



Yaskawa Group

Green Procurement Guidelines

4th Edition

Yaskawa Electric Corporation

Created: December 15, 2003 (1st Edition)

Revised: December 15, 2010 (4th Edition)

Introduction

Global awareness of the need to protect and maintain the environment is growing, taking shape in organized efforts in a number of fields including politics, economics, industry, and civic life. To facilitate the creation of a sustainable society, it is imperative that we promote resource conservation, recycling, energy conservation, the prevention of global warming, and the elimination of restricted chemicals, as well as environmentally conscious technological innovations and manufacturing methods.

At Yaskawa Electric Corporation, we are advancing environmentally conscious activities in a wide variety of aspects, from product development to operations in the plant and office. We endeavor to develop products with a minimal environmental impact at every stage of the product life cycle, from raw material procurement, manufacturing, distribution and use, to disposal and recycling. This task, however, cannot be sufficiently handled by our environmental conservation efforts alone. Inevitably, procurement of materials that impose a minimal environmental impact is of great necessity and importance. In order to provide standards to ensure that these activities proceed smoothly, we issued Green Procurement Guidelines in December of 2003. However, these guidelines have been revised in light of the enactment of European REACH regulations, and to accommodate the ever-increasing environmental demands of customers and society. Thus, we will continue to work with our suppliers to develop environmentally friendly products and advance business activities that address environmental concerns.

We thank you for your understanding of the importance of tackling environmental issues, and look forward to your continued support.

Yaskawa Electric Corporation
Michiaki HIGUCHI,
Head of Procurement Department

Satoshi GONDO,
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Department

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I. Yaskawa Group Environmental Protection Policy

Basic Philosophy

Since Yaskawa was founded, our management philosophy has been as follows: “our company mission is to contribute to the advancement of society and welfare of humankind through the performance of our business activities.” Yaskawa recognizes that the protection of the environment is one of the most important issues common to humankind. By incorporating environmental conservation efforts in every aspect of our business activities, we actualize our management philosophy and fulfill our duty to society.

Basic Action Plan

1. Recognizing that environmental issues are a top business priority, conduct environmentally conscious business practices while continuously improving environmental preservation activities by establishing objectives and targets within feasible technological and economic means.
2. Assess the environmental impact of our business activities and product development, and endeavor to reduce environment impacts in each phase of the product life cycle, including manufacturing, distribution, use, and disposal.
3. Comply with environmental laws and regulations, establish self-imposed standards, and endeavor to improve the level of self-imposed control through auditing and other measures.
4. Implement environmental education programs to raise the environmental consciousness of all employees and co-exist with the local community through environmental protection activities.
5. Inform the public as well as employees of our environmental policy.

II. Yaskawa Group Green Procurement Guidelines

1. Guideline objectives

This document provides guidelines for implementing the Green Procurement Criteria, which was established by Yaskawa group companies (hereafter: "Yaskawa Electric" or simply "we" or "our company") in order to actualize our company's Environmental Protection Policy, which states: "by incorporating environmental conservation efforts in every aspect of our business activities." Yaskawa Electric procures materials that have a minimal impact on the environment ("Green Procurement") to create environmentally conscious products and contribute to the protection of the Earth's environment.

2. Scope of application for guidelines

These Guidelines shall apply to all materials procured by all offices of Yaskawa Electric.

a) Scope of application to parts and materials

The Guidelines shall apply to the following parts, materials, and other items used (that is, that form part of the structure of the product) in products designed, manufactured, and sold by our company:

- (1) Parts and materials (including electronic parts, processed parts, raw materials, packaging materials, and packing materials)
- (2) Assembly such as function unit, module, and printed circuit board.
- (3) Component materials such as working materials (solder, adhesive, ink, grease, tape, etc.)
- (4) Instruction manuals (including ink, adhesive, labels, and coating materials)
- (5) Packaging materials used to facilitate the transporting of parts and materials to be shipped to our company (items recalled by the supplier are exempt).

b) Scope of application to products

- (1) Other company's products that incorporate our company's products into goods that are sold as final products by our company.
- (2) Products that our company outsources the design and manufacturing to a third party and sells under our company's brand name.
- (3) Products for sales promotion purposes (such as free samples to our customers)
- (4) Packaging materials of products and packaging materials used to facilitate the transporting of products to be shipped to our company (items recalled by the supplier are exempt).

3. Rationale behind Green Procurement Guidelines & procedures required before procurement transactions can begin.

a) Rationale behind Green Procurement Guidelines

Green Procurement Guidelines specify the Selection Criteria for Suppliers and the Selection Criteria for Procured Materials in order ensure the procurement of materials that have a minimal impact on the environment. Yaskawa Electric has a wide open-door policy and provides equal opportunity to all suppliers. We take into account not only factors such as quality, price, and time

of delivery in our selection of suppliers, but also their efforts to reduce environmental impacts in their business activities. In addition, with regard to the selection of materials for procurement, only materials that meet the requirements set forth in the Green Procurement Criteria will be considered for purchasing.

Evaluations of suppliers and materials are carried out according to two variables: whether a system for environmental activities has been established and implemented, and whether the results of those activities meet our company's standards.

<Rationale behind the Green Procurement Criteria>

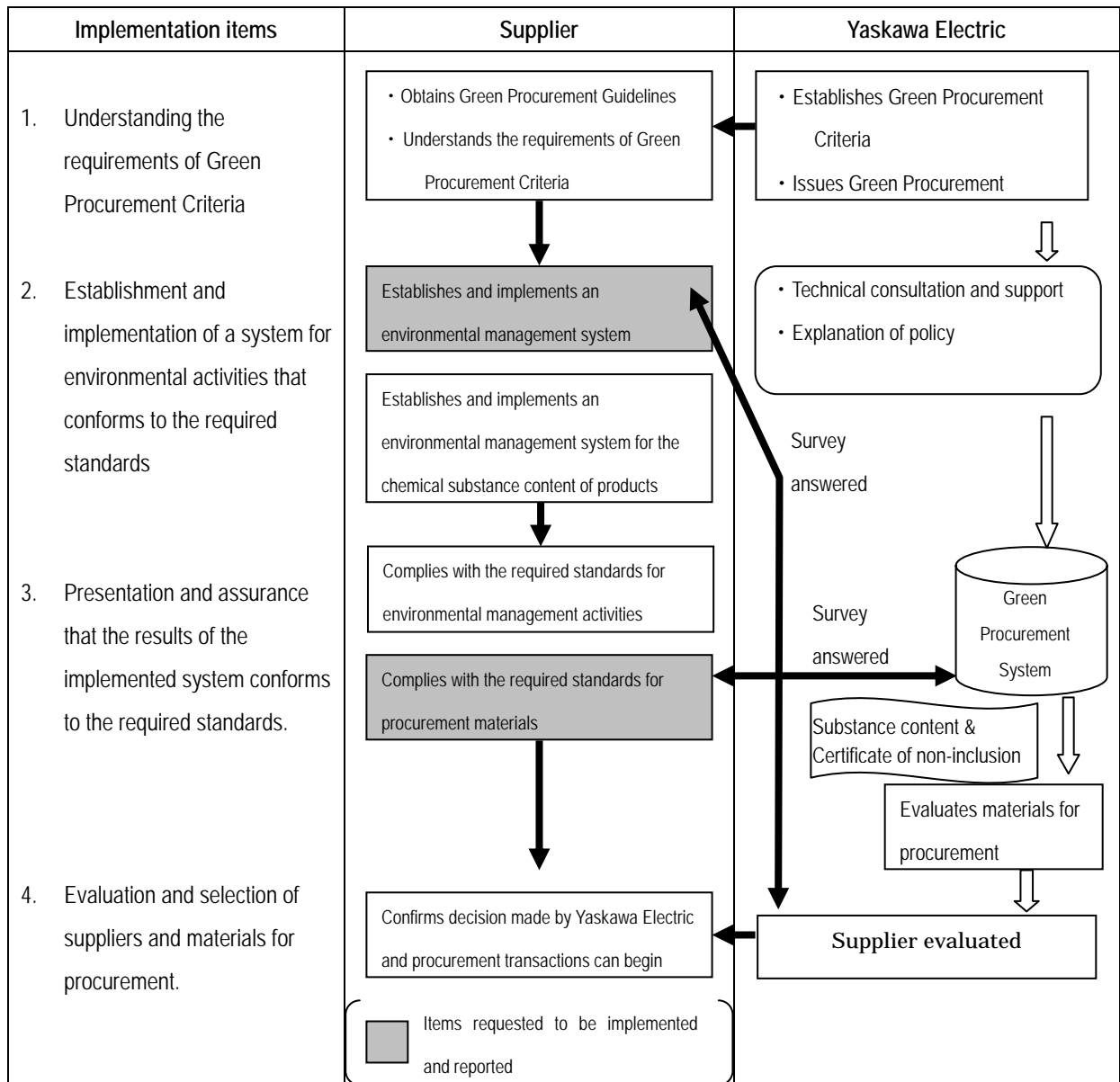
	System for Activities		Results of Activities	
Selection criteria for suppliers	(1)	Has established and implemented an environmental management system	(2)	Complies with environmental laws and regulations
Selection criteria for procured materials	(3)	Has established and implemented a management system for the chemical substances contained in products	(4)	i) The non-inclusion of prohibited substances ii) Report on content of controlled substance(s) in materials ii) Certificate regarding the non-inclusion information

*A report containing the information in (1) and (4), highlighted in grey, shall be requested.

- b) Procedures required before procurement transactions can begin.

Selection Criteria for Suppliers and Selection Criteria for Procured Materials are laid out on pages 7 - 9 in the Green Procurement Guidelines. Based on the information submitted by the supplier, we will evaluate to what extent the supplier's business activities and materials for procurement comply with the Green Procurement Guidelines. And based on this evaluation, we will procure the materials that comply with the Green Procurement Guidelines from suppliers that comply with the Green Procurement Guidelines.

<Flow leading up to procurement transactions>



4. Green Procurement Criteria

In order to procure materials that have a minimal impact on the environment, we established the Selection Criteria for Suppliers and Selection Criteria for Procured Materials to ensure that only materials that comply with the criteria, from suppliers that comply with the criteria, are procured. Of the items below, we request a report on the following a)-(1) and b)-(2) regarding the results of implemented activities.

a) Selection Criteria for Suppliers

(1) Establishment and implementation of an environmental management system (request for implementation and report)

Supplier shall be selected by confirming and evaluating whether they have established and implemented an environmental management system based on the report submitted by the supplier to our company. Only suppliers that have fulfilled all requested items will be selected as a Green Procurement Approved Supplier.

However, suppliers who have an environmental management system that conforms to international standards such as ISO 14001 and EMAS (Eco-Management Audit Scheme), or have obtained third party certification such as KES Environmental System Standard, Eco Stage, or Eco Action 21, shall be considered to have fulfilled requirements (a) and (b) below.

The screening process shall be applied to all business institutions of the supplier that manufacture and/or sell materials for procurement to be shipped to our company. It does not apply to business institutions that do not manufacture and sell materials for procurement to be shipped to our company.

Even if a primary supplier is a trading company, that company will, as a rule, require evaluation. In such case, the trading company shall be responsible for evaluating and managing the activities implemented by the dealer or factory where the manufacture of goods to be shipped to our company is outsourced. Our company may verify directly whether such evaluation and management complies with our requested standards, if necessary.

(a) Establishment of an environmental management system

Roles, responsibilities, and procedures to implement the following shall be specified in writing.

i) Environmental policy

- Create a policy for environmental management activities.
- Disseminate said policy among employees.

ii) Planning

- Determine the environmental impact of business activities (environmental

aspects survey)

- Survey relevant environmental laws and regulations
- Formulate a plan and targets for reducing environmental impacts in accordance with the results of the environmental aspects survey and environmental laws and regulations survey.

iii) Management of implementation

- Appoint a manager(s) for the environmental management system.
- Create a program to attain targets.
- Disseminate said program among employees.

iv) Evaluation of results and improvements

- Assess the progress of the plan, the state of achievement of targets, and compliance with relevant laws and regulations, and report findings to the management.

v) Management review

- Management shall review said findings, identify problems, and formulate solutions, and if necessary reflect it in the policy and/or plan.

(b) Implementation of environmental management system

Activities shall be implemented in accordance with the roles, responsibilities, and procedures as specified in "Establishment of environmental management system" above, and the results shall be recorded and stored.

(c) Frequency of reports

A questionnaire shall be provided, completed, and returned to our company before new business transactions can begin.

Should any changes be made to the submitted questionnaire, please submit said revisions at that time.

Survey may be conducted again at unspecified times.

(2) Compliance with environmental laws and regulations (request for implementation)

As a result of the establishment and implementation of the environmental management system provided in a) above, compliance with all relevant laws and regulations is requested. In order to do this, supplier must implement the following in each of their business institutions. Submission of periodical reports is not required; however, in the case that a problem (e.g. violation of laws) occurs, an explanation from the standpoint of social responsibility may be requested. This explanation will be taken into consideration when evaluating and selecting suppliers.

(a) Identification and understanding of relevant environmental laws and regulations

During the process of establishing an environmental management system, supplier shall identify all relevant environmental laws and regulations, confirm what said laws require, and incorporate them into the implementation plan (program) for their environmental

management system.

(b) Confirmation of compliance with environmental laws and regulations

Supplier shall monitor that relevant environmental laws and regulations are being observed, and assess the status of the compliance with said laws and regulations.

b) Selection criteria for procured materials

(1) Establishment and implementation of management system for chemical substances contained in products (request for implementation)

It is requested that a system to ascertain and manage chemical substances contained in products to be shipped to our company be established and implemented. The contents of the system must conform to the Guidelines for the Management of Chemical Substances in Products (Ver. 2) issued by the Japan Green Procurement Survey Standardization Initiative (JGPSSI) in March 2008. The current Guidelines for the Management of Chemical Substances in Products can be downloaded at the following website:

http://210.254.215.73/jeita_eps/green/green8.htm

In the future, a report concerning the implementation status may be requested. Use the Action Item & Check Sheet Ver.2.2 to create the report. This can be downloaded from the same address given above.

(2) Results of implemented management system for chemical substances in products (request for implementation and report)

It is requested that the establishment and implementation of a management system for chemical substances in products as specified in (1) above conform to items (a) – (c) below.

(a) Substances prohibited by our company shall not be used in materials to be procured by our company.

Supplier is requested to perform materials and process management to ensure that no substances are contained in materials to be procured by our company that are prohibited by our company as specified in the Yaskawa Electric Controlled Substances (Appendix 1). The phrase "no substances are contained in materials to be procured by our company that are prohibited" means that the intentional addition, filling, interfusion, attachment, etc., of substances of said List is prohibited, or the amount of prohibited substances must be below the regulated value specified on said List. For more details, please refer to the Yaskawa Electric Controlled Substances (Appendix 1).

(b) In the case that prohibited substances are contained in materials to be procured, the content shall be ascertained and reported.

In the case that prohibited substances specified in the Yaskawa Electric Controlled Substances (Appendix 1) are contained in materials to be procured by our company (including the inclusion of prohibited substances below the regulated value), supplier shall ascertain and report the content of said substance(s).

- As a rule, reports must be submitted using the JGPSSI Survey Response Tools. Please upload the JGP file created by the Tools.
- In the light of relevant laws and regulations and/or upon request of customer, submission via upload of a report in AIS file format created by JAMP Survey Tools may be requested.

Refer to our Green Procurement System Operational Manual for details on how to access and use our Green Procurement System.

(c) Supplier shall pledge to not use substances prohibited by our company in materials to be procured by our company

Supplier's management representative(s) shall, on behalf of the supplier, pledge in writing that the prohibited substances specified in Yaskawa Electric Controlled Substances (Appendix 1) are not contained in materials to be procured by our company. Representative must fill out the required fields in our company's designated Non-inclusion Certificate form and submit it to us.

Submission of a Non-inclusion Certificate regarding the six substances restricted by European RoHS (lead, cadmium, mercury, hexavalent chromium (chromium VI), polybrominated biphenyls, and polybrominated diphenyl ether) is also required for materials to be procured for our company's European RoHS compliant products. Our company may expand the scope of this pledge to include the non-inclusion of other

prohibited substances if necessary.

Note 1) How to answer survey in the case that supplier uses components designated by our company:

An answer must be given for all items to be shipped to our company, including said designated components.

Note 2) How to answer in the case that supplier uses items supplied from our company:

Do not include items supplied by our company in your responses.

Note 3) Notification of changes:

Supplier cannot make changes to materials specifications without notifying our company in advance, even if said changes are the result of improvements. Any changes to specifications or 4M must be submitted to us through a formal application for change. In the case that changes are made to the chemical substance content, said changes must be indicated in the application form.

5. Implementation of Green Procurement Guidelines

- a) These Guidelines shall also apply to the following companies in the Yaskawa Group: Each company shall determine when to implement Guidelines upon conferring with relevant supplier.

Yaskawa Controls Co., Ltd.

Yaskawa Motor Corporation

Yaskawa Logistec Corporation

The application of these Guidelines shall be expanded sequentially to other companies in the Yaskawa Group.

- b) These Guidelines will be revised as necessary in accordance with changes in relevant laws and regulations and social trends.

- c) Any information provided by suppliers will be handled with the utmost care.

6. Contact details

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Edition History	Established	December 15, 2003	1st edition
	Revised	July 15, 2004	2nd edition
		September 20, 2007	3rd edition
		July 4, 2008	3rd edition (ver.2)
		(corrected CAS No. of chromium VI and certain ozone-depleting substances)	
		October 3, 2008	3rd edition (ver.3)
		(incorporated elimination of items removed from the RoHS Directive regarding PBDE)	
	December 15, 2010	4th edition	
	(addressed REACH regulations, conformed to JIG-101 Ed 3.1, changed system)		

Appendix 1

Yaskawa Group Controlled Chemical Substances

Yaskawa Electric Corporation
1st edition: September 20, 2007
Revised: December 15, 2010

Yaskawa Electric Controlled Chemical Substances

1. Purpose

This document aims to explain the chemical substances subject to this survey, and the handling of said substances that are contained in any parts, products, and materials to be shipped to our company from supplier.

2. Basic rationale behind selection of chemical substances

This list of "controlled chemical substances" was created in conformity with the JIG (Joint Industry Guide) list of chemical substances that must be declared if they are contained in electrotechnical products.

3. Definition of terms

(a) JIG (Joint Industry Guide)

A supply chain communication guide on declarable material composition in electrotechnical products released jointly by the Consumer Electronics Association (CEA), Digital Europe, and Japanese Green Procurement Survey Standardization Initiative (JGPSSI).

JIG complies with the requirements of laws and regulations regarding the declaration of the material composition of electrotechnical products across the supply chain, including chemical substances dealt with in REACH—the European Union regulations concerning the registration, evaluation, authorization and restriction of chemical substances.

(b) CEA: Consumer Electronics Association (US)

(c) DIGITAL EUROPE: European industry association (formerly called the EICTA)

(d) JGPSSI: Japanese Green Procurement Survey Standardization Initiative

(e) Substances contained in products

The content of chemical substances used in products, parts, materials and other items. This includes the addition, filling, interfusion, and attachment of chemical substances.

(f) Intentional use

Refers to the use of chemical substances in products, parts, materials, and packaging to actualize capabilities concerning specific functions, appearance, and quality.

(g) Impurities

Refers to substances contained in natural materials that cannot be completely removed with current technological standards in the refinement process of materials used, as well as to substances that cannot be completely removed with current technological standards such as by-products and catalytic residue in the manufacturing process. This does not include substances used intentionally.

(h) Prohibited substances

Refers to chemical substances that must not be contained in our company's products. These chemical substances consist of materials and chemical substances that are prohibited, restricted, or must be reported under current laws and regulations if used in products or parts. The

intentional use of these substances in materials for procurement is prohibited, and if a regulated value has been established for a substance, the concentration of said substance, including impurities, in materials for procurement must be below the specified regulated value.

(i) Controlled substances

Refers to chemical substances in which the content, and whether or not it is used in our company's products, must be ascertained in order to facilitate proper management in regard to environmental, health, and safety concerns, and disposal. The intentional use of these substances is not prohibited. If the concentration of a controlled substance exceeds the threshold value, or if said substance is intentionally included under the threshold value, the ascertainable concentration must be reported.

(j) Regulated value

Refers to the concentration of prohibited substances in materials for procurement that must be guaranteed when delivered to our company. This includes impurities.

(k) Concentration

Refers to the homogeneous material mass that contains the substance in question, represented as a denominator. "Homogeneous material" means each material that cannot be broken down mechanically (e.g. chemical compound, polymer alloy, metal alloy, or single layer of paint, print, or plating).

4. Composition of controlled chemical substances

Composed of a total of 30 substance groups: 17 prohibited substance groups and 13 controlled substance groups. Please take note that the prohibited substances and controlled substances have been changed since the 3rd edition of the Green Procurement Guidelines.

In light of relevant laws and regulations and/or upon request of customer, a report on the substance content in materials and/or restriction of chemical substances not contained in the list of controlled substances may be requested.

Prohibited substances (17 substance groups)	
1. Cadmium/Cadmium compounds	10. Polychlorinated Naphthalenes (more than 3 chlorine atoms)
2. Chromium VI compounds	11. Perfluorooctane sulfonate (PFOS)
3. Lead/Lead compounds	12. Fluorinated greenhouse gases (PFC, SF6, HFC)
4. Mercury/Mercury compounds	13. Asbestos
5. Polybrominated biphenyls (PBBs)	14. Azocolourants and azodyes which form certain aromatic amines
6. Polybrominated diphenyl ethers (PBDEs)	15. Radioactive substances
7. Tributyl tin oxide (TBTO)	16. Phenol, 2-(2H-benzotriazole-2-yl)-4,6-bis(1,1-dimethylethyl)
8. Polychlorinated biphenyls (PCBs) and specific substitutes	17. Ozone depleting substances: Chlorofluorocarbons (CFC), Halons, Hydrobromofluorocarbons (HBFC), Hydrochlorofluorocarbons (HCFC) and others
9. Polychlorinated terphenyls (PCTs)	

*Substance groups in grey are RoHS substances.

Controlled substances (13 substance groups)	
1. Nickel	8. Polyvinyl chloride (PVC)
2. Tri-substituted organostannic compounds	9. Formaldehyde
3. Beryllium oxide (BeO)	10. Selected Phthalate Group-1 (BBP, DBP, DEHP)
4. Dibutyltin compounds (DBT)	11. Selected Phthalate Group-2 (DIDP, DINP, DNOP)
5. Dioctyltin (DOT) compounds	12. Dimethyl fumarate
6. Aliphatic/alicyclic brominated compounds (Other than PBB, PBDE, or HBCDD)	13. REACH candidate list
7. Perchlorates	

5. Composition of controlled chemical substances list

■ Prohibited substance list (17 substance groups)

1) Substance name in JIG list/CAS No.

Typical substance names in each substance group and the CAS No. (No. to identify chemical substance) are listed. Note that substance groups contain other substances not on the list.

2) Examples of use

The main industrial application of the substance or substance group. Note that there may be additional applications other than the applications on the list.

3) Threshold value (level prohibited or requiring a report)

Establishes the conditions (e.g. threshold value) for prohibition of substances contained in materials for procurement by our company.

Substances that do not have a threshold value are prohibited from intentional use. Even if the substance content (concentration) does not exceed the threshold value, if concentration is ascertainable, we request that it be reported to the extent possible.

4) Relevant laws and regulations

The relevant laws and regulations which form the main reason for the prohibition of the substance in materials to be procured by our company. There may be other reasons for prohibition besides the reasons listed, such as conforming to industry (self-imposed) initiatives or contracts between customers and our company.

■ Controlled substance list (13 substance groups)

1) Substance name in JIG list/CAS No.

Typical substance names in each substance group and the CAS No. (No. to identify chemical substance) are listed. Note that substance groups contain other substances not on the list.

2) Threshold value (level prohibited or requiring report)

Establishes the conditions (e.g. threshold value) that require reporting on the substance content in materials to be procured by our company.

3) Substance group J01: SVHC candidate list

A summary of the REACH SVHC candidate list provided to aid in the management of substances. Only substances associated with the electrotechnical industry that pass the JIG REACH screening method are selected.

6.Prohibited and controlled chemical substance list (30 substance groups)

- 1)Prohibited substance list (17 substance groups)
- 2)Controlled substance list (13 substance groups)

1)Prohibited substance list (17 substance groups)

JGPSSI Classification No.	物質群名 / Substance / Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use	
A05	カドミウム/カドミウム化合物 / Cadmium/cadmiumcompounds	ANNEX XVII of REACH Regulation (EC) No 1907/2006; 2002/95/EC and 2005/618/EC; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50; Swiss Ordinance on Reduction of Risk from Chemical Products; EU Directive 2006/66/EC; US Toxics in packaging legislation	0.01% by weight (100 ppm) of homogeneous materials 0.0005% by weight (5 ppm) of battery The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt%(100ppm) of packaging materials	Pigment, anticorrosion surface treatment, electric and electronic materials, optical material, stabilizer, plating, pigment for resin, fluorescent, electrode, solder, electric contact, contact point, zinc plating, stabilizer for PVC, Batteries, Packaging materials	
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.	
	カドミウム	Cadmium	1.000	7440-43-9	
	酸化カドミウム	Cadmium oxide	0.875	1306-19-0	
	硫化カドミウム	Cadmium sulfide	0.778	1306-23-6	
	塩化カドミウム	Cadmium chloride	0.613	10108-64-2	
	硫酸カドミウム	Cadmium sulfate	0.539	10124-36-4	
	その他のカドミウム化合物	Other cadmium compounds	-	-	
A07	六価クロム化合物 / Chromium VI compounds	EU Directive 2002/95/EC and 2005/618/EC; ANNEX XVII of REACH Regulation (EC) No 1907/2006; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50; US Toxics in packaging legislation	0.1% by weight (1000 ppm) of homogeneous materials The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt%(100ppm) of packaging materials	Pigment, paint, ink, catalyst, plating, anticorrosion surface treatment, dye, paint dryer, paints adhesion enhancement, Packaging materials	
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.	
	酸化クロム()	Chromium (VI) oxide	0.520	1333-82-0	
	クロム酸バリウム	Barium chromate	0.205	10294-40-3	
	クロム酸カルシウム	Calcium chromate	0.333	13765-19-0	
	三酸化クロム	Chromium trioxide	0.520	1333-82-0	
	クロム酸鉛()	Lead (II) chromate	0.161	7758-97-6	
	硫酸モリブデン酸クロム酸鉛	Lead chromate molybdate sulphatered	-	12656-85-8	
	ピグメントイエロー 34	Lead sulfochromate yellow	-	1344-37-2	
	クロム酸ナトリウム	Sodium chromate	0.321	7775-11-3	
	重クロム酸ナトリウム	Sodium dichromate	0.397	10588-01-9	
	クロム酸ストロンチウム	Strontium chromate	0.255	7789-06-2	
	重クロム酸カリウム	Potassium dichromate	0.353	7778-50-9	
	クロム酸カリウム	Potassium chromate	0.268	7789-00-6	
	クロム酸亜鉛	Zinc chromate	0.287	13530-65-9	
		その他の六価クロム化合物	Other hexavalent chromium compounds	-	-
A09	鉛 / 鉛化合物 / Lead/lead compounds	EU Directive 2002/95/EC and 2005/618/EC; ANNEX XVII of REACH Regulation (EC) No 1907/2006; China MII Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50; U.S. Consumer Product Safety Improvement Act; US/CA Proposition 65 Case law; EU Directive 2006/66/EC; US Toxics in packaging legislation	0.1% by weight (1000 ppm) of homogeneous materials 0.009% by weight (90 ppm) of surface coating 0.004% by weight (40 ppm) of battery The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt%(100ppm) of packaging materials	Rubber hardener, pigment, paint, lubricant, plastic stabilizer, materials for battery, freemachining alloy, freecutting steels, optical materials, X-ray shielding in CRT glass, electrical solder material, mechanical solder materials, curing agent, vulcanizing agent, ferroelectrics, resin stabilizer, plating, metal alloy, resin Pigment, paint, stabilizer, colorant Cables/cords, Batteries, Packaging materials	
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.	
	鉛	Lead	1.000	7439-92-1	
	硫酸鉛()	Lead(II) sulfate	0.683	7446-14-2	
	炭酸鉛	Lead(II) carbonate	0.775	598-63-0	
	クロム酸鉛()	Lead(II) chromate	0.641	7758-97-6	
	硫酸モリブデン酸クロム酸鉛	Lead chromate molybdate sulphatered	-	12656-85-8	
	炭酸水酸化鉛(亜炭酸鉛)	Lead hydroxidcarbonate	0.801	1319-46-6	
	酢酸鉛	Lead acetate	0.637	301-04-2	
	酢酸鉛(II), 三水合物	Lead (II) acetate, trihydrate	0.546	6080-56-4	
	リン酸鉛	Lead phosphate	0.766	7446-27-7	
	セレン化鉛	Lead selenide	0.724	12069-00-0	
	酸化鉛(IV)	Lead (IV) oxide	0.866	1309-60-0	
	酸化鉛(II,IV)	Lead (II,IV) oxide	0.907	1314-41-6	
	硫化鉛(II)	Lead (II) sulfide	0.866	1314-87-0	
	酸化鉛(II)	Lead (II) oxide	0.928	1317-36-8	
	塩基性炭酸鉛()	Lead(II) carbonate basic	0.801	1319-46-6	
	炭酸水酸化鉛	Lead hydroxidcarbonate	0.801	1344-36-1	
	リン酸鉛()	Lead(II) phosphate	0.766	7446-27-7	
	ピグメントイエロー 34	Lead sulfochromate yellow	-	1344-37-2	
	チタン酸鉛()	Lead(II) titanate	0.686	12060-00-3	
	硫酸鉛	Lead sulfate,sulphuric acid, lead salt	1.000	15739-80-7	
	三塩基性硫酸鉛	Lead sulphate,tribasic	0.850	12202-17-4	
	ステアリン酸鉛	Lead stearate	0.268	1072-35-1	
		その他の鉛化合物	Other lead compounds	-	-

	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
A10	水銀/水銀化合物 / Mercury/mercury compounds	Vermont act relating to comprehensive management of exposure to mercury; Rhode Island General Laws 23-24.9 and amendment of 2007; Louisiana Mercury Risk Reduction Act; ANNEX XVII of REACH Regulation (EC) No 1907/2006; EU Directives 2002/95/EC and 2005/618/EC; China MI Methods; Korea RoHS; Japan J-MOSS; US/CA SB-20/50 US Toxics in packaging legislation New York : Battery reduction and elimination N.Y. Envtl. Conserv. § 27-0719; Taiwan Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries; China QZHG 1997 No. 4; Regulation on mercury content limitation for batteries; Korea: Law on quality management and control of safety of industrial products Battery regulation; EU Directive 2006/66/EC	Intentionally added or 0.1% (1000 ppm) at homogeneous material The sum of lead, cadmium, mercury and hexavalent chromium is 0.01wt%(100ppm) of packaging materials 0.0001% by weight (1 ppm) of battery	Fluorescent bulb, contact point material, pigment, anticorrosion, switches, antibacterial treatment Packaging materials Batteries
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	水銀	Mercury	1.000	7439-97-6
	塩化第2水銀	Mercuric chloride	-	33631-63-9
	塩化水銀(II)	Mercury (II) chloride	0.739	7487-94-7
	硫酸水銀	Mercuric sulfate	0.676	7783-35-9
	硝酸第2水銀	Mercuric nitrate	0.618	10045-94-0
	酸化水銀(II)	Mercuric (II) oxide	0.926	21908-53-2
	塩化第2水銀	Mercuric sulfide	0.862	1344-48-5
		その他の水銀化合物	Other mercury compounds	-
B02	物質群名 / Substance/ Category	参照法規 / Key Legal and Regulatory or Industry Standard/ Agreement Citation	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	ポリ臭化ビフェニル類 (PBB 類) / Polybrominated biphenyls (PBBs)	EU Directive 2002/95/EC and 2005/618/EC; China MI Methods; Korea RoHS; Japan J-MOSS Japan Law concerning the evaluation of chemical substances	0.1% by weight (1000 ppm) in homogeneous material	Flame retardant
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ポリ臭化ビフェニル類	Polybrominated Biphenyls	-	59536-65-1
	ジブロモビフェニル	Dibromobiphenyl	-	92-86-4
	2-ブロモビフェニル	2-Bromobiphenyl	-	2052-07-5
	3-ブロモビフェニル	3-Bromobiphenyl	-	2113-57-7
	4-ブロモビフェニル	4-Bromobiphenyl	-	92-66-0
	トリブロモビフェニル	Tribromobiphenyl	-	59080-34-1
	テトラブロモビフェニル	Tetrabromobiphenyl	-	40088-45-7
	ペンタブロモビフェニル	Pentabromobiphenyl	-	56307-79-0
	ヘキサブロモビフェニル	Hexabromobiphenyl	-	59080-40-9
	ヘキサブロモ-1,1'-ビフェニル	hexabromo-1,1'-biphenyl	-	36355-01-8
	ファイアーマスター FF-1 (Firemaster FF-1)	Firemaster FF-1	-	67774-32-7
	ヘプタブロモビフェニル	Heptabromobiphenyl	-	35194-78-6
	オクタブロモビフェニル	Octabromobiphenyl	-	61288-13-9
	ノナブロモ-1,1'-ビフェニル	Nonabiphenyl	-	27753-52-2
デカブロモビフェニル	Decabromobiphenyl	-	13654-09-6	
B03	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	ポリ臭化ジフェニルエーテル類 (PBDE 類) / Polybrominated diphenylethers (PBDEs)	EU Directive 2002/95/EC and 2005/618/EC; China MI Methods; Korea RoHS; Japan J-MOSS Japan Law concerning the evaluation of chemical substances	0.1% by weight (1000 ppm) in homogeneous material	Flame retardant
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ブロモジフェニルエーテル	Bromodiphenyl ether	-	101-55-3
	ジブロモジフェニルエーテル	Dibromodiphenyl ethers	-	2050-47-7
	トリブロモジフェニルエーテル	Tribromodiphenyl ether	-	49690-94-0
	テトラブロモジフェニルエーテル	Tetrabromodiphenyl ethers	-	40088-47-9
	ペンタブロモジフェニルエーテル	Pentabromodiphenyl ether	-	32534-81-9
	(注: 市販のPeBDPO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)	(note: Commercially available PeBDPO is a complex x reaction mixture containing a variety of brominated diphenyloxides.)	-	(商用銘柄のPeBDPOに使用されるCASNo.)
	ヘキサブロモジフェニルエーテル	Hexabromodiphenyl ether	-	36483-60-0
	ヘプタブロモジフェニルエーテル	Heptabromodiphenylether	-	68928-80-3
オクタブロモジフェニルエーテル	Octabromodiphenyl ether	-	32536-52-0	
ノナブロモジフェニルエーテル	Nonabromodiphenylether	-	63936-56-1	
デカブロモジフェニルエーテル	Decabromodiphenyl ether	-	1163-19-5	
A17	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	トリブチルスズ = オキシド(TBTO) / Tributyl tin oxide (TBTO)	Japan Law concerning the evaluation of chemical substances; Article 33 and 7.2 of REACH Regulation (EC) No 1907/2006 (Candidate list of SVHC for authorization 28.10.2008)	Intentionally added or 0.1% by weight (1000 ppm) of the product	Antiseptic, antifungal agent, paint, pigment, antistaining, refrigerant, foaming agent, extinguishant, solvent cleaner
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	-	-	0.398	56-35-9
B05	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	ポリ塩化ビフェニル類 (PCB類) 及び特定代替品 / Polychlorinated biphenyls (PCBs) and specific substitutes	Japan Law concerning the evaluation of chemical substances; ANNEX XVII of REACH Regulation (EC) No 1907/2006; US TSCA.	Intentionally added	Insulation oil, lubricant oil, electrical insulationmedium, solvent, electrolytic solution; plasticizers, fire retardants, coatings for electrical wire and cable, dielectric sealants
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ポリ塩化ビフェニル類 (全ての異性体および同族体)	Polychlorinated Biphenyls (all isomers and congeners)	-	1336-36-3
	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)	-	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-diphenylmethane (DBBT)	-	99688-47-8

	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
C06	放射性物質 /Radioactive substances	EU-D 96/29/Euratom; Japan Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors, 1986; US NRC	Intentionally added	Optical properties (thorium), measuring devices, gauges, detector
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ウラン -238	Uranium-238	-	7440-61-1
	ラドン	Radon	-	10043-92-2
	アメリシウム-241	Americium-241	-	14596-10-2
	トリウム-232	Thorium-232	-	7440-29-1
	セシウム-137	Cesium-137	-	10045-97-3
ストロンチウム-90	Strontium-90	-	10098-97-2	
	その他の放射性物質	Other radioactive substances	-	-
C08	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	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/Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	Japan Law concerning the evaluation of chemical substances	Intentionally added	Adhesives, paints, printing inks, plastics, inked ribbons, putty, caulking or sealing fillers
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	-	-	-	3846-71-7
C04	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	オゾン破壊物質: フロン(CFC)、ハロン、代替ハロン(HBFC)、代替フロン(HCFC)およびその他 /Ozone depleting substances	Montreal Protocol EU EC No. 2037/2000 EC 1005/2009US Clean Air Act	Intentionally added	Refrigerant, foaming agent, extinguishtant, solvent cleaner
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	トリクロロフルオロメタン (CFC-11)	Trichlorofluoromethane (CFC-11)	-	75-69-4
	ジクロロジフルオロメタン(CFC-12)	Dichlorodifluoromethane (CFC-12)	-	75-71-8
	塩化フッ化メタン(CFC-13)	Chlorotrifluoromethane (CFC-13)	-	75-72-9
	ペンタクロロフルオロエタン(CFC-111)	Pentachlorofluoroethane (CFC-111)	-	354-56-3
	テトラクロロジフルオロエタン(CFC-112)	Tetrachlorodifluoroethane (CFC-112)	-	76-12-0
	1,1,2,2-テトラクロロ-1,2-ジフルオロエタン(CFC-112)	1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112)	-	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)	-	76-11-9
	トリクロロトリフルオロエタン(CFC-113)	Trichlorotrifluoroethane (CFC-113)	-	76-13-1
	1,1,2トリクロロ-1,2,2トリフルオロエタン(CFC-113)	1,1,2-Trichloro-1,2,2 trifluoroethane(CFC-113)	-	76-13-1
	1,1,1-トリクロロ-2,2,2トリフルオロエタン(CFC-113a)	1,1,1-Trichloro-2,2,2 trifluoroethane(CFC-113a)	-	354-58-5
	ジクロロテトラフルオロエタン(CFC-114)	Dichlorotetrafluoroethane (CFC-114)	-	76-14-2
	モノクロロペンタフルオロエタン (CFC-115)	Monochloropentafluoroethane (CFC-115)	-	76-15-3
	ヘプタクロロフルオロプロパン (CFC-211)	Heptachlorofluoropropane (CFC-211)	-	422-78-6,135401-87-5
	1,1,1,2,2,3,3-ヘプタクロロ-3-フルオロプロパン (CFC-211aa)	1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC-211aa)	-	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)	-	422-81-1
	ヘキサクロロジフルオロプロパン (CFC-212)	Hexachlorodifluoropropane (CFC-212)	-	3182-26-1
	ペンタクロロトリフルオロプロパン (CFC-213)	Pentachlorotrifluoropropane (CFC-213)	-	2354-06-5,134237-31-3
	テトラクロロテトラフルオロプロパン (CFC-214)	Tetrachlorotetrafluoropropane (CFC-214)	-	29255-31-0
	1,2,2,3-テトラクロロ-1,1,3,3-テトラフルオロプロパン (CFC-214aa)	1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	-	2268-46-4
	1,1,1,3-テトラクロロ-2,2,3,3-テトラフルオロプロパン (CFC-214cb)	1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	-	-
	トリクロロペンタフルオロプロパン (CFC-215)	Trichloropentafluoropropane (CFC-215)	-	1599-41-3
	1,2,2-トリクロロペンタフルオロプロパン(CFC-215aa)	1,2,2-Trichloropentafluoropropane(CFC-215aa)	-	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)	-	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)	-	-
	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)	-	-
	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)	-	4259-43-2
	ジクロロヘキサフルオロプロパン (CFC-216)	Dichlorohexafluoropropane (CFC-216)	-	661-97-2
	クロロヘプタフルオロプロパン (CFC-217)	Chlorohexafluoropropane (CFC-217)	-	422-86-6
	ブロモクロロメタン(ハロン-1011)	Bromochloromethane (Halon-1011)	-	74-97-5
	ジブロモジフルオロメタン(ハロン-1202)	Dibromodifluoromethane (Halon-1202)	-	75-61-6
	ブロモクロロジフルオロメタン(ハロン-1211)	Bromochlorodifluoromethane(Halon-1211)	-	353-59-3
	ブロモトリフルオロメタン(ハロン-1301)	Bromotrifluoromethane (Halon-1301)	-	75-63-8
	ジブロモテトラフルオロエタン(ハロン-2402)	Dibromotetrafluoroethane (Halon-2402)	-	124-73-2
	テトラクロロメタン(四塩化炭素)	Tetrachloromethane (carbon tetrachloride)	-	56-23-5
	1,1,1-トリクロロエタン(メチルクロロホルム)	1,1,1-Trichloroethane(methylchloroform)	-	71-55-6
	ブロモメタン(臭化メチル)	Bromomethane (methyl bromide)	-	74-83-9
	ブロモエタン(臭化エチル)	Bromoethane (ethyl bromide)	-	74-96-4
	1-ブロモプロパン(臭化nプロピル)	1-Bromopropane (n-propyl bromide)	-	106-94-5
	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)	-	2314-97-8
	クロロメタン(塩化メチル)	Chloromethane (methyl chloride)	-	74-87-5
	ジブロモフルオロメタン (HBFC-21 B2)	Dibromofluoromethane (HBFC-21B2)	-	1868-53-7
	ブロモジフルオロメタン (HBFC-22 B1)	Bromodifluoromethane (HBFC-22B1)	-	1511-62-2
	ブロモフルオロメタン (HBFC-31 B1)	Bromofluoromethane (HBFC-31 B1)	-	373-52-4
	テトラブロモフルオロエタン(HBFC-121 B4)	Tetrabromofluoroethane (HBFC-121 B4)	-	306-80-9
	トリブロモフルオロエタン(HBFC-122 B3)	Tribromofluoroethane (HBFC-122 B3)	-	-
	ジブロモトリフルオロエタン(HBFC-123 B2)	Dibromotrifluoroethane (HBFC-123 B2)	-	354-04-1
	ブロモテトラフルオロエタン(HBFC-124 B1)	Bromotetrafluoroethane (HBFC-124 B1)	-	124-72-1
	トリブロモフルオロエタン (HBFC-131 B3)	Tribromofluoroethane (HBFC-131 B3)	-	-
	ジブロモジフルオロエタン(HBFC-132 B2)	Dibromodifluoroethane (HBFC-132 B2)	-	75-82-1
	ブロモトリフルオロエタン (HBFC-133 B1)	Bromotrifluoroethane (HBFC-133 B1)	-	421-06-7
	ジブロモフルオロエタン (HBFC-141 B2)	Dibromofluoroethane (HBFC-141 B2)	-	358-97-4
	ブロモジフルオロエタン (HBFC-142 B1)	Bromodifluoroethane (HBFC-142 B1)	-	420-47-3
	ブロモフルオロエタン (HBFC-151 B1)	Bromofluoroethane (HBFC-151 B1)	-	762-49-2
	ヘキサブロモフルオロプロパン(HBFC-221 B6)	Hexabromofluoropropane (HBFC-221 B6)	-	-
	ペンタブロモジフルオロプロパン(HBFC-222 B5)	Pentabromodifluoropropane (HBFC-222 B5)	-	-
	テトラブロモトリフルオロプロパン(HBFC-223 B4)	Tetrabromotrifluoropropane (HBFC-223 B4)	-	-
	トリブロモテトラフルオロプロパン(HBFC-224 B3)	Tribromotetrafluoropropane (HBFC-224 B3)	-	-
	ジブロモペンタフルオロプロパン(HBFC-225 B2)	Dibromopentafluoropropane (HBFC-225 B2)	-	431-78-7
	ブロモヘキサフルオロプロパン(HBFC-226 B1)	Bromohexafluoropropane (HBFC-226 B1)	-	2252-78-0
	ペンタブロモフルオロプロパン(HBFC-231 B5)	Pentabromofluoropropane (HBFC-231 B5)	-	-
	テトラブロモジフルオロプロパン(HBFC-232 B4)	Tetrabromodifluoropropane (HBFC-232 B4)	-	-
	トリブロモトリフルオロプロパン(HBFC-233 B3)	Tribromotrifluoropropane (HBFC-233 B3)	-	-
	ジブロモテトラフルオロプロパン(HBFC-234 B2)	Dibromotetrafluoropropane (HBFC-234 B2)	-	-
	ブロモペンタフルオロプロパン(HBFC-235 B1)	Bromopentafluoropropane (HBFC-235 B1)	-	460-88-8
	テトラブロモフルオロプロパン(HBFC-241 B4)	Tetrabromofluoropropane (HBFC-241 B4)	-	-
	トリブロモジフルオロプロパン(HBFC-242 B3)	Tribromodifluoropropane (HBFC-242 B3)	-	70192-80-2
	ジブロモトリフルオロプロパン(HBFC-243 B2)	Dibromotrifluoropropane (HBFC-243 B2)	-	431-21-0
	ブロモテトラフルオロプロパン(HBFC-244 B1)	Bromotetrafluoropropane (HBFC-244 B1)	-	679-84-5
	トリブロモフルオロプロパン (HBFC-251 B3)	Tribromofluoropropane (HBFC-251 B3)	-	75372-14-4
	ジブロモジフルオロプロパン(HBFC-252 B2)	Dibromodifluoropropane (HBFC-252 B2)	-	460-25-3
	ブロモトリフルオロプロパン (HBFC-253 B1)	Bromotrifluoropropane (HBFC-253 B1)	-	421-46-5
	ジブロモフルオロプロパン(HBFC-261 B2)	Dibromofluoropropane (HBFC-261 B2)	-	51584-26-0
	ブロモジフルオロプロパン(HBFC-262 B1)	Bromodifluoropropane (HBFC-262 B1)	-	-
	ブロモフルオロプロパン(HBFC-271 B1)	Bromofluoropropane (HBFC-271 B1)	-	1871-72-3
	ジクロロフルオロメタン (HCFC 21)	Dichlorofluoromethane (HCFC-21)	-	75-43-4
	クロロジフルオロメタン (HCFC 22)	Chlorodifluoromethane (HCFC-22)	-	75-45-6
	クロロフルオロメタン (HCFC-31)	Chlorofluoromethane (HCFC-31)	-	593-70-4

テトラクロロフルオロエタン (HCFC-121)	Tetrachlorofluoroethane (HCFC-121)	-	134237-32-4
1,1,2,2-テトラクロロ-1-フルオロエタン(HCFC-121)	1,1,2,2-Tetrachloro-1-fluoroethane(HCFC-121)	-	354-14-3
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)	-	354-11-0
トリクロロジフルオロエタン (HCFC-122)	Trichlorodifluoroethane (HCFC-122)	-	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)	-	354-21-2
1,1,2-トリクロロ-1,2-ジフルオロエタン(HCFC-122a)	1,1,2-Trichloro-1,2-difluoroethane(HCFC-122a)	-	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)	-	354-12-1
ジクロロトリフルオロエタン(HCFC-123)	Dichlorotrifluoroethane(HCFC-123)	-	34077-87-7
1,1-ジクロロ-2,2,2-トリフルオロエタン(HCFC-123)	1,1-Dichloro-2,2,2-trifluoroethane(HCFC-123)	-	306-83-2
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)	-	354-23-4,90454-18-5
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)	-	812-04-4
クロロテトラフルオロエタン (HCFC-124)	Chlorotetrafluoroethane (HCFC-124)	-	63938-10-3
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)	-	2837-89-0
1-クロロ-1,1,1,2-テトラフルオロエタン(HCFC-124a)	1-chloro-1,1,1,2-tetrafluoroethane(HCFC-124a)	-	354-25-6
トリクロロフルオロエタン (HCFC-131)	Trichlorofluoroethane (HCFC-131)	-	27154-33-2(134237-34-6)
1,1,2-トリクロロ-2-フルオロエタン (HCFC-131)	1,1,2-Trichloro-2-fluoroethane(HCFC-131)	-	359-28-4
1,1,2-トリクロロ-1-フルオロエタン(HCFC131a)	1,1,2-Trichloro-1-fluoroethane(HCFC131a)	-	811-95-0
1,1,1-トリクロロ-2-フルオロエタン (HCFC-131b)	1,1,1-Trichloro-2-fluoroethane(HCFC-131b)	-	2366-36-1
ジクロロジフルオロエタン (HCFC-132)	Dichlorodifluoroethane (HCFC-132)	-	25915-78-0
1,2-ジクロロ-1,2-ジフルオロエタン (HCFC-132)	1,2-Dichloro-1,2-difluoroethane (HCFC-132)	-	431-06-1
1,1-ジクロロ-2,2-ジフルオロエタン(HCFC-132a)	1,1-Dichloro-2,2-difluoroethane (HCFC-132a)	-	471-43-2
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)	-	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)	-	1842-05-3
クロロトリフルオロエタン (HCFC-133)	Chlorotrifluoroethane (HCFC-133)	-	1330-45-6,431-07-2
1-クロロ-1,2,2-トリフルオロエタン (HCFC-133)	1-Chloro-1,2,2-trifluoroethane (HCFC-133)	-	1330-45-6
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)	-	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)	-	421-04-5
ジクロロフルオロエタン(HCFC-141)	Dichlorofluoroethane(HCFC-141)	-	1717-00-6,(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)	-	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)	-	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)	-	1717-00-6
クロロジフルオロエタン (HCFC-142)	Chlorodifluoroethane (HCFC-142)	-	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)	-	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)	-	75-68-3
1-クロロ-1,2-ジフルオロエタン (HCFC142a)	1-Chloro-1,2-difluoroethane (HCFC-142a)	-	338-64-7
クロロフルオロエタン (HCFC-151)	Chlorofluoroethane (HCFC-151)	-	110587-14-9
1-クロロ-2-フルオロエタン (HCFC-151)	1-Chloro-2-fluoroethane (HCFC-151)	-	762-50-5
1-クロロ-1-フルオロエタン (HCFC-151a)	1-Chloro-1-fluoroethane (HCFC-151a)	-	1615-75-4
ヘキサクロロフルオロプロパン (HCFC-221)	Hexachlorofluoropropane (HCFC-221)	-	134237-35-7, 29470-94-8
1,1,1,2,2,3-ヘキサクロロ-3-フルオロプロパン (HCFC-221ab)	1,1,1,2,2,3-Hexachloro-3-fluoropropane (HCFC-221ab)	-	422-26-4
ペンタクロロジフルオロプロパン (HCFC-222)	Pentachlorodifluoropropane (HCFC-222)	-	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)	-	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)	-	422-30-0
テトラクロロトリフルオロプロパン (HCFC-223)	Tetrachlorotrifluoropropane (HCFC-223)	-	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 (HCFC-223ca)	1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca)	-	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 (HCFC-223cb)	1,1,1,3-Tetrachloro-2,2,3-trifluoropropane (HCFC-223cb)	-	422-50-4
トリクロロテトラフルオロプロパン (HCFC-224)	Trichlorotetrafluoropropane (HCFC-224)	-	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-224ca)	1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	-	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 (HCFC-224cb)	1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb)	-	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 (HCFC-224cc)	1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc)	-	422-51-7
ジクロロペンタフルオロプロパン(HCFC-225)	Dichloropentafluoropropane (HCFC-225)	-	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)	-	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)	-	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)	-	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)	-	422-56-0
1,3-ジクロロ-1,1,2,2,3-ペンタフルオロプロパン (HCFC-225cb)	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	-	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)	-	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)	-	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)	-	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)	-	111512-56-2
クロロヘキサフルオロプロパン (HCFC-226)	Chlorohexafluoropropane (HCFC-226)	-	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)	-	431-87-8
ペンタクロロフルオロプロパン (HCFC-231)	Pentachlorofluoropropane (HCFC-231)	-	134190-48-0
1,1,1,2,3-ペンタクロロ-2-フルオロプロパン (HCFC-231bb)	1,1,1,2,3-pentachloro-2-fluoropropane (HCFC-231bb)	-	421-94-3
テトラクロロジフルオロプロパン (HCFC-232)	Tetrachlorodifluoropropane (HCFC-232)	-	134237-39-1
1,1,1,3-テトラクロロ-3,3-ジフルオロプロパン (HCFC232fc)	1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc)	-	460-89-9
トリクロロトリフルオロプロパン (HCFC-233)	Trichlorotrifluoropropane (HCFC-233)	-	134237-40-4
1,1,1-トリクロロ-3,3,3-トリフルオロプロパン (HCFC-233fb)	1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb)	-	7125-83-9
ジクロロテトラフルオロプロパン (HCFC-234)	Dichlorotetrafluoropropane (HCFC-234)	-	127564-83-4
1,2-ジクロロ-1,2,3,3-テトラフルオロプロパン (HCFC-234db)	1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db)	-	425-94-5
クロロペンタフルオロプロパン (HCFC-235)	Chloropentafluoropropane (HCFC-235)	-	134237-41-5
1-クロロ-1,1,3,3,3-ペンタフルオロプロパン (HCFC-235fa)	1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa)	-	460-92-4
テトラクロロフルオロプロパン (HCFC-241)	Tetrachlorofluoropropane (HCFC-241)	-	134190-49-1
1,1,2,3-テトラクロロ-1-フルオロプロパン (HCFC-241db)	1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241db)	-	666-27-3
トリクロロジフルオロプロパン (HCFC-242)	Trichlorodifluoropropane (HCFC-242)	-	134237-42-6
1,3,3-トリクロロ-1,1-ジフルオロプロパン (HCFC-242fa)	1,3,3-Trichloro-1,1-difluoropropane (HCFC-242fa)	-	460-63-9
ジクロロトリフルオロプロパン (HCFC-243)	Dichlorotrifluoropropane (HCFC-243)	-	134237-43-7
1,1-ジクロロ-1,2,2-トリフルオロプロパン (HCFC-243cc)	1,1-Dichloro-1,2,2-trifluoropropane (HCFC-243cc)	-	7125-99-7
2,3-ジクロロ-1,1,1-トリフルオロプロパン (HCFC-243db)	2,3-Dichloro-1,1,1-trifluoropropane (HCFC-243db)	-	338-75-0
3,3-ジクロロ-1,1,1-トリフルオロプロパン (HCFC-243fa)	3,3-Dichloro-1,1,1-trifluoropropane (HCFC-243fa)	-	460-69-5

C04 from previous page	クロロテトラフルオロプロパン (HCFC-244)	Chlorotetrafluoropropane (HCFC-244)	-	134190-50-4
	3-クロロ-1,1,2,2-テトラフルオロプロパン (HCFC-244ca)	3-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244ca)	-	679-85-6
	1-クロロ-1,1,2,2-テトラフルオロプロパン (HCFC-244cc)	1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244cc)	-	421-75-0
	トリクロロフルオロプロパン (HCFC-251)	Trichlorofluoropropane (HCFC-251)	-	134190-51-5
	1,1,3-トリクロロ-1-フルオロプロパン(HCFC-251fb)	1,1,3-Trichloro-1-fluoropropane(HCFC-251fb)	-	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)	-	421-41-0
	ジクロロジフルオロプロパン (HCFC-252)	Dichlorodifluoropropane (HCFC-252)	-	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)	-	819-00-1
	クロロトリフルオロプロパン (HCFC-253)	Chlorotrifluoropropane (HCFC-253)	-	134237-44-8
	3-クロロ-1,1,1-トリフルオロプロパン(HCFC-253fb)	3-Chloro-1,1,1-trifluoropropane(HCFC-253fb)	-	460-35-5
	ジクロロフルオロプロパン (HCFC-261)	Dichlorofluoropropane (HCFC-261)	-	134237-45-9
	1,1-ジクロロ-1-フルオロプロパン (HCFC-261fc)	1,1-Dichloro-1-fluoropropane(HCFC-261fc)	-	7799-56-6
	1,2-ジクロロ-2-フルオロプロパン (HCFC-261ba)	1,2-Dichloro-2-fluoro-propane(HCFC-261ba)	-	420-97-3
	クロロジフルオロプロパン (HCFC-262)	Chlorodifluoropropane (HCFC-262)	-	134190-53-7
	1-クロロ-2,2-ジフルオロプロパン (HCFC-262ca)	1-Chloro-2,2-difluoropropane(HCFC-262ca)	-	420-99-5
	2-クロロ-1,3-ジフルオロプロパン (HCFC-262da)	2-Chloro-1,3-difluoropropane(HCFC-262da)	-	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)	-	421-02-03
C04	クロロフルオロプロパン (HCFC-271)	Chlorofluoropropane (HCFC-271)	-	134190-54-8
	2-クロロ-2-フルオロプロパン (HCFC-271ba)	2-Chloro-2-fluoropropane (HCFC-271ba)	-	420-44-0
	1-クロロ-1-フルオロプロパン (HCFC-271fb)	1-Chloro-1-fluoropropane (HCFC-271fb)	-	430-55-7

2)Controlled substance list (13 substance groups)

JGPSSI Classification No.	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例 / Examples of Use
A11	ニッケル / Nickel	ANNEX XVII of REACH Regulation (EC) No 1907/2006	Intentionally added	Stainless steel, plating; example application for prolonged skin contact is an ear bud (headphone), mobile phone
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
			1.000	7440-02-0
A28	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例 / Examples of Use
	三置換有機スズ化合物 / Tri-substituted organostannic compounds	Commission Decision 2009/425/EC; Japan Law concerning the evaluation of chemical substances	0.1% by weight (1000 ppm) of tin in a material	Stabilizer, antioxidant, antibacterial and antifungal agents, antifoulant, antiseptic, anti-fungal agent, paint, pigment, antistaining
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	トリフェニルスズ=N,N'-ジメチルジチオカバマート	Triphenyltin=N, Ndimethylthiocarbamate	0.252	1803-12-9
	トリフェニルスズ=フルオリド	Triphenyltinfluoride	0.322	379-52-2
	トリフェニルスズ=アセタート	Triphenyltinacetate	0.290	900-95-8
	トリフェニルスズ=クロリド	Triphenyltinchloride	0.308	639-58-7
	トリフェニルスズ=ヒドロキシド	Triphenyltinhydroxide	0.323	76-87-9
	トリフェニルスズ脂肪酸塩(C=9~11)	Triphenyltin fattyacid(9-11)salt	0.234	18380-71-7
			0.234	18380-72-8
			0.228	47672-31-1
			0.222	94850-90-5
	トリフェニルスズ=クロロアセタート	Triphenyltinchloroacetate	0.268	7094-94-2
	トリブチルスズ=メタクリラート	Tributyltinmethacrylate	0.316	2155-70-6
	ビス(トリブチルスズ)=フマラート	Bis(tributyltin)fumarate	0.342	6454-35-9
	トリブチルスズ=フルオリド	Tributyltinfluoride	0.384	1983-10-4
	ビス(トリブチルスズ)=2,3-ジブromoスズシナート	Bis(tributyltin)2,3-dibromosuccinate	0.278	31732-71-5
	トリブチルスズ=アセタート	Tributyltinacetate	0.340	56-36-0
	トリブチルスズ=ラウラート	Tributyltinlaurate	0.243	3090-36-6
	ビス(トリブチルスズ)=フタラート	Bis(tributyltin)phthalate	0.319	4782-29-0
	アルキル=アクリラート, メチル=メタクリラート, およびトリブチルスズ=メタクリラートの共重合物(アルキル,C=8)	Copolymer of alkyl(C=8) acrylate,methyl methacrylate and tributyltin methacrylate	0.180	67772-01-4
	トリブチルスズ=スルファマート	Tributyltinsulfamate	0.307	6517-25-5
	ビス(トリブチルスズ)マレアート	Bis(tributyltin)maleate	0.341	14275-57-1
	トリブチルスズ=クロリド	Tributyltinchloride	0.365	1461-22-9, 7342-38-3
	トリブチルスズ=シクロペンタンカルボキシラートおよびその類縁化合物(トリブチルスズ=オクテノ酸)の混合物	Tributyltin cyclopentane carboxonate=mixture	-	85409-17-2
	トリブチルスズ=1,2,3,4,4a,4b,5,6,10,10a-デカヒドロ-7-イソプロピル-1,4a-ジメチル-1-フェナントレンカルボキシラート及びその類縁化合物(トリブチルスズ=ロジンソルト)の混合物	Tributyltin-1, 2,3,4,4a, 4b, 5,6,10,10a-decahydro-7-isopropyl-1, 4a-dimethyl-1-phenanthrenecarboxylatemix	-	26239-64-5
	その他の三置換有機スズ化合物	Other tri-substituted organostannic compounds	-	-
A19	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例 / Examples of Use
	酸化ベリリウム(BeO) / Beryllium oxide (BeO)	DIGITALEUROPE/CECED/ AeA/ EERA guidance	0.1% by weight (1 000 ppm) of the product	Ceramics
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
			-	1304-56-9
A23	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例 / Examples of Use
	ジブチルスズ化合物 (DBT) / Dibutyltin (DBT) compounds	COMMISSION DECISION 2009/425/EC	0.1% by weight (1000 ppm) of tin in a material	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ジブチルスズオキシド	Dibutyltin oxide	0.477	818-08-6
	ジブチルスズジアセタート	Dibutyltin diacetate	0.338	1067-33-0
	ジブチルスズジラウラート	Dibutyltin dilaurate	0.188	77-58-7
	ジブチルスズマレアート	Dibutyltin maleate	0.342	78-04-6
その他のジブチルスズ化合物	Other dibutyltin compounds	-	-	
A24	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例 / Examples of Use
	ジオクチルスズ化合物 (DOT) / Dioctyltin (DOT) compounds	COMMISSION DECISION 2009/425/EC	0.1% by weight (1000 ppm) of tin in a material	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ジオクチルスズオキシド	Dioctyl Tin Oxide	0.329	870-08-6
	ジオクチルスズジラウラート	Dioctyltin dilaurate	0.160	3648-18-8
その他のジオクチルスズ化合物	Other Dioctyltin compounds	-	-	

	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
B08	臭素系難燃剤 (PBB とPBDE又はHBCDD 以外) / Brominated flame retardants (other than PBBs,PBDEs, or HBCDD)	DIGITALEUROPE /CECED/ AeA/ EERA guidance, IPC-4101 and IEC 61249-2-21	0.1% by weight (1000 ppm) of plastic material 0.09% total bromine content by weight (900 ppm) in the laminate	flame retardant for housing, connectors, package molding sealing Printed wiring board laminate
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	ISO 1043-4コード番号FR(14)[脂肪族 / 脂環式臭素化合物]の表記法に該当する臭素系難燃剤	Brominated flame retardant which comes under notation of ISO 1043-4code number FR(14) [Aliphatic/alicyclic brominated compounds]	-	-
	ISO 1043-4コード番号FR(15)[脂肪族 / 脂環式臭素化合物とアンチモン化合物の組み合わせ]の表記法に該当する臭素系難燃剤	Brominated flame retardant which comes under notation of ISO 1043-4code number FR(15) [Aliphatic/alicyclic brominated compounds in combination with antimony compounds]	-	-
	ISO 1043-4コード番号FR(16)[芳香族臭素化合物(臭素化ジフェニルエーテル及びビフェニルを除く)の表記法に該当する臭素系難燃剤	Brominated flame retardant which comes under notation of ISO 1043-4code number FR(16) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls]	-	-
	ISO 1043-4コード番号FR(17)[芳香族臭素化合物(臭素化ジフェニルエーテル及びビフェニルを除く)とアンチモン化合物の組み合わせ]の表記法に該当する臭素系難燃剤	Brominated flame retardant which comes under notation of ISO 1043-4code number FR(17) [Aromatic brominated compounds excluding brominated diphenyl ether and biphenyls] in combination with antimony compounds]	-	-
	ISO 1043-4コード番号FR(22)[脂肪族 / 脂環式塩素化及び臭素化合物]の表記法に該当する臭素系難燃剤	Brominated flame retardant which comes under notation of ISO 1043-4code number FR(22) [Aliphatic/alicyclic chlorinated and brominated compounds]	-	-
	ISO 1043-4コード番号FR(42)[臭素化有機リン化合物]の表記法に該当する臭素系難燃剤	Brominated flame retardant which comes under notation of ISO 1043-4code number FR(42) [Brominated organic phosphorus compounds]	-	-
	ポリ(2,6-ジブロモフェニレンオキサイド)	Poly(2,6-dibromo-phenylene oxide)	-	69882-11-7
	テトラデカブロモ-P-ジフェノキシベンゼン	Tetra-decabromo-diphenoxybenzene	-	58965-66-5
	1,2-ビス(2,4,6-トリブロモフェノキシ)エタン	1,2-Bis(2,4,6-tribromo-phenoxy)ethane	-	37853-59-1
	3,5,3',5'-テトラブロモビスフェノールA(TBBA)	3,5,3',5'-Tetrabromo-bisphenol ATBBA)	-	79-94-7
	TBBA(構造特定せず)	TBBA, unspecified	-	30496-13-0
	TBBA(エピクロロヒドリンオリゴマー)	TBBA-epichlorhydrin oligomer	-	40039-93-8
	TBBA (TBBA-ジグリジシエーテルオリゴマー)	TBBA-TBBA-diglycidyl-etheroligomer	-	70682-74-5
	TBBA (炭酸オリゴマー)	TBBA carbonate oligomer	-	28906-13-0
	TBBA炭酸オリゴマー、フェノキシエンドキャップ	TBBA carbonate oligomer, phenoxvend capped	-	94344-64-2
	TBBA炭酸オリゴマー、2,4,6-トリブロモフェノールターミネリド	TBBA carbonate oligomer, 2,4,6-tribromo-phenol terminated	-	71342-77-3
	TBBAビスフェノールAホスゲンポリマー	TBBA-bisphenol A-phosgenepolymer	-	32844-27-2
	臭素化エポキシレジン、トリブロモフェノールエンドキャップ	Brominated epoxy resin end-capped with tribromophenol	-	139638-58-7
	臭素化エポキシレジン、トリブロモフェノールエンドキャップ	Brominated epoxy resin end-capped with tribromophenol	-	135229-48-0
	TBBA-(2,3-ジブロモプロピルエーテル)	TBBA-(2,3-dibromo-propyl-ether)	-	21850-44-2
	TBBA bis-(2-ヒドロキシエチルエーテル)	TBBA bis-(2-hydroxy-ethyl-ether)	-	4162-45-2
	TBBA-bis(アリルエーテル)	TBBA-bis-(allyl-ether)	-	25327-89-3
	TBBAジメチルエーテル	TBBA-dimethyl-ether	-	37853-61-5
	テトラブロモビスフェノールS	Tetrabromo-bisphenol S	-	39635-79-5
	TBBS bis-(2,3-ジブロモプロピルエーテル)	TBBS-bis-(2,3-dibromo-propyl-ether)	-	42757-55-1
	2,4-ジブロモフェノール	2,4-Dibromo-phenol	-	615-58-7
	2,4,6-トリブロモフェノール	2,4,6-tribromo-phenol	-	118-79-6
	ペンタブロモフェノール	Pentabromo-phenol	-	608-71-9
	2,4,6-トリブロモフェニルアリルエーテル	2,4,6-Tribromo-phenyl-allyl-ether	-	3278-89-5
	トリブロモフェニルアリルエーテル(構造特定せず)	Tribromo-phenyl-allyl-ether, unspecified	-	26762-91-4
	テトラブロモフタル酸ジメチル	Bis(methyl)tetrabromo-phthalate	-	55481-60-2
	テトラブロモフタル酸ビス(2-エチルヘキシル)	Bis(2-ethylhexyl)tetrabromo-phthalate	-	26040-51-7
	2-(2-ヒドロキシエチル)エチル-2-ヒドロキシプロピルテトラブロモフタル酸	2-Hydroxy-propyl-2-(2-hydroxyethoxy)-ethyl-TBP	-	20566-35-2
	TBPA、グリコール、アンドプロピレン-オキシドエステル	TBPA, glycol-and propylene-oxideesters	-	75790-69-1
	N,N'-エチレン-ビス-(テトラブロモフタルイミド)	N,N'-Ethylene bis-(tetrabromophthalimide)	-	32588-76-4
	エチレン-ビス	Ethylene-bis	-	52907-07-0
	(5,6ジブロモボルボラン-2,3-ジカルボキシミド)	(5,6-dibromonorbornane-2,3-dicarboximide)	-	-
	2,3-ジブロモ-2-ブテン-1,4-ジオール	2,3-Dibromo-2-butene-1,4-diol	-	3234-02-4
	ジブロモネオペンチルグリコール	Dibromo-neopentyl-glycol	-	3296-90-0
	2,3-ジブロモプロパノール	Dibromo-propanol	-	96-13-9
	トリブロモ-ネオペンチルアルコール	Tribromo-neopentyl-alcohol	-	36483-57-5
	ポリトリブロモスチレン	Poly tribromo-styrene	-	57137-10-7
	トリブロモスチレン	Tribromo-styrene	-	61368-34-1
	ジブロモ-スチレン、PPグラフト	Dibromo-styrene grafted PP	-	171091-06-8
	ポリジブロモスチレン	Poly-dibromo-styrene	-	31780-26-4
	ブロモノクロロパラフィン類	Bromo-/Chloro-paraffins	-	68955-41-9
	ブロモノクロロアルファオレフィン	Bromo-/Chloro-alpha-olefin	-	82600-56-4
	ブロモエチレン	Vinylbromide	-	593-60-2
	トリス(2,3-ジブロモプロピル)イソシアヌレート	Tris-(2,3-dibromo-propyl)-isocyanurate	-	52434-90-9
	トリス(2,4-ジブロモフェニル)フォスフェート	Tris(2,4-Dibromo-phenyl) phosphate	-	49690-63-3
	トリス(トリブロモ-ネオペンチル)フォスフェート	Tris(tribromo-neopentyl) phosphate	-	19186-97-1
	塩素化、臭素化リン酸エステル	Chlorinated and brominated phosphate ester	-	125997-20-8
	ペンタブロモトルエン	Pentabromo-toluene	-	87-83-2
	ペンタブロモベンジルブロミド	Pentabromo-benzyl bromide	-	38521-51-6
	臭素化1,3-ブタジエンホモポリマー	1,3-Butadiene homopolymer brominated	-	68441-46-3
	ペンタブロモベンジルアクリレートモノマー	Pentabromo-benzyl-acrylate monomer	-	59447-55-1
	ペンタブロモベンジルアクリレートポリマー	Pentabromo-benzyl-acrylate polymer	-	59447-57-3
	デカブロモジフェニルエタン	Decabromo-diphenyl-ethane	-	84852-53-9
	トリブロモビスフェニルマレイニミド	Tribromo-bisphenyl-maleinimide	-	59789-51-4
	テトラブロモシクロオクタン	Tetrabromo-chvclo-octane	-	31454-48-5
	1,2-ジブロモ-4-(1,2-ジブロモメチル)シクロヘキサン	1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane	-	3322-93-8
	TBPA Naソルト	TBPA Na salt	-	25357-79-3
	テトラブロモフタル酸無水物	Tetrabromo phthalic anhydride	-	632-79-1
	オクタブロモ-1,1,3-トリメチル-1-フェニルイリダイン(FR-1808)	Octabromo-1,1,3-trimethyl-1-phenylindane (FR-1808)	-	155613-93-7
	その他の臭素系難燃剤	Other Brominated Flame Retardants	-	-

	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
B12	過塩素酸塩 / Perchlorates	US/CA DTSC Rulemaking	0.000006% by weight (0.006 ppm) of the product	Coin cell batteries
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	過塩素酸リチウム その他過塩素酸塩化合物	Lithium perchlorate Other perchlorate compounds	-	7791-03-9
B07	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	ポリ塩化ビニル / Polyvinyl chloride (PVC)	IEEE1680 (EPEAT: Electronic Product Environmental Assessment Tool)	0.1% by weight (1000 ppm) of the product	Insulator, chemical resistance, transparency, sheath material
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
C07	ホルムアルデヒド / Formaldehyde	US/CA CARB Rule Austria - BGB I 1990/194: Formaldehydverordnung, § 2, 12/2/1990; Lithuanian Hygiene Norm HN 96:2000 (Hygiene standards and regulations)	Intentionally added 0.0075% by weight (75 ppm) of textile product	Stereo cabinets, kiosk enclosures, Textiles
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	-	-	-	50-00-0
C09	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	フタル酸エステル類 グループ1 (BBP, DBP, DEHP) / Selected Phthalates Group 1(BBP, DBP, DEHP)	ANNEX XVII of REACH Regulation (EC) No 1907/2006; U.S. Consumer Product Safety Improvement Act	0.1% by weight (1000 ppm) in plasticized material	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
C10	物質群名 / Substance/ Category	参照法規 / Relevant laws and regulations	Threshold value (level prohibited or requiring a report)	使用例/Examples of Use
	フタル酸エステル類 グループ2 (DIDP, DINP, DNOP) / Selected Phthalates Group 2 (DIDP, DINP, DNOP)	ANNEX XVII of REACH Regulation (EC) No 1907/2006; U.S. Consumer Product Safety Improvement Act	0.1% by weight (1000 ppm) in plasticized material	Plasticizer, dye, pigment, paint, ink, adhesive, lubricant
	JIG例示物質名 (和名)	Substance name (英語名)	金属換算係数	CAS No.
C11	ジメチルフマレート(フマル酸ジメチル) / Dimethyl fumarate	COMMISSION DECISION 2009/251/EC	0.00001% by weight (0.1 ppm) in a material	Biocide, mold treatment of electronic leather seats, including recliners, massage chairs
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	-	-	-	624-49-7
J01	SVHC認可候補リスト /SVHC candidate list (2010.06.18)			
	JIG例示物質名 (和名)	Substance name (英語名)	Metal Conversion Factor	CAS No.
	トリブチルスズ=オキシド (TBTO)	Bis(tri-n-butyltin) oxide	0.398	56-35-9
	五酸化二ヒ素	Diarsenic Pentoxide	-	1303-28-2
	三酸化二ヒ素	Diarsenic Trioxide	-	1327-53-3
	ヘキサブロモシクロドデカン (HBCDD)	Hexabromocyclododecane (HBCDD)	-	25637-99-4
	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	-	3194-55-6
	-ヘキサブロモシクロドデカン	a-Hexabromocyclododecane	-	134237-50-6
	-ヘキサブロモシクロドデカン	b-Hexabromocyclododecane	-	134237-51-7
	-ヘキサブロモシクロドデカン	g-Hexabromocyclododecane	-	134237-52-8
	短鎖型塩化(パラフィン) (炭素数10~13)	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	-	85535-84-8
	リン酸トリス(2-クロロエチル) (TCEP)	Tris (2-chloroethyl)phosphate (TCEP)	-	115-96-8
	フタル酸ビス(2-エチルヘキシル) (DEHP)	Bis (2-ethylhexyl) phthalate (DEHP)	-	117-81-7
	フタル酸ジブチル (DBP)	Dibutylphthalate (DBP)	-	84-74-2
	フタル酸ブチルベンジル (BBP)	Butyl benzyl phthalate (BBP)	-	85-68-7
	塩化コバルト (CoCl2)	Cobalt dichloride	-	7646-79-9
	クロム酸鉛	Lead chromate	0.161	7758-97-6
	硫酸モリブデン酸クロム酸鉛	Lead chromate molybdate sulfate red	-	12656-85-8
	ピグメントイエロー34	C.I.Pigment Yellow 34	-	1344-37-2
	フタル酸ジイソブチル (DIBP)	Diisobutyl phthalate (DIBP)	-	84-69-5
	アルミノ珪酸塩 耐火セラミック繊維 (JIG-101 Ed 3.0.0の別表Bを参照)	Aluminosilicate, Refractory Ceramic Fibres	-	C16-NA
	ジルコニアアルミノ珪酸塩 耐火セラミック繊維 (JIG-101 Ed 3.0.0の別表Bを参照)	Zirconia Aluminosilicate, Refractory Ceramic Fibres	-	C17-NA
	ホウ酸	Boric acid	-	10043-35-3
	ホウ酸	Boric acid	-	11113-50-1
	四ホウ酸二ナトリウム10水和物(ほう砂)	Disodium tetraborate decahydrate	-	1303-96-4
	四ホウ酸二ナトリウム	Disodium tetraborate, anhydrous	-	1330-43-4
	四ホウ酸二ナトリウム5水和物	Disodium tetraborate, pentahydrate	-	12179-04-3
	七酸化二ナトリウム四ホウ素水和物 (四ホウ酸二ナトリウム水和物)	Tetraboron disodium heptaoxide, hydrate	-	12267-73-1

-Appendix 2-

Form for Certificate of Non-Inclusion of RoHS Directive Restricted Substances
in Parts and Components

Yaskawa Electric Corporation
1st edition: September 12, 2007
Revised: December 15, 2010

To: Yaskawa Group

Certificate of Non-Inclusion of RoHS Directive Restricted Substances in Parts and Components

Company Name:
 Department/Position:
 Name of Person Responsible:
 Phone:
 Seal or signature: _____

Our company (including subsidiaries and affiliated companies) certifies that no substance restricted by the RoHS Directive is contained in materials and products (including accessories and items that compose other products or materials) to be shipped to Yaskawa Electric Corporation, in accordance with Yaskawa Group Green Procurement Guidelines (fourth edition).

1. Substances restricted by the RoHS Directive (6 substance groups):

lead, cadmium, mercury, chromium VI,
polybrominated biphenyls (PBBs), and polybrominated diphenyl ethers (PBDEs)

* "Non-inclusion" means that the concentration of restricted substances is below the regulated value of the RoHS Directive, regardless of whether the inclusion is intentional or unintentional (this includes the inclusion of impurities). However, materials not restricted by the RoHS Directive are exempt. For more detailed information such as definitions, refer to Yaskawa Group Green Procurement Guidelines (fourth edition).

2. Applicable Products () indicates the name used in our company's system

	Yaskawa Parts Code (Item code)	Yaskawa Name of Part (Item text)	Model of supplier product or part	Shipping start date (Fill in only if the conditions in *1 are met.)
1				
2				
3				
4				
5				

* If the number of items exceed what can be written on this form, please attach the list of applicable products on a separate sheet. (Write the Document Control No. on that sheet as well.)

*1: If the substance content of an item is changed so that it is less than the RoHS Directive regulated value, but the Yaskawa Parts Code (Item code) remains unchanged, the shipping start date must be indicated to notify us of the time the change occurred.