">https://www.echa.europa.eu/candidate-list-table</a>)</p> <p>(3) BPR substances BPR Regulation (Regulation (EU) No 528/2012 o) (<a href="https://echa.europa.eu/guidance-documents/guidance-on-biocides-legislation">https://echa.europa.eu/guidance-documents/guidance-on-biocides-legislation</a>)</p> <p>*2: Regarding surface treatment coatings, the concentration of a substance in an article (not in the coating) may be used as its control value.</p>		



**Table 3-II-3 Perfluoroalkyl and polyfluoroalkyl substances (PFAS)**

No. II-3	Substance group: Perfluoroalkyl and polyfluoroalkyl substances (PFAS)		
Applicable regulation	Applications	Control Values	Note
H.P. 1113 - L.D. 1503 An Act To Stop Perfluoroalkyl and Polyfluoroalkyl Substances Pollution (U.S. Maine state)	All products used intentionally Perfluoroalkyl and polyfluoroalkyl substances (PFAS)	-Intentional inclusion prohibited	*1
Note	<p>*1 Please refer to the following U.S. Maine state's website for the details of "H.P. 1113 - L.D. 1503 An Act To Stop Perfluoroalkyl and Polyfluoroalkyl Substances Pollution (U.S. Maine state)".  <a href="https://www.maine.gov/dep/spills/topics/pfas/index.html">https://www.maine.gov/dep/spills/topics/pfas/index.html</a></p> <p>Please refer to the following EPA's web site to identify the PFAS regulated.  <a href="https://comptox.epa.gov/dashboard/chemical-lists/pfasmaster">https://comptox.epa.gov/dashboard/chemical-lists/pfasmaster</a></p>		

## 5. Major Revisions

Ver.	Date	Article	Contents and reason for revisions
18	2024.04.01	Table 1	Modified I-28 phthalates (BBP, DBP, DEHP, DIDP, DINP, DNOP, DIBP) to phthalates (BBP, DBP, DEHP, DIBP)
		Table 1 (Note)	-In the note regarding “Certain CMR substances”, “I-31” was corrected to “I-32”. -In the note regarding “TSCA PBT”, “I-10” and “Table 2-I-10” were added.
		Table 2-I-1,2,3,4,9,28,29,33,35	"The date of ban on delivery is set as the date six months before the effective date of an applicable law or regulation." was deleted from the note, which overlaps with the content of Article 3 Terms and Definitions, Paragraph 15.
		Table 2-I-3	Addition of regulations regarding “Lead in PVC” according to REACH Annex XVII.
		Table 2-I-25	Addition of regulations regarding “Formaldehyde” according to REACH Annex XVII
		Table 2-I-28	-Corrected phthalate esters (BBP, DBP, DEHP, DIDP, DINP, DNOP, DIBP) to phthalate esters (BBP, DBP, DEHP, DIBP). - Deleted content related to the U.S. Consumer Product Safety Improvement Act. - Deleted REACH Regulation Annex XVII (Restricted Substances) from Note *1
		Table 2-I-35	Prohibition Level, Date of ban on delivery, and Control value have been revised to the latest contents.
		Table 2-I-36	Added regulatory details for “Perfluorohexanoic acid (PFHxS) and its salts and PFHxS related substances”
17	2023.04.01	Table 2-I-19	“Hexachlorobenzene (HCB)” was added.
		From Table 2-I-20 To Table 2-I-35	Table Numbers were revised because Table 2-I-19 "hexachlorobenzene (HCB)" was added.
		Table 2-I-35	“Date of ban on delivery”, and date described at “Control Value” cell was revised.
		Table 3-II-3	“Perfluoroalkyl and polyfluoroalkyl substances (PFAS)” was added.
16	2022.04.01	3	-“Substance” was added to “Terms and Definitions”.
		Table 2-I-28	-“Applications” and “Examples of (regulated) substances” were revised to clearly indicate substances and the regulations applicable to them.
		Table 2-I-31	-“Article” was added as applications, and their Prohibition Level” and “Date of ban on delivery”, “Control Value” was described. “CFR No” was added in the note.
		Table 2-I-34	-“Perfluorocarboxylic acids containing 9 to 14 carbon atoms in the chain (C9-C14 PFCAs), their salts and C9-C14 PFCA-related substances” was added.
15	2021.06.30	All pages	•The structure of articles and tables were reviewed.
		3	• “Homogeneous materials” was added under “Terms and Definitions”. “Control content” was

		<p>incorporated into “Control value”.</p> <ul style="list-style-type: none"> <li>• “CMR substances” and “Effective date of an applicable law or regulation” were deleted.</li> </ul>
	4	<ul style="list-style-type: none"> <li>• The structure of this section was reviewed. The contents of the section were revised so as to best reflect the changes made to the terms and the definitions.</li> </ul>
	Table 2-I-1	<ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” and “The following applications, other than *1 and *2” were deleted</li> <li>• “Less than 100 ppm” according to RoHS Directive was replaced with “100 ppm or less”.</li> </ul>
	Table 2-I-2	<ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” and “The following applications, other than *1, *2 and *3” were deleted</li> <li>• “Less than 1000 ppm” according to RoHS Directive was replaced with “1000 ppm or less”.</li> </ul>
	Table 2-I-3	<ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” and “The following applications, other than *1, *2 and *3” were deleted</li> <li>• “Less than 1000 ppm” according to RoHS Directive was replaced with “1000 ppm or less”.</li> </ul>
	Table 2-I-4	<ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” and “The following applications, other than *1, *2 and *3” were deleted</li> <li>• “Less than 1000 ppm” according to RoHS Directive was replaced with “1000 ppm or less”.</li> </ul>
	Table 2-I-9	<ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” and “The following applications, other than *1, *2 and *3” were deleted</li> <li>• “Less than 1000 ppm” according to RoHS Directive was replaced with “1000 ppm or less”.</li> </ul>
	Table 2-I-10	<ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” and “The following applications, other than *1, *2 and *3” were deleted</li> <li>• “Less than 1000ppm” according to RoHS Directive was replaced with “1000 ppm or less”.</li> <li>• “US TSCA PBT Rules” was added to note *3, and *4 Exemption was also added to the table.</li> </ul>
	Table 2-I-17	<ul style="list-style-type: none"> <li>• Pentachlorothiophenol (PCTP) was added.</li> </ul>
	Table 2-I-18	<ul style="list-style-type: none"> <li>• Hexachlorobutadiene (HCBD) was added.</li> </ul>
	Table 2-I-21	<ul style="list-style-type: none"> <li>• The substances in this substance group were reviewed.</li> </ul>
	Table 2-I-27	<ul style="list-style-type: none"> <li>• “Less than 1000 ppm” according to RoHS Directive was replaced with “1000 ppm or less”.</li> </ul>
	Table 2-I-28	<ul style="list-style-type: none"> <li>• “certain Long-Chain Perfluoroalkyl Carboxylates (LCPFAC)” was added.</li> <li>• Regarding PFOA, changes were made in response to the publication of Official Journals about “Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act.” and “EU POPs regulation”.</li> <li>• “Implantable medical devices*2, *5” was deleted from “Exemption”.</li> </ul>

			<ul style="list-style-type: none"> <li>Notes *6 and *7 were added.</li> </ul>
		Table 2-I-30	<ul style="list-style-type: none"> <li>“EU POPs regulation” was added to note *1.</li> </ul>
		Table 2-I-32	<ul style="list-style-type: none"> <li>Phenol, Isopropylated Phosphate (3:1) (PIP 3:1) was added.</li> </ul>
		Table 2-I-33	<ul style="list-style-type: none"> <li>2,4,6-tris(tert-butyl)phenol (2,4,6-TTBP) was added.</li> </ul>
		Table 3-II-2	<ul style="list-style-type: none"> <li>BPR substances was added to note *1.</li> <li>Explanation of the control value of surface coatings was added to note *2.</li> </ul>
14	2020.05.01	4.1	Table 1 Environment-related Substances “II-2: Substances subject to the European Union’s Medical Device Regulation (EU-MDR) or In Vitro Diagnostic Medical Device Regulation (EU-IVDR)” was added.
		4.2.3	<p>Table 2-I-1 Cadmium and its compounds Table 2-I-2 Hexavalent chromium compounds Table 2-I-3 Lead and its compounds Table 2-I-4 Mercury and its compounds Table 2-I-9 Polybrominated biphenyl (PBBs)</p> <ul style="list-style-type: none"> <li>The applications that had been classified according to the RoHS Directive categories were unified as “Electric and electronic equipment subject to RoHS Directive (2011/65/EU)” because the RoHS Directive entered into force in all the categories on its effective date.</li> <li>“Electric and electronic equipment as provided by Article 2-2 of RoHS Directive (2011/65/EU)” was deleted to reflect the removal of Article 2-2 from the RoHS Directive.</li> </ul> <p>Table 2-I-10 Polybrominated diphenyl ethers (PBDEs)</p> <ul style="list-style-type: none"> <li>The applications were divided into “PBDEs excluding DecaBDE” and “DecaBDE only” because while PBDEs are regulated by the EU POPs regulation, only DecaBDE is controlled by Japanese Chemical Substances Control Act.</li> </ul> <p>Table 2-I-14 Substance Group: Short-chained chlorinated paraffin (having the chain length of 10 - 13)</p> <ul style="list-style-type: none"> <li>The control value is “Intentional inclusion prohibited” ,it is controlled by Japanese Chemical Substances Control Act.</li> </ul> <p>Table 4-I-24 Fluorinated Greenhouse Gases (PFC, SF6, HFC)</p> <ul style="list-style-type: none"> <li>Regarding the control on these substances, “EC No.842/2006” was repealed with the revision of “(EU) No. 517/2014”. Accordingly, Table 4-I-24 was updated with the addition of several substances.</li> </ul> <p>Table 2-I-26 Perfluorooctanoic acid (PFOA) and its salts and esters</p>

			<ul style="list-style-type: none"> <li>• Level 1: “Norwegian Product Regulations” was deleted because the same level of control can be guaranteed by complying with other applicable laws and regulations.</li> <li>• Level 2: The control by the REACH was replaced with the proposed control by the EU POPs regulation, which is set to be published.</li> </ul>
		4.2.4	<p>Table 5-II-2  “Substances subject to the European Union’s Medical Device Regulation (EU-MDR) or In Vitro Diagnostic Medical Device Regulation (EU-IVDR)” was added.</p>
		5	<p>Perfluorooctanoic acid (PFOA) and its salts and esters</p> <ul style="list-style-type: none"> <li>• Some information in Table 2-I-26 was moved to Table 6-I-26 (where it is now provided as information on examples belonging to this substance group).</li> <li>• “JAMP-SN0102” and “JAMP-SN0103” were added as substances belonging to this substance group.</li> </ul> <p>Short-chained chlorinated paraffin (having the carbon chain length of 10 - 13)</p> <ul style="list-style-type: none"> <li>• Some information in Table 2-I-14 was moved to Table 6-I-14 (where it is now provided as information on examples belonging to this substance group).</li> <li>• To reflect regulatory information, some substances belonging to this substance group were added.</li> </ul> <p>Pentachlorophenol and its salts and esters</p> <ul style="list-style-type: none"> <li>• To reflect regulatory information, some substances belonging to this substance group were added.</li> </ul> <p>Table 6-I-2 Hexavalent chromium compounds</p> <ul style="list-style-type: none"> <li>• Copper chromite (CAS NO.12053-18-8) was deleted because it’s a trivalent chromium.</li> </ul>
13	2018.03.31	3	<p>3. Terms and Definitions</p> <ul style="list-style-type: none"> <li>• “CMR substances” was added to explain the new prohibited substances.</li> <li>• “RoHS2 Directive” was replaced with “RoHS Directive (2011/65/EU)” to clearly indicate the applicable regulation.</li> </ul>
		4.1	<p>Table 1 Environment-related Substances</p> <ul style="list-style-type: none"> <li>• In keeping with the new regulation, “I-29 Certain CMR substances” was added. A note was also added to the table, in order to clearly indicate the applications of “I-29 Certain CMR substances.”</li> </ul>
		4.2.3	<p>Table 2-I</p> <ul style="list-style-type: none"> <li>• With regard to cadmium, hexavalent chromium, lead, mercury, PBB, PBDE and phthalate esters, the timing of the application of RoHS Directive was incorporated. Accordingly, cadmium,</li> </ul>

			<p>hexavalent chromium, lead, mercury, PBB, PBDE are categorized as Level 1, and phthalate esters as Level 2.</p> <ul style="list-style-type: none"> <li>• With regard to cadmium, hexavalent chromium, lead, mercury, PBB, PBDE and phthalate esters, “RoHS2 Directive” was replaced with “RoHS Directive (2011/65/EU)” to clearly indicate the applicable regulation.</li> <li>• In Europe, all the information contained in Annex B, except for “Date of ban on delivery,” is public information. Therefore, regarding cadmium, hexavalent chromium, lead and mercury, “Annex B” was deleted from the “Exemption,” and “Exclusions from RoHS Directive: 6 months prior to expiration” was added to “Date of ban on delivery.”</li> </ul> <p>Table 2-I-2 (Hexavalent chromium compounds)</p> <ul style="list-style-type: none"> <li>• The timing of the application of the REACH regulation to Level-2 substances was incorporated, and the prohibition level was changed to Level 1.</li> </ul> <p>Table 2-I-25 (Phthalate esters)</p> <ul style="list-style-type: none"> <li>• Regarding “the restriction of plasticized material that includes DEHP, BBP, DBP and/or DIBP,” which are four substances newly added to Annex XVII to REACH (restriction), their effective dates of REACH regulation, dates of ban on delivery, applications and control values were added to the Level-2 boxes. Additional information was also provided in “Exemption” and “Note.”</li> <li>• Table 2-I-29 (Certain CMR substances) This new table was created in keeping with the addition of “Certain CMR substances” to Annex XVII to REACH (restriction).</li> </ul>
		5	<p>“Table 6-I-29 Certain CMR substances” was added to provide examples of arsenic compounds among certain CMR substances.</p> <p>The sentence of “The table below does not cover all the substances in this substance group” was added to Tables 6-I-1 - 6-I-29 to clearly indicate that these examples are provided for illustrative purposes only.</p>
12	2018.06.01	4.1	<p>Table 1 (Environment-related Substances)</p> <ul style="list-style-type: none"> <li>• Table 1 I-28: “Benzenamine, N-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST)” was deleted because these substances became exempt from the “Prohibition of Certain Toxic Substances Regulations, 2012” of Canada.</li> </ul>
		4.2.3	<p>Table 2-I</p> <ul style="list-style-type: none"> <li>• With regard to cadmium, hexavalent chromium, lead, mercury, PBB and PBDE, the timing of the application of RoHS2 Directive was incorporated.</li> </ul> <p>Table 2-I-2 (Hexavalent chromium compounds)</p> <ul style="list-style-type: none"> <li>• “Intentional inclusion prohibited” was deleted</li> </ul>

			<p>from the Control Value column for Level-1 electric and electronic equipment subject to RoHS2 Directive.</p> <ul style="list-style-type: none"> <li>Regarding the four Level-2 substances that will become subject to applicable regulations on January 22, 2019 (Annex XIV to REACH), their control value was changed to “Intentional inclusion prohibited.”</li> </ul> <p>Table 2-I-10 (PBDEs)</p> <ul style="list-style-type: none"> <li>“Annex XVII to REACH (restriction)” was added.</li> </ul> <p>Table 2-I-12 (PCTs)</p> <ul style="list-style-type: none"> <li>“Intentional inclusion prohibited” was deleted from the Control Value column, and “mixture” was replaced with “mixture or finished product.”</li> </ul> <p>Table 2-I-20 (PFOS and PFOS analogs)</p> <ul style="list-style-type: none"> <li>The Exemption row was deleted to reflect the review of exemption from “Class I Specified Chemical Substances designated by Japanese Chemical Substances Control Act.”</li> </ul> <p>Table 2-I-26 (PFOA and its salts and esters)</p> <ul style="list-style-type: none"> <li>“Annex XVII to REACH (restriction)” was added.</li> </ul> <p>Table 2-I-28 (BNST) was deleted.</p> <p>Table 6-I-5 (Trisubstituted organotin compounds)</p> <ul style="list-style-type: none"> <li>“JAMP-SN0024” was added in the CAS No. or JAMP-SN column.</li> </ul> <p>Table 6-I-6 (Dibutyltin compounds)</p> <ul style="list-style-type: none"> <li>“JAMP-SN0072” was added in the CAS No. or JAMP-SN column.</li> </ul> <p>Table 6-I-7 (Dioctyltin compounds)</p> <ul style="list-style-type: none"> <li>“JAMP-SN0073” was added in the CAS No. or JAMP-SN column.</li> </ul> <p>Table 6-I-10 (PBDEs)</p> <ul style="list-style-type: none"> <li>In the Substance (Japanese) column, “PBDE 類” was spelled out as “ポリ臭化ジフェニルエーテル 類” in keeping with the use of unabbreviated names for PBBs.</li> </ul> <p>Table 6-I-17 (Asbestos)</p> <ul style="list-style-type: none"> <li>“JAMP-SN0056” was added in the CAS No. or JAMP-SN column.</li> </ul> <p>Table 6-I-28 (BNST) was deleted because these substances became exempt from the “Prohibition of Certain Toxic Substances Regulations, 2012” of Canada.</p>
11	2017.04.01	4.2.3	<p>Table 2-I: With regard to cadmium, hexavalent chromium, lead, mercury, PBB and PBDE, incorporated the timing of the application of RoHS2 Directive.</p> <p>Table 2-I-2 (Hexavalent chromium compounds): The prohibition level of nine hexavalent chromium compounds was changed from 2 to 1.</p> <p>Table 2-I-13 (Polychlorinated naphthalene): The information on “2 chlorine atoms” was integrated with that on “3 or more chlorine atoms”.</p>
10	2016.04.04	4.1	<ul style="list-style-type: none"> <li>The number of chlorine atoms of polychlorinated naphthalene was changed from 3 or more to 2 or</li> </ul>

			<p>more.</p> <ul style="list-style-type: none"> <li>• “and its salts and esters” was added to perfluorooctanoic acid (PFOA), which was also added to the relevant parts in other pages.</li> <li>• I-29: “Pentachlorophenol and its salts and esters” was added.</li> </ul>
		4.3	<p>In Table 2-I-13 (Polychlorinated naphthalene) ,</p> <ul style="list-style-type: none"> <li>• The number of chlorine atoms of polychlorinated naphthalene was changed from 3 or more to 2 or more.</li> </ul> <p>In Table 2-I-14 (Short-chained chlorinated paraffin),</p> <ul style="list-style-type: none"> <li>• *1: (EC)No.850/2004 was added to EU POPs regulation</li> <li>• *2: Norwegian Product Regulations was deleted.</li> <li>• From the examples of substances listed in Table 6-1-14, only chlorinated paraffins (short chain) (number of carbon from 10 to 13) was added.</li> </ul> <p>In Table 2-I-16 (hexabromocyclododecane),</p> <ul style="list-style-type: none"> <li>• EU POPs regulation (EC)No.850/2004 was added to Note *1.</li> </ul> <p>In Table 2-I-25 (Phthalate esters),</p> <ul style="list-style-type: none"> <li>• Categories” was deleted from the RoHS directive categories for level 2 applications.</li> <li>• In Note *3, TBT notification was replaced with. (EU)2015/863.</li> </ul> <p>In Table 2-I-18 (BNST),</p> <ul style="list-style-type: none"> <li>• Under Applications, description was changed to incorporate the exemption.</li> <li>• In the note, the name of regulation was changed to Canadian Prohibition of Certain Toxic Substances Regulations, 2012.</li> </ul> <p>Table 2-I-29 (Pentachlorophenol) was added.</p> <p>In Table 3-I-19 (Ozone depleting substances),</p> <ul style="list-style-type: none"> <li>• Under Chemical formula, chemical formula was added to a blank field.</li> </ul> <p>In Table 6-1-9 (PBBs),</p> <ul style="list-style-type: none"> <li>• Under Chemical formula, chemical formula was added to a blank field.</li> </ul> <p>In Table 6-I-14 (Short-chained chlorinated paraffin),</p> <ul style="list-style-type: none"> <li>• The examples of substances were removed and were incorporated into Table 2-I-14 as reference.</li> </ul>
9	2015.06.05	3	Definition of terms: “preparation” was replaced with “mixture”.
		4.1	Table 1, I-28: “Benzenamine, <i>N-phenyl</i> , Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST)” was added.
		4.2.3	Table 2-I: With regard to cadmium, hexavalent chromium, lead, mercury, PBB, and PBDE,



			<p>incorporated the timing of the adoption of RoHS2 Directive.</p> <p>Table 2-I-2: The regulation on leather products was added to hexavalent chromium.</p> <p>Table 2-I-6: The exemptions for dibutyltin compounds were removed.</p> <p>Table 2-I-25, Phthalate esters: Removed the Danish regulation, and addressed the official publication that has added prohibited substances to RoHS2.</p> <p>Table 2-I-28: “Benzenamine, <i>N-phenyl</i>-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST)” was added.</p> <p>REACH Regulation: Added SVHC as examples to the corresponding substance tables, and reviewed descriptions.</p>
8	2014.02.20	4.1	Table 1: “I-26 Perfluorooctanoic acid (PFOA)” and “I-27 Polycyclic aromatic hydrocarbon (PAH)” were added.
		4.2.3	“In some cases, business units set their own dates on ban on delivery that are different from the ones herein. These dates set by business units take precedence over the ones herein” was added.
			Table 2: “Intentional use prohibited” was replaced with “intentional inclusion prohibited” in each table. “If the Control Value column lists “intentional inclusion prohibited” and the control value, both of these requirements must be fulfilled” was also added.
			“Intentional use prohibited” was deleted from Table 2 for cadmium, lead, dioctyltin, nickel, and azo compounds. The denominators as the standard for the control values were defined.
			In Table 2-I-16, Level 1 was established in accordance with Japanese Chemical Substances Control Act., and applicable substances were added.
			In Table 2-I-24, the applications of PFC were defined.
2, 6	Tables 2 and 6 were revised in accordance with the JAMP – AIS format.		
7	2013.09.05	4.2.3	In Table 2-I-6, “Intentional use prohibited” was deleted.
			In Table 2-I-18, date of ban on delivery at Level 2 was corrected.
6	2013.05.17	2	<ul style="list-style-type: none"> <li>• The code for RoHS2 was corrected: 2010/65/EU ⇒ 2011/65/EU</li> <li>• Substance names followed the spelling used by JAMP.</li> <li>• Regarding the control on phthalate esters in Demark, it was difficult to impose a ban on delivery six months before the deadline of December 2013. Therefore, a date three months before was set as the date of the ban on delivery. As for products subject to RoHS2, a date 12</li> </ul>

			months before was set as the date of ban on delivery, mainly because of the amount of inventory on the market.
5	2012.06.12	3	The explanations on the terms (a), (b) and (c) under (1) Environment-related substances were repeated in Section 4.2.1. For this reason, these explanations were deleted from the Terms and Definitions section.
		3	(14) Intentionally added, (15) Impurities, (16) Preparation and (17) Article were added.
		4.1	Table 1 was reviewed and the following changes were made: (I) Prohibited substances TBTO was included into trisubstituted organotin compounds. Radioactive substances, acrylamide and musk xylene were deleted, and hexabromocyclododecane was added. (II) Controlled substances Antimony, arsenic, beryllium, bismuth, selenium, brominated flame retardants (except prohibited substances), perchlorates, phthalate esters (except prohibited substances) and PRTR substances were deleted.
		2.3	In Section 4.2.3, "Detailed information about the control of prohibited substances," a separate table was made for each prohibited substance group. "Intentionally added" was added to the control value column. Prohibited substances were reviewed and their substance groups were renumbered.
		4.2.3	"I-19 Ozone depleting substances" were extracted from the examples and separately presented as Table 3.
		4.2.3	In Table 3, because the CAS number for Tribromodifluoroethane, 128903-21-9, was an error in writing, it was replaced with "-".
		4.2.3	"I-24 Fluorinated greenhouse gasses (PFC, SF6, HFC)" were extracted from the examples and separately presented as Table 4.
		4.2.4	Section 4.2.4 on controlled substances was devoted to substances of very high concern in REACH (SVHC).
		5	Examples and principal uses were listed for each substance.
4	2011.07.22	All	<ul style="list-style-type: none"> <li>• REACH Regulation Annex 16: Addressed 6 substances added to "Approved Substances" and 7 substances added to the "List of Candidate Substances for Approval".</li> <li>• REACH Regulation Annex 17: Addressed additions to "Limited Substances", and confirmed/revised exemptions.</li> <li>• Incorporated the latest information from JIG (Joint Industry Guidelines) Ver4.0 and JAMP.</li> <li>• Revised description to make it easier to understand. Corrected table errors.</li> </ul>

3	2011.03.04	2	Scope has been amended to “Olympus” and “These rules apply to domestic Olympus, OGZ, OSZ and OPI. Products manufactured and sold in other regions shall be subject to these rules” has been deleted.
			8 substances of Very High Concern have been added to Table 5 and Table 6.
2	2010.12.17	2	”Dibutyltin compounds (DBT), Dioctyltin compounds (DOT), Nickel, Dimethylfumarate (DMF), Fluorinated Greenhouse Gases (PFC, SF6, HFC), partial phthalate esters” have been added as “Prohibited substances”. “Perchlorates” has been added as “Controlled substances”. “Tributyltin (TBTs), Triphenyltin (TPTs)” has been amended to “Trisubstituted organotin compounds”.
			All
		Exclusions from RoHS Directive was revised under Commission Decision 2009/425/EC.	
		Table 6: Examples of environment-related substances was revised by reference to JIG-101Ed3.1	
Versions before 2010	<p>December 2010: Revisions of REACH ANNEX 14 (candidate substances for approval) were accepted, "Hexabromocyclododecane (HBCDD)" and "Musk xylene" were newly added as "prohibited substances", and the prohibited usage and thresholds were reviewed for "Azo dyes and pigments (specific amines formed by degrading azo dyes and pigments)" and "Phthalate esters".</p> <p>Revisions of REACH ANNEX 17 (limited substances) were accepted, and "Acrylamide" was made a "prohibited substance".</p> <p>August 2010: Examples of environment-related substances in Table 6 were revised by reference to JIG-101Ed3.1. This revision included the addition of substances and name changes.</p> <p>October 2009: “Formaldehyde” was classified as a “prohibited substance” according to the regulations of various countries as well as social needs.</p> <p>June 2009: Directive 76/769/EEC (on restrictions on the marketing and use of certain dangerous substances and preparations) was repealed with effect. Any amendment to the restrictions adopted under Directive 76/769/EEC from June 1, 2007 were incorporated in Annex XVII, EC 1907/2006. (Article 137, Article 139 of the REACH)</p> <p>October 2008: Following the publication of 15 Substances of Very High Concern that were added to the candidate list, additional substances were classified as “controlled substances.”</p> <p>June 2008: The 30th amendment directive (2006/122/EC) concerning Directive 76/769/EEC (PFOS and PFOS analogs) came into effect.</p> <p>November 2007: Specific benzotriazole was designated as a Class I designated chemical substance pursuant to a partial amendment of Japanese Chemical Substances Control Act.</p> <p>August 2007: The Joint Industry Guidelines (JIG) came into force. Therefore, regarding the five substances that had been designated under the JGPSS, their designation was cancelled and deleted from the list of “prohibited substances.”</p> <p>June 2007:</p>		

	The REACH came into force.
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