

Canon
Green Procurement Standards



Green

Canon

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Canon

Green Procurement Standards

Contents

1. Objective		2
2. Scope		2
3. Definitions of Terms		2
4. “Production environmental impact substances” and “product environmental impact substances”		5
5. Principles behind the requirements of the Canon Green Procurement Standards		6
6. Procedure for Starting Dealings		7
7. Requirements		8
8. Explanation of the Requirement		12
9. Evaluation by Canon		14
10. Handling of Information		19
11. Acknowledgement of revisions		19
12. Starting Date for Application		19
- Attachment 1	List of Production Environmental Impact Substances	24
- Attachment 2	List of Product Environmental Impact Substances	38

Canon

Green Procurement Standards

1. Objective

Guided by its corporate philosophy of “Kyosei”, Canon group (this is hereinafter referred to as “Canon”) has been conducting global environmental conservation activities. One of these activities is green procurement, in which procurement and purchasing of environment-friendly materials, parts, and products are prioritized when necessary resources are procured and purchased. Canon would like to proceed with “Maximization of Resource Efficiency” together with suppliers to realize global environment conservation. To attain this objective, the Canon Green Procurement Standards prescribe the conditions for starting dealings with suppliers.

2. Scope

These standards apply to the following parts and materials constituting Canon products, OEM products, and packaging for these products.

1. Products

- (1) Parts, Units
- (2) Materials
- (3) Accessories packaged or used with product main units
In Canon sales companies, the following accessories are included:
 - (a) Regular commodities packaged with Canon products
 - (b) OEM goods that add value to Canon products
 - (c) Standard commodities physically connected to Canon products
- (4) Consumables, manuals, attached documents, etc.
- (5) Auxiliary materials used in products, such as adhesives, lubricants, and paint for identification

2. Packaging

Packaging herein includes packaging that is used to wrap, protect, and distribute parts and materials delivered to Canon. The standards, however, do not apply for the time being to packaging in such cases as each Canon group’s delivery site agrees that these materials are discarded at a Canon site at the present moment.

- (1) Packaging materials and twist ties
- (2) Auxiliary materials used in packaging, such as adhesives, paint for identification and ink for printing

3. Definitions of Terms

1. Environmental impact of business activities

Refer to the impact that business activities have on the environment, such as use of energy, chemical substances, and water, as well as the emission of waste.

2. Environment-related laws and regulations

Refer to laws and regulations, municipal bylaws, and agreements, etc. related to environmental conservation, such as the prevention of air, water and soil pollution.

3. Production environmental impact substances

Refer to chemical substances used in the process of development, production, or sales of parts and materials delivered to Canon. These chemical substances are specified in the “List of Production Environmental Impact Substances” (Attachment 1) and classified into the following three categories.

- (1) Prohibited substances: Chemical substances that must not be used
- (2) Substances targeted for reduced levels of use: Chemical substances that must be reduced
- (3) Controlled substances: Chemical substances that require tracking of use (or no use) and used quantities
4. Preventive measures against pollution of soil and groundwater
- Refer to measures taken to predict and prevent soil and groundwater contamination.
- Examples 1: Spill trays, linings, fluid-proof dikes, waste cloth and spill mats in locations where chemical substances are stored and used
- Examples 2: Inspections of facilities, usage locations, and storage locations
5. Product environmental impact substances
- Refer to chemical substances contained in parts and materials delivered to Canon. These chemical substances are specified in the “List of Product Environmental Impact Substances” (Attachment 2) and classified into the following three categories.
- (1) Prohibited substances: Chemical substances that must not be used in parts and materials
- (2) Use-restricted substances: Chemical substances that are allowed to be used in parts and materials for a specified period
- (3) Controlled substances: Chemical substances that require tracking of the absence/presence of each substance in parts and materials, its content, purpose, and where it is contained, etc.
6. Substance (chemical substance)
- A chemical element or compound that either exists in nature or is obtained via a manufacturing process. A substance includes impurities introduced in manufacturing processes, and additives required for maintenance of stability. Solvents that can be separated without affecting the stability of the single chemical substance or without changing the composition, are excluded from this definition.
- Examples: Lead oxide, nickel chloride, benzenes, etc.
7. Preparation (mixture)
- A mixture intentionally comprising two or more individual chemical substances.
- Examples: Paints, inks, solders prior to use, adhesives, alloys, etc.
- Note: The term “preparation” may be replaced in future by “mixture” in accordance with the “EU Regulation on Classification, Labelling and Packaging of Substances and Mixtures” (CLP Regulation) which entered into force on January 20, 2009.
8. Article (product formed into a shape)
- An item of specific shape, appearance, or design provided during manufacture which determines functions in final use at a level beyond that provided by its chemical composition.
- Examples: Molded objects such as personal computer keyboards and main units.
9. JGP file
- Refers to the JGP file format established by the JGPSSI, for electronic files used in standardized green procurement survey responses.
- (Definitions of No. 6, 7, 8, and 9 are quoted from the JGPSSI “Guidelines for the Management of Chemical Substances in Products.”)
10. Contain
- It means that a particular chemical substance is originally present in a part or a material that constitutes a product. This term also refers to cases in which a substance exists as a result of addition, filling, mixing, or deposition, as well as results from a manufacturing process.
11. Intentional use
- It means to use chemical substances in parts/materials constituting a product, for the purpose of realizing performance related to specific functions/appearance or to the maintenance/ improvement of quality.

12. Impurity

Impurities mean chemical substances that are contained in natural material and cannot be removed by the current industrial technologies in the refining process for commercial use, or byproduct material or catalyst residues that are produced in the process of synthesis reaction and cannot be removed by the current industrial technologies. These impurities exclude substances intentionally added to express some sort of performance in the final product form.

Even when a substance is called an “impurity” so as to differentiate it from the main material, the substance is not treated as an “impurity” in this standard as long as it is used intentionally.

Substances that cannot be removed by the current industrial technologies:

- Lead contained in lead-free solder
- Lead contained in tin plating
- Lead contained in plating layer after plating treatment traceable to an antioxidant of plating solution (e.g., lead acetate and other lead compounds) used in the chemical nickel plating (KN plating) process
- Monomer components that cannot be completely removed from synthetic resin materials

Substances usually called “impurity” but used for the realization of specific functions these substances are not treated as impurities in this standard:

- Arsenic and antimonite substances used as dopant in silicon substrates

13. Applicable range

Pertaining to each of the prohibited substances, use-restricted substances, and controlled substances defined in this standard, this term refers to a concentration, application, use, or the like to which the standard is applicable.

The concentration of a substance is calculated using the following formula:

$$(\text{Concentration}) = \frac{(\text{content by mass of a specified chemical substance})}{(\text{mass of homogeneous material of a part element that contains the substance})}$$

Note 1: “A part element that contains the substance”, which is a denominator in the formula, differs depending on the law that applies. A denominator such as “in homogeneous materials”, “in parts” or “in packaging items”, etc., is indicated in “Applicable range”. So, please use an appropriate denominator for calculation of the concentration. When “in parts” or “in packaging items” is indicated, calculate the concentration of the concerned chemical substance in a part or packaging item that contains the substance.

Note 2: Concentration

“Homogeneous material” means an identical material of a part element that contains the specified chemical substance, and that cannot be mechanically disjointed into different materials.

Note 3: Unit of the concentration

“ppm” is mostly used as the unit of the concentration. One ppm means “1 part per million” and represents “1/1,000,000.” In this standard, this unit represents the concentration level by weight, and 1 ppm equals to 1 mg/kg.

Note 4: “Metal converted value”

When a metal converted value is specified in the Applicable range for content/concentration, calculate the converted content/concentration value by multiplying the metallic compound amount by the relevant conversion factor.

14. Exemption

It means item such as a specific application or a substance that is excluded from the applicable range of the prohibited substances, use-restricted substances, or controlled substances prescribed in the Standards.

15. JIG

JIG is an abbreviation of Joint Industry Guide, that is, industry guidelines for the disclosure of information on chemical substances in products. JIG is established and revised jointly by the Consumer Electronics Association (CEA) of the USA, DIGITALEUROPE, and the Japan Green Procurement Survey Standardization Initiative (JGPSSI).

JIG-101 refers to the “Joint Industry Guide—Material Composition Declaration for Electrotechnical Products”. JIG-201 refers to the “Joint Industry Guide—Material Composition Declaration for Packaging of Electrotechnical Products” (Not yet published at the time of issue of this Standard).

4. “Production environmental impact substances” and “product environmental impact substances”

Canon prescribes the management criteria for the production environmental impact substances in Attachment 1, and the management criteria for the product environmental impact substances in Attachment 2.

1. Production environmental impact substances

(1) Prohibited substances

Use of “1A Prohibited substances” is prohibited in the process of development, production, and sales of parts and materials delivered to Canon.

(2) Substances targeted for reduced levels of use

Use of “1B Substances targeted for reduced levels of use” must be reduced in the process of development, production, and sales of parts and materials delivered to Canon.

(3) Controlled substances

Regarding “1C Controlled substances,” it is necessary to monitor whether these substances are used and, if so, keep track of the amounts used in the process of development, production, and sales of parts and materials delivered to Canon.

2. Product environmental impact substances

The “Products” part of the “List of Product Environmental Impact Substances” contains chemical substances specified in the JIG Declarable Substance List of JIG-101, and the “Packaging” part contains those specified in JIG-201 (Not yet published at the time of issue of this Standard). Both parts in the List of Product Environmental Impact Substances also include substances added by Canon according to social trends and changes in laws and regulations.

(1) Prohibited substances

The inclusion of “2A Prohibited substances” in amounts exceeding thresholds (applicable range) is prohibited in products delivered to Canon, except for the exempted items, if any, specified in the lists. The inclusion of “3A Prohibited substances in packaging materials” in amounts exceeding thresholds (applicable range) is prohibited in packaging delivered to Canon, except for the exempted items, if any, specified in the lists.

All exempted items must be controlled in the same manner as the controlled substances.

(2) Use-restricted substances

The inclusion of “2B Use-restricted substances” in amounts exceeding thresholds (applicable range) is prohibited after the deadline dates in products delivered to Canon, except for the exempted items, if any, specified in the lists.

The inclusion of “3B Use-restricted substances in packaging materials” in amounts exceeding thresholds (applicable range) is prohibited after the deadline dates in packaging delivered to Canon, except for the exempted items, if any, specified in the lists.

All exempted items must be controlled in the same manner as the controlled substances.

(3) Controlled substances

Regarding “2C Controlled substances”, it is necessary to monitor whether each substance is contained

in products delivered to Canon and, if so, keep track of its content, area of use, application, etc., except for the exempted items, if any, specified in the lists.

Regarding “3C Controlled substances in packaging materials”, it is necessary to monitor whether each substance is contained in packaging delivered to Canon and, if so, keep track of its content, area of use, application, etc., except for the exempted items, if any, specified in the lists.

The inclusion of controlled substances in parts and materials delivered to Canon is neither prohibited nor restricted.

5. Principles behind the requirements of the Canon Green Procurement Standards

To promote environmental conservation activities, Canon thinks it essential that the following four frameworks A through D function effectively:

A : Environmental management system for business activities

A company must construct and operate a system to reduce environmental impact caused by its business activities

B : Performance of business activities

As the result of constructing and operating an environmental management system, the following must be achieved: compliance with environment-related laws and regulations and other applicable legal requirements, no use of the prohibited substances, reduction in the use of substances targeted for reduced levels of use, and implementation of preventive measures against pollution of soil and groundwater.

C : Management of chemical substances in products (environmental management system for parts and materials)

A system must be constructed and operated to keep track of and manage chemical substances contained in parts and materials delivered to Canon.

D : Performance of parts and materials

No “prohibited substances” are contained in parts and materials delivered to Canon, and no “use-restricted substances” are contained after a specified period.

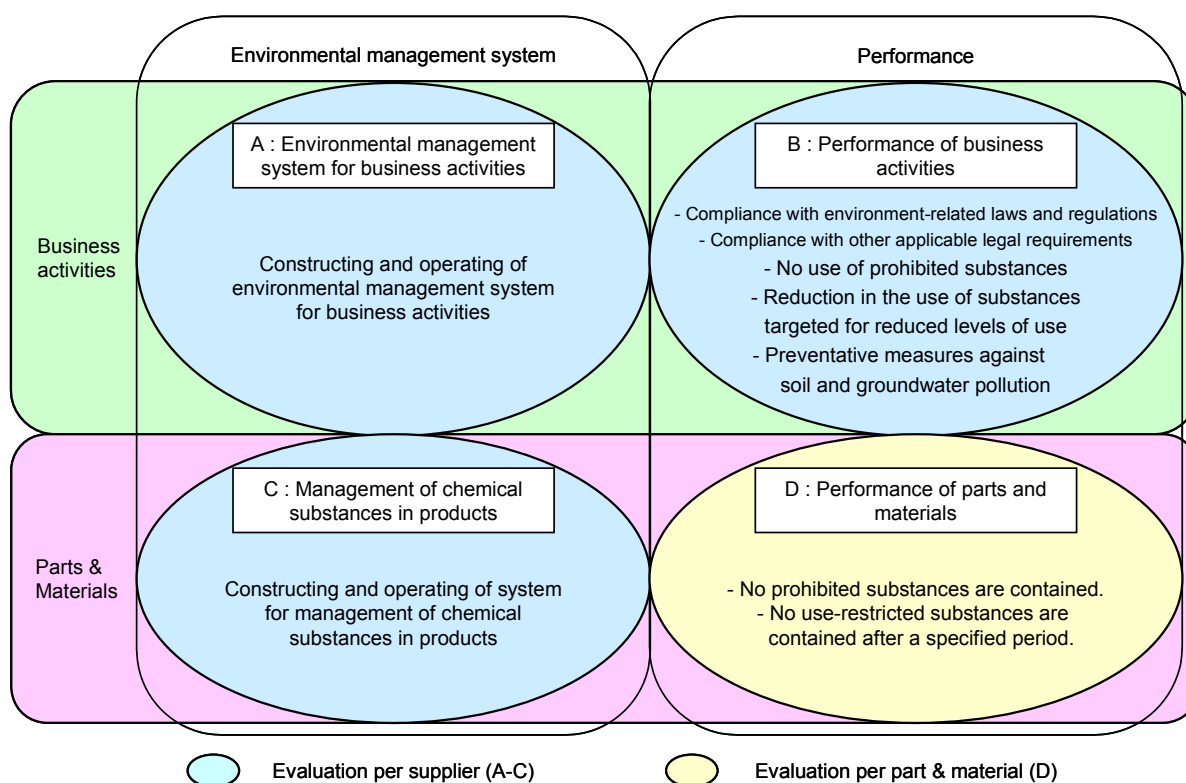


Figure 1 Four frameworks

6. Procedure for Starting Dealings

Each supplier is asked to develop and operate an environmental management system related to business activities and the system for management of chemical substances in products to achieve the expected performance level based on the “Requirements” (see pages 8 to 12) stipulated in the Canon Green Procurement Standards.

1. Evaluation of suppliers (A through C shown in Figure 1)
 - (1) Canon will request suppliers to submit “Self-Evaluation Sheet” based on “Supplier Environmental Evaluation” (see page 14).
 - (2) Suppliers are asked to carry out self-evaluation of the conditions of activities performed to satisfy the “Requirements” and submit the result to Canon.
 - (3) Canon will carry out evaluation and make a judgment based on the results of self-evaluation submitted and start dealings with suppliers who satisfy the “Requirements”.
2. Evaluation of parts and materials (D shown in Figure 1)
 - (1) Suppliers are asked to perform surveys of product environmental impact substance information for parts and materials delivered to Canon.
 - (2) Canon will request suppliers to submit information on product environmental impact substance related to parts and materials delivered to Canon based on “Parts and Materials Evaluation” (see page 17).
 - (3) Suppliers are asked to submit the survey result.
 - (4) Canon will make a judgment based on the submitted survey result and only purchase parts and materials that satisfy the “Requirements”.

7. Requirements

[Requirements Related to Business Activities]

A : Requirements Related to an Environmental Management System for Business Activities

I. Construction of an Environmental management System

Responsibilities and procedures for conducting the following shall be defined and documented:

1. Policy

- Draw up policy related to environmental management activities.
- Communicate to all persons working for or on behalf of the organization

2. Planning

2.1 Environmental aspect (Investigations of the current situation)

- Survey on environmental impact of business activities
- Survey on environment-related laws and regulations and other applicable legal requirements
- Survey on production environmental impact substances
- Survey on preventive measures against pollution of soil and groundwater

2.2 Establishment targets and programme(s)

- Draw up targets and programme(s) to reduce environmental impact based on the investigation results of the current situation.

3. Operational Control

- Appoint management representative(s) of the environmental management system
- Establish procedures necessary for achieving the targets.
- Communicate the procedures necessary for achieving the targets.

4. Performance Evaluation and Improvement

- Evaluate the progress of the programme(s), attainment of the targets, and the sufficiency of the environmental management system, and report the evaluation results to management.

5. Management Review

- Evaluate performance involving top management, check compliance with laws and regulations related to environment and other applicable legal requirements, and find solutions to problems.
- Reflect the above results on “1. Policy” and “2.2 Establishment of targets and programme(s)”.

II. Operation of an Environmental Management System

Activities shall be performed according to the responsibilities and procedures established to meet the above requirements (1. Construction of an Environmental Management System).

The results of activities shall be recorded, and their records kept.

B : Requirements Related to Performance of Business Activities

1. Compliance with laws and regulations
 - Suppliers must comply with environment-related laws and regulations.
 - Suppliers must comply with other applicable legal requirements.
2. Management of production environmental impact substances
 - 2.1 Prohibited substances
 - None of the “1A Prohibited Substances” defined in the “List of Production Environmental Impact Substances” (Attachment 1) shall be used in the process of development, production, and sales of parts and materials delivered to Canon.
 - 2.2 Substances Targeted for Reduced Levels of Use
 - “1B Substances Targeted for Reduced Levels of Use” defined in the “List of Production Environmental Impact Substances” (Attachment 1) shall be reduced in the process of development, production, or sales of parts and materials delivered to Canon.
3. Preventive measures against pollution of soil and groundwater

Measures shall be taken to prevent the pollution of soil and groundwater by chemical substances.

Note: “1A Prohibited Substances” in the “List of Production Environmental Impact Substances” (Attachment 1) are, in principle, banned from use. Contact Canon if any of these substances is not banned by any regulations in the country or region and its substitution is technically difficult.

[Requirements Related to Parts and Materials]**C : Requirements related to the Management of Chemical Substances in Products**

Responsibilities and procedures shall be defined and documented to conduct activities in conformity with the action items and action details in the “Guidelines for the Management of Chemical Substances in Products” issued by the JGPSSI (hereinafter referred to as “Guidelines for the Management of Chemical Substances in Products”). Then activities shall be carried out according to the established procedures.

The requirements prescribed in this document make it indispensable that the substances defined in the “List of Product Environmental Impact Substances” (Attachment 2) be included as objects of the management.

[Action Items and Action Details in the “Guidelines for the Management of Chemical Substances in Products (Ver.2)”]

1. Policy
 - Declare items to be dealt with in management of chemical substances in products.
2. Planning
 - 2.1 Definition of Management Criteria
 - Management criteria to be followed shall be clarified based on legislation and industry criteria related to management of chemical substances in products, and conveyed to related corporate units.

2.2 Definition of Scope of Management

- 'Organizations', 'business', 'chemical substances', 'constituent materials', 'processes', and 'products' etc shall be clarified as the scope of application of management criteria for chemical substances in products.

2.3 Establishment of Objectives & Planning for Implemented Processes

- Objectives and plans for management of chemical substances in products shall be prepared. Objectives and plans shall be revised as necessary.

2.4 Definition of Organizational System, Responsibility & Authority

- Rights and responsibilities for management of chemical substances in products shall be clarified.

3. Implementation & Management

3.1 Design and Development

3.1.1 Design for Manufacture of Substances/Preparations

- When manufacturing substances/preparations, information on chemical substances in raw materials shall be verified, and products and manufacturing processes shall be designed to satisfy management criteria. Specify specifications of purchased products if necessary.

3.1.2 Design for Manufacture of Articles Using Substances/Preparations

- When manufacturing articles from substances/preparations, information on chemical substances in raw materials shall be verified. Any possible changes in concentration and type of contained chemical substances in processes shall be understood. Furthermore, the product shall be verified as conforming to the management criteria.

3.1.3 Design for Manufacture of Articles Using Articles

- When manufacturing new articles from existing articles, information on chemical substances in articles (eg parts), and conformance of the product to the management criteria, shall be verified.

3.2 Purchase Management

3.2.1 Verification and Acquisition of Chemical Substances in Products Information

- Information on the chemical substances in purchased products (IN information) shall be acquired, verified that it contains the necessary details, and that it is compatible with the management criteria. For new products and changed products, acquisition and verification of information on chemical substances in products in accordance with the management criteria shall be complete prior to commencing mass production.

3.2.2 Verification of Supplier Management Status

- When selecting a new supplier, the status of management of chemical substances in the supplier's products shall be verified. When continuing with an existing supplier, reconfirmation shall be conducted as necessary. Measures for verification results shall be fixed. Supplier items to be verified, criteria, frequency, and method etc may be set in relation to risk level.

3.3 Acceptance Verification

- When accepting purchased products, such products shall be verified as compatible with company management criteria. Items to be verified, criteria, method, and frequency etc may be selected in relation to the risk level of the purchased products.

3.4 Process Management

3.4.1 Preventing Incorrect Use, Admixture, and Contamination

- Implementation of measures to prevent incorrect use, admixture and contamination of chemical substances shall be subject to management.

3.4.2 Appropriate Management of Reaction Processes

- Management shall ensure that residues do not remain, or are not created, when management criteria for chemical substances subject to management are exceeded, due to changes in constituents and concentrations.

3.4.3 Management of Sub-contractors

- Management of manufacturing sub-contractors shall be appropriate.

3.5 Shipping Verification

- Products shall be shipped after verification that all specified items have been checked, including cases of implementation during acceptance, or during a process.

3.6 Traceability

- Product traceability shall be reliable.

3.7 Change Control

- Rules for control of changes in management of chemical substances in products shall be determined, and the following details clarified.

(1) Elemental changes having possible effects on chemical substances in products.

Changes and additions in suppliers, changes in purchased items, and changes in processes etc (including changes not only in the company such as manufacturing conditions, molds, and jigs, but changes in sub-contractors etc).

(2) Company internal and external procedures.

Details to be verified, means of verification, approval processes etc.

(3) Methods of transmitting information inside and outside the company.

Recording changes, notification, identification information etc.

3.8 Non-conformity Response

- Rules for measures to deal with non-conforming products (emergency measures, determination of causes, preventing reoccurrence, horizontal deployment etc) shall be determined.

4. Management of Human Resources, Documentation, and Information

4.1 Training

- Details of training required for management of chemical substances in products, and related persons shall be identified and implemented.

4.2 Management of Documentation and Records

- Rules related to management of chemical substances in products shall be documented, maintained, and managed. Records of results of operation shall be prepared and stored appropriately.

4.3 Communication (Provision of Information)

- Information on chemical substances in products (OUT information) shall be provided appropriately to suppliers. Appropriate response shall be provided to enquiries on the management system for chemical substances in products.

5. Performance (State of Implementation) Evaluation and Improvement

- Status of management of chemical substances in products shall be verified periodically through an internal audit, and items requiring improvement shall be improved. Results of verification shall be reported to managers etc.

6. Management Review (Correction by Management)

- When the manager determines, from the results of an internal audit, that there are problems with non-conformance, improvements shall be implemented and reflected in the next objective.

Refer to the JGPSSI website for the “Guidelines for the Management of Chemical Substances in Products.”

<http://www.jgpssi.jp/>

D : Requirements Related to Performance of Parts and Materials

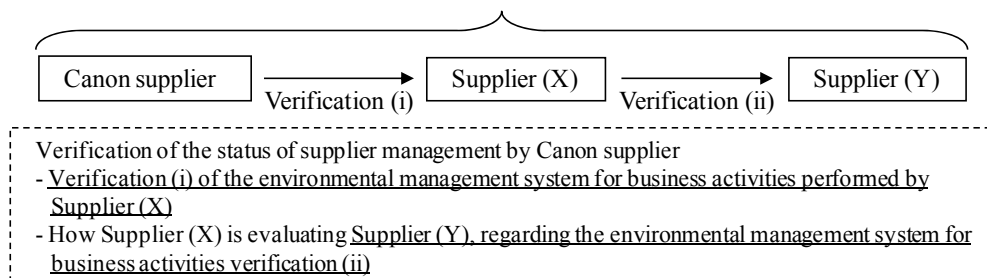
1. Management of product environmental impact substances
 - 1.1 Prohibited substances
 - None of the “2A and 3A Prohibited Substances” defined in the “List of Product Environmental Impact Substances” (Attachment 2) shall be contained in parts and materials delivered to Canon.
 - 1.2 Use-restricted substances
 - None of the “2B and 3B Use-restricted Substances” defined in the “List of Product Environmental Impact Substances” (Attachment 2) shall be contained in parts and materials delivered to Canon after a specified period.

2. Concerning the following chemical substances related to environmental information, when no inclusion is indicated in reply to parts & materials surveys or instructed in specifications (e.g., drawings, delivery specifications), these substances shall not be contained in parts and materials to be delivered to Canon:
 - Environmental label substances (Attachment 2 “2D Environmental label substances in plastic exterior enclosure members/cabinets for business machine products”)
 - Chemical substances for which Canon must comply with customer requirements
 - Chemical substances added according to changes in laws and regulations, as well as social trends.

8. Explanation of the Requirements

1. Requirements related to an environmental management system for business activities
 - (1) The “construction” of an environmental management system means to document who (“responsibilities”) should draw up guidelines and identify environmental aspects, etc., and how (“procedures”) these tasks should be carried out. The “operation” means to perform activities and keep records in accordance with the determined responsibilities and procedures. “Responsibilities” refer to responsible persons or organizations, such as a committee, etc.
 - (2) When the supplier has already constructed and operated a system such as ISO14001 and Eco Action 21, etc. and satisfied the “Requirements” stipulated in the Canon Green Procurement Standards, a new system need not be constructed.
 - (3) To promote global environmental conservation activities, all the suppliers in the supply chain must construct and operate environmental management systems designed to reduce environmental impact in business activities. For this reason, when a Canon supplier (including a trading company) selects or continues dealings with supplier (X), they have to ask this supplier (X) to operate the environmental management system, and verify the operation (Requirement A and B). The verification of supplier (X) includes a process to examine how supplier (X) is verifying the environmental management system performed by supplier (Y), who is in the upstream of the supply chain.

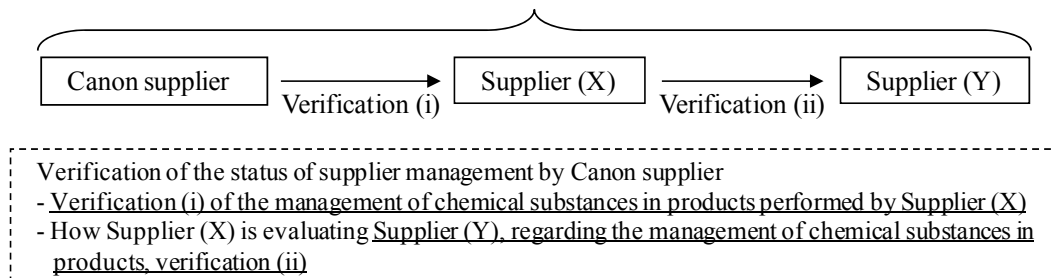
Implementation & operation of system for the environmental management system for business activities



2. Requirements related to the Management of Chemical Substances in Products

- (1) The “management of chemical substances in products” refers to a system that keeps track of and manages throughout the supply chain chemical substances contained in parts and materials delivered to Canon. This term also means systems established by suppliers to keep track of and manage chemical substances in parts and materials delivered to them from their own suppliers.
- (2) Refer to the “Guidelines for the Management of Chemical Substances in Products (Ver.2)” for the action items related to the management of chemical substances in products.
The “Action Details” provide descriptions common to the entire supply chain, with consideration given to varying businesses. When taking action, each company is asked to interpret each item in more specific terms in accordance with the “Additional Explanations” and their own situation.
- (3) The unit for managing chemical substances in products is an “organization,” which refers to a company, business group, operational site, and the like. The entire organization should be careful not to overlook any of the action items.
- (4) To ensure information on chemical substances in products, all the suppliers in the supply chain must implement and operate the management of chemical substances in products. For this reason, when a Canon supplier (including a trading company) selects or continues dealings with supplier (X), they have to ask this supplier (X) to operate the management of chemical substances in products, and verify the operation (Requirement C and D). The verification of supplier (X) includes a process to examine how supplier (X) is verifying the management of chemical substances in products performed by supplier (Y), who is in the upstream of the supply chain.

Implementation & operation of system for the management of chemical substances in products



- (5) Suppliers who have already constructed and operated a system such as ISO14001 or ISO9001, are recommended to make full use of their existing management systems.
- (6) Regarding parts and materials that constitute a product to be certified with an environmental label, the standards of the environmental label may prohibit or restrict the use of certain chemical substances, in addition to the product environmental impact substances. There are also chemical substances whose use is prohibited or restricted according to requests from Canon OEM clients.
For this reason, when a supplier indicates no inclusion of a chemical substance in reply to a parts and materials survey, the supplier shall continue not to use this substance. Suppliers who deliver such parts and materials to Canon may be instructed not to use concerned chemical substances by means of drawings, delivery specifications, etc.
- Example of an environmental label that specifies substances: Blue Angel standards that business machine products are designed to comply with (Attachment 2 “2D Environmental label substances in plastic exterior enclosure members/cabinets for business machine products”)

- Chemical substances to be managed in line with customer requirements: Parts used in LBP products (Attachment 2 “2E Prohibited substances in LBP parts (OEM specifications)”)

3. Notification to Canon

- (1) When an engineering change or a process change, etc. is to be made in the supply chain, notify Canon of the change in advance.
- (2) When either of the following occurs in the supply chain, Canon shall be notified immediately:
 - A public institution has ordered the person responsible for an operational site to take measures necessary for making improvement or imposed a penalty, regarding environment-related laws and regulations and other applicable legal requirements that are relevant to the operational site engaged in the development, production, and sales of parts and materials delivered to Canon.
 - Parts and materials delivered to Canon are found not to comply with “D: Requirements Related to Performance of Parts and Materials.”

9. Evaluation by Canon

(1) Supplier Environmental Evaluation

(1-1) Supplier environmental evaluation procedure

The following are the steps taken for a supplier environmental evaluation regarding “A: Environmental management system for business activities,” “B: Performance of business activities,” and “C: Management of chemical substances in products” shown in Figure 1. (See “Figure 2 Supplier Environmental Evaluation Flow” on page 15.)

- (a) Canon asks each supplier to perform a “self-evaluation” before dealing start. Suppliers are requested to submit the evaluation results at least once in two years after the start of dealings.
- (b) The supplier is requested to self-evaluate their activities with respect to the “Requirements” and submit the results of the self-evaluation using the following formats.
 - (1) Self-Evaluation Sheet (Format 1)
 - (2) Questionnaire on Current Situation (Format 2)

When suppliers have materials that include the same information as in the “Questionnaire on Current Situation”, etc., such materials may be attached to the “Questionnaire on Current Situation”.
 - (3) “Guidelines for the Management of Chemical Substances in Products (Ver.2) Action Item List & Check Sheet (Canon version)” (Format 3)
 - (4) Self-Declaration of Conformance

Submit the self-declaration of conformance, if issued in accordance with the “Guidelines for the Management of Chemical Substances in Products.”
 - (5) Validation Materials

In addition to the results of self-evaluation explained in (1) through (4), Canon may request suppliers to submit materials that will verify the construction and operation of an “environmental management system for business activities” and “system for management of chemical substances in products”.
- (c) Based on the results of self-evaluation submitted by suppliers, Canon evaluates whether the suppliers satisfy the requirements of “A: Environmental management system for business activities”, “B: Performance of business activities”, and “C: Management of chemical substances in products” shown in Figure 1 and makes a judgment.
- (d) The supplier will be notified of Canon's evaluation results.
- (e) Canon starts dealings with suppliers who satisfy the requirements stipulated in the Canon Green

Procurement Standards.

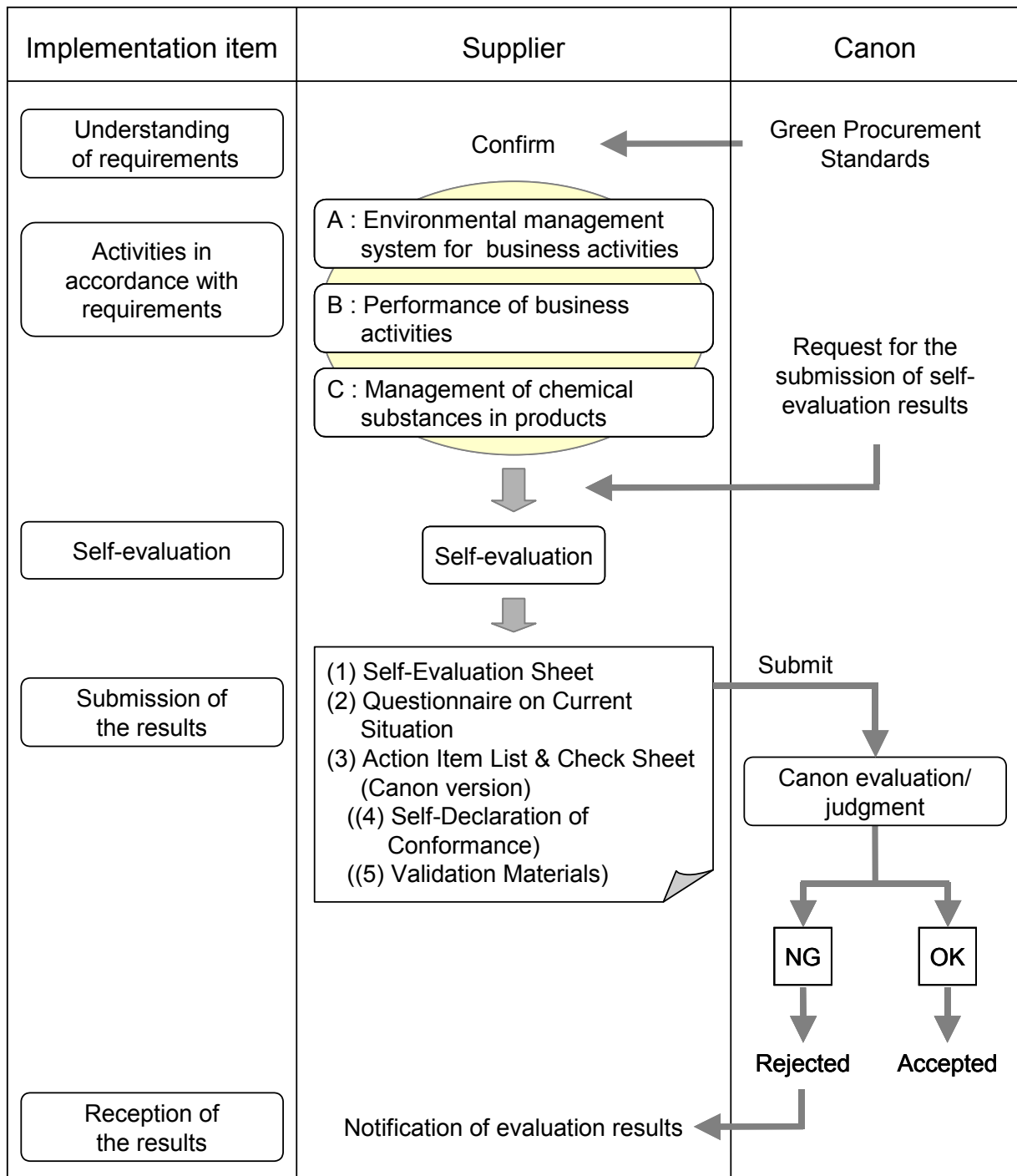


Figure 2 Supplier Environmental Evaluation Flow

(1-2) Suppliers concerned with “self-evaluation”**(a) Concerned companies**

Companies meeting either of the following conditions are concerned:

(1) Supplier (Supplier who does business directly with Canon)

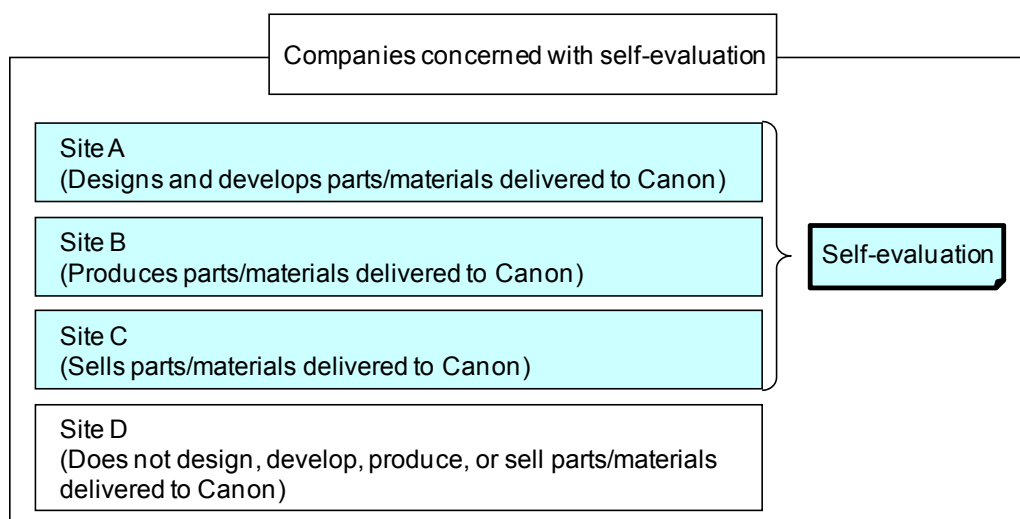
If the supplier is a trading company and currently unable to perform purchasing management in accordance with these Standards, the supplier takes the responsibility for checking the status of supplier management by manufacturers or subcontractor sites/plants that produce parts and materials delivered to Canon, and Canon provides for cooperation in this check for the time being.

(2) Companies operating throughout the supply chain

- Suppliers manufacturing parts and materials (e.g., resin material, sheet steel, or general-purpose electrical part, etc.) specified by Canon
- Specific companies designated by Canon to consign processing works, etc.

(b) Concerned sites and plants

All the sites and plants that design, develop, produce, or sell parts and materials delivered to Canon are concerned.



Regarding the evaluation of “C: Management of chemical substances in products” in Figure 1, if the management of chemical substances in products does not complete within one site (plant), all the concerned sections outside the site (plant) are also subjected to the evaluation.

Example: When a site (plant) has only manufacturing sections and headquarters sections (parent company) select raw materials to be designed and used, the headquarters sections (parent company) are also subject to the evaluation.

When the same system for the management of chemical substances in products is developed and implemented, an evaluation may be performed for the entire group.

(2) Parts and Materials Evaluation

(2-1) Parts and materials evaluation procedures

The followings are the procedures of evaluation to be performed on each part and material concerning “D: Performance of parts and materials” shown in Figure 1. (See “Figure 3 Parts and Materials Evaluation Flow” on page 18.)

- (a) Suppliers are asked to survey in advance information on product environmental impact substances in parts and materials delivered to Canon.
- (b) Canon requests each supplier to submit answers of parts and materials survey.
- (c) Suppliers are requested to submit answers of parts and materials survey using the formats (1) or (2). In addition, suppliers may be asked to submit the documents of (1) and (2) else if necessary.

(1) “JGP File”

As a rule, Canon will request surveys on all purchased parts and materials, using the format specified by JGPSSI. Suppliers are recommended to use survey tools (software) provided by JGPSSI for data entry. For the operating manual, refer to the JGPSSI website (<http://www.jgpssi.jp/>).

(2) “Canon's Additional Survey Form”

This survey form will be used to find information required in the following cases, separately from the product environmental impact substances specified in the JGP File. Canon will request surveys as needed.

- Product environmental impact substances specified in these Standards but not in the JGP File
- When material information, chemical substance information, etc. related to eco-label certification is necessary

Examples of required information: environmental label substances in resin covers and casing of business machine products certified by Eco Mark or Blue Angel

- When surveys are necessary to comply with environmental laws and regulations for substances in packaging materials, batteries, and other specific applications.
- When a need arises to obtain environmental information judged necessary according to social trends and changes in laws and regulations
- When measures must be taken to respond to customer requests, etc.

For the detailed method of reply, refer to the “Canon Survey Form Entry Manual” (in Japanese, English, and Chinese) issued separately by Canon.

As of July 2011, Canon conducts parts and materials surveys of packaging using forms (1) and (2).

The survey method will be reviewed in the future. For the time being, suppliers are asked to duly respond to parts and materials surveys using forms (1) and (2).

- (d) Canon will make a judgment based on the answered parts and materials survey and only purchase parts and materials that satisfy the requirements.
- (e) When an engineering change or a process change, etc. is to be made, notify Canon of the change in advance. When such a change is likely to alter answers of parts and materials survey, Canon will re-examine the contained chemical substances and re-evaluate product performance.

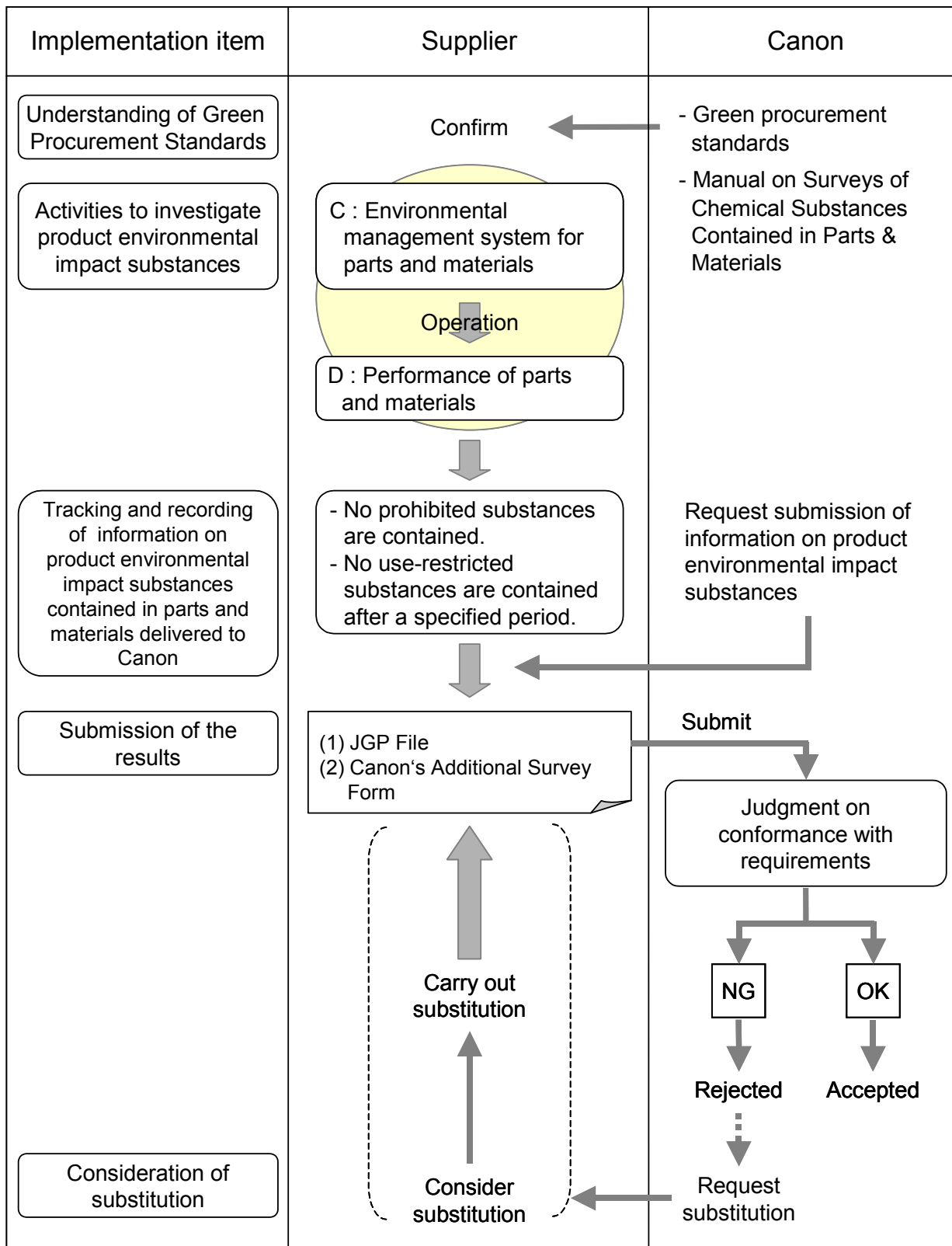


Figure 3 Parts and Materials Evaluation Flow

10. Handling of Information

Information provided by suppliers for the purpose of the management of chemical substances in products will be shared only within the Canon group. Canon may use information provided by suppliers on the product environmental impact substances in delivered parts and materials, and disclose this information, excluding personal information, as part of Canon-product-related information to third parties, for the purpose of communicating information in the supply chain and disclosing information to customers, etc.

Suppliers who find inconvenience in the information disclosure are asked to contact Canon.

11. Acknowledgement of revisions

The following changes have been made to the handling of the “Canon Green Procurement Standards—Acknowledgement of Revision*” which Canon requested suppliers to submit each times the Standards were revised.

When revisions (1) and/or (2) are made, suppliers having direct dealings with Canon will be asked to submit the “Canon Green Procurement Standards—Acknowledgement of Revision*”. When revisions (3), (4), and/or (5) are made, suppliers need not submit the “Canon Green Procurement Standards—Acknowledgement of Revision*” but must comply with the Standards including all revisions.

- (1) Revisions of the requirements
- (2) Revisions pertaining to “1A Prohibited substances,” “2A Prohibited substances,” “2B Use-restricted substances” (prohibition to be placed within one year), “3A Prohibited substances in packaging materials”, “3B Use-restricted substances in packaging materials” (within one year prior to the date of prohibition).
- (3) Revisions pertaining to “1B Substances targeted for reduced levels of use”, “1C Controlled substances”, “2B Use-restricted substances” (prohibition to be placed one year or more later), “2C Controlled substances,” “3C Controlled substances in packaging materials”
- (4) Revision of supplements for the requirements
- (5) Corrections of typos

* Suppliers are asked to submit this document to acknowledge reception of (and compliance with) the revised Standards when revisions are made.

12. Starting Date for Application

The Canon Green Procurement Standards shall start to be applied from October 1, 2011.

History of Revisions

No.	Date	Revision
Ver.1.0	Sep. 1997	Established
Ver.2.0	Apr. 2002	Overall revision
Ver.2.1	Jun. 2002	Correction of errors
Ver.3.0	Aug. 2003	Overall revision
Ver.3.1	Sep. 2005	<ul style="list-style-type: none"> - Changes related to the chemical substance lists “Environmental impact substances contained in parts and materials” are renamed as “product environmental impact substances.” Similarly, “environmental impact substances used in development, production and sales” are renamed as “production environmental impact substances.” The List of Product Environmental Impact Substances is altered. “Environmental label substances used in plastic enclosure members/cabinets for business machine products” and “additional controlled substances in packaging materials” are added to the List of Product Environmental Impact Substances. - Changes related to operation The “Excellent green suppliers” system and “Guidelines” have been abolished. Formats of Appendix 1 “Self-Evaluation Sheet” and Appendix 2 “Questionnaire on Current Situation” are changed. - Others The entire standards are reconfigured to make the contents easy to read. The requirements are defined clearly, with explanations added. The revision number is printed in the document header along with modifications made to the document structure. Supplementary materials (examples of the management of product environmental impact substances) are attached.
Ver.3.2	May 2006	<ul style="list-style-type: none"> - Changes in “List of Product Environmental Impact Substances” - The latest official journal for RoHS directives has been reflected. (Addition of exempted items, etc.) - Prohibited substances for packaging materials of Canon products have been added. (Packaging materials for parts delivery were exempted.)
Ver.4.0	Aug. 2006	<ul style="list-style-type: none"> - Changes in the requirements related to the environmental management system for parts and materials The “Guidelines for the Management of Chemical Substances in Products” formulated in September 2005 by the Japan Green Procurement Survey Standardization Initiative (JGPSSI) have been adopted as the requirements for the “environmental management system for parts and materials.” - The wording of the requirements for the “environmental management system for business activities” has been changed partly. (The contents of the requirements remain unchanged.) - Addition of prohibited substances related to packaging materials
Ver.4.0a	Jan. 2007	- Correction of errors in writing (Page27)
Ver.5.0	Feb. 2008	<ul style="list-style-type: none"> - Revision to Attachment 1 “List of Production Environmental Impact Substances” We updated our list of prohibited substances to remain in alignment with the latest regulations in this area. - Revision to Attachment 2 “List of Product Environmental Impact Substances” Addition of 2A Prohibited substances Addition of 2B Use-restricted substances We revised exempted items and the scope of prohibited substances. - Correction of errors in writing
Ver.5.1	Oct. 2008	<ul style="list-style-type: none"> - Attachment 2 “List of Product Environmental Impact Substances” Exempted items added to “3A: Prohibited substances in package materials.” Exempted items added to “3B: Use-restricted substances in packaging materials.” Description added to “3. Impurities” in Definitions of Terms. - Correction of errors in writing

Ver.6.0	Aug. 2009	<ul style="list-style-type: none"> - Integration of the “Parts and Materials” Edition and the “Accessory Materials for Sales Activities” Edition - The requirements for the management of chemical substances in products have been changed to those specified in the “Guidelines for the Management of Chemical Substances in Products (Ver.2).” - No inclusion of chemical substances related to environmental information has been added as a requirement for the performance of parts and materials. - Addition of a description about information disclosure to third parties - Revision to Attachment 1 “List of Production Environmental Impact Substances” <ul style="list-style-type: none"> Addition to 1A Prohibited substances Addition to and deletion from 1C Controlled substances - Revision to Attachment 2 “List of Product Environmental Impact Substances” <ul style="list-style-type: none"> Addition to 2A Prohibited substances The former “3A Prohibited substances in packaging materials” have been included the scope of “2A Prohibited substances,” “3B Use-restricted substances in packaging materials” in the scope of “2B Use-restricted substances,” and “3C Controlled substances in packaging materials” in the scope of “2C Controlled substances.” Regarding packaging, “3A Prohibited substances in packaging materials” have been added as substances to be prohibited in addition to “2A Prohibited substances.” 2A-1 Expiration of the Exempted Applications of Heavy Metals Restricted by RoHS Directives <ul style="list-style-type: none"> Addition to and deletion from 2C Controlled substances Addition of “2E Prohibited substances in LBP parts (OEM specifications)” - Addition of Format 3 “Guidelines for the Management of Chemical Substances in Products (Ver.2), Action Item List & Check Sheet” - Others <ul style="list-style-type: none"> Addition of explanations about the requirements Correction of the Self-Evaluation Sheet Wording changes
Ver.6.01	Dec. 2009	<ul style="list-style-type: none"> - Correction of errors in writing <ul style="list-style-type: none"> 2-(2'-Hydroxy-3',5'-di-tert-butylphenyl)-5-benzotriazole have been corrected as 2-(2'-Hydroxy-3',5'-di-tert-butylphenyl)benzotriazole on Page 23-34 and Page 44-18. Revised the range in application of 2C Controlled substances to controlled from prohibited.
Ver.7.0	Sep. 2010	<ul style="list-style-type: none"> - Specification of the construction and operation of environmental management systems for business activities throughout the supply chain - Change made to the entity subject to self-evaluation when the supplier is a trading company - Revision to Attachment 1 “List of Production Environmental Impact Substances” <ul style="list-style-type: none"> Addition to 1A Prohibited substances - Revision to Attachment 2 “List of Product Environmental Impact Substances” (in line with the revision of JIG-101 Ed3.1) <ul style="list-style-type: none"> Review on the applicable range Changes made to the intentional use of 2A Prohibited substances to obtain consistency with JIG Review of 2A-1 “Exempted Applications of Heavy Metals Restricted by RoHS Directives” <ul style="list-style-type: none"> Addition to 2B Use-restricted substances Addition to 2C Controlled substances - Formats 1, 2, and 3 have been separated from these Standards. - Wording changes

Ver.8.0	Jul. 2011	<ul style="list-style-type: none"> - Changes made in line with the issue of JIG-201: The Scope has been divided into “Products” and “Packaging”. Attachment 2 “List of Product Environmental Impact Substances” has been divided into two parts - “Products” and “Packaging”. - Addition of explanations about “production environmental impact substances” and “product environmental impact substances” - Addition of “Acknowledgement of revisions” - Definitions of Terms, previously in Attachment 2 “List of Product Environmental Impact Substances,” moved to the Standards. - Revision to Attachment 2 “List of Product Environmental Impact Substances” <p>[Products]</p> <ul style="list-style-type: none"> Addition to 2A Prohibited substances Addition to 2C Controlled substances <p>[Packaging]</p> <ul style="list-style-type: none"> Addition to and deletion from 3A Prohibited substances in packaging materials Addition to and deletion from 3C Controlled substances in packaging materials
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Documentation, survey sheets and other materials related to green procurement is available for download from the following address:

English (English and Chinese)

<http://www.canon.com/procurement/green.html>

Japanese (English, Japanese and Chinese)

<http://web.canon.jp/procurement/green.html>

Inquiries: Operational site of Canon

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Attachment 1 List of Production Environmental Impact Substances

This Attachment 1 makes a list of management criteria for the production environmental impact substances specified in the Canon Green Procurement Standards. The management criteria specified in the “List of Production Environmental Impact Substances” should be satisfied in the process of development, production, and sales of parts and materials delivered to Canon.

1A	Prohibited Substances.....	25
1B	Substances Targeted for Reduced Levels of Use.....	26
1C	Controlled Substances.....	27

Attachment 1 List of Production Environmental Impact Substances

1A Prohibited Substances (Chemical substances prohibited to be used in the process of development, production, or sales of parts and materials delivered to Canon.)

1A-1 Specific Substances and Designated Substances Stipulated in the Ozone Layer Protection Law		
No.	CAS.No.	Substance
1	-	CFC
2	-	Halon
3	56-23-5	Carbon tetrachloride
4	71-55-6	1,1,1-Trichloroethane
5	-	HCFC
6	-	HBFC
7	74-97-5	Bromochloromethane
8	74-83-9	Methyl bromide
1A-2 Prohibited Substances for Preventing Soil Contamination (Canon Standards)		
No.	CAS.No.	Substance
(3)	56-23-5	Carbon tetrachloride
9	107-06-2	1,2-Dichloroethane
10	75-35-4	Vynilidene (di)chloride
11	156-59-2	Cis-1,2-Dichloroethylene
12	542-75-6	1,3-dichloropropene
13	75-09-2	Dichloromethane
14	127-18-4	Tetrachloroethylene
(4)	71-55-6	1,1,1-Trichloroethane
15	79-00-5	1,1,2-Trichloroethane
16	79-01-6	Trichloroethylene
17	71-43-2	Benzene
1A-3 Specific Dusts of the Air Pollution Control Law		
No.	CAS.No.	Substance
18	-	Asbestos
1A-4 Class 1 Specific Chemical Substances of Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances		
No.	CAS.No.	Substance
19	-	PCB
20	-	Polychlorinated naphthalene (3 or more chlorine atoms)
21	118-74-1	Hexachlorobenzene
22	309-00-2	Aldrin
23	60-57-1	Dieldrin
24	72-20-8	Endrin
25	50-29-3	DDT
26	-	Chlordane
27	56-35-9	Bis(tributyltin) oxide
28	-	N,N'-ditolyl-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine, N,N'-dixylyl-p-phenylenediamine
29	732-26-3	2,4,6-Tri-tert-butylphenol
30	8001-35-2	Toxaphene
31	2385-85-5	Mirex
32	115-32-2	Dicofol
33	87-68-3	Hexachlorobuta-1,3-diene
34	3846-71-7	2-(2'-Hydroxy-3',5'-di-tert-butylphenyl)benzotriazole
35	-	Perfluoro(octane-1-sulfonic acid) ^{a)} (PFOS)
36	307-35-7	Perfluorooctane-1-sulfonyl fluoride (PFOSF)

1A Prohibited Substances (continued)

1A-4 Class 1 Specific Chemical Substances of Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances (continued)		
No.	CAS.No.	Substance
37	608-93-5	Pentachlorobenzene
38	319-84-6	(1alpha,2alpha,3beta,4alpha,5beta,6beta)-1,2,3,4,5,6-hexachlorocyclohexane
39	319-85-7	(1alpha,2beta,3alpha,4beta,5alpha,6beta)-1,2,3,4,5,6-hexachlorocyclohexane (Beta-HCH)
40	58-89-9	Lindane
41	143-50-0	Chlordecone (Kepone)
42	-	Hexabromobiphenyl
43	-	Diphenyl ether, tetrabromo derivative
44	-	Benzene, 1,1'-oxybis-, pentabromo deriv
45	-	Diphenyl ether, hexabromo derivative
46	-	Diphenyl ether, heptabromo derivative
Note ^{a)} Perfluoro(octane-1-sulfonic acid) (PFOS) or its salt may be used for the following applications: - Manufacture of etching agents (limited to those used in the manufacture of compound semiconductors that enable piezoelectric filters or radio devices to transmit/receive a frequency of 3 MHz or above) - Manufacture of resist for semiconductors - Manufacture of industrial-use photo films		
1A-5 Substances Prohibited from being Manufactured		
No.	CAS.No.	Substance
47	-	Tetraphosphorus
48	-	Benzidine and its salts
49	-	4-Aminobiphenyl and its salts
(18)	-	Asbestos
50	-	4-Nitrobiphenyl and its salts
51	-	Bis(chloromethyl) ether
52	-	β -Naphthylamine and its salts
53	-	Rubber cement containing benzene (benzene:>5v/v%)

1B Substances Targeted for Reduced Levels of Use (Chemical substances targeted for reduced levels of use in the process of development, production, or sales of parts and materials delivered to Canon.)

No relevant substances (No substances are designated as of July 2011, but substances may be designated according to social trends in future.)		
No.	CAS.No.	Substance
-	-	-

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (Chemical substances requiring tracking of their absence/presence and quantities of use in the process of development, production, or sales of parts and materials delivered to Canon.)

1C-1 PRTR Class 1 Chemical Substances (of Japan)		
No.	CAS.No.	Substance
54	-	Zinc compounds (water soluble)
55	79-06-1	Acrylamide
56	140-88-5	ethyl acrylate
57	-	Acrylic acid and its water-soluble salts
58	2439-35-2	2-(Dimethylamino) ethyl acrylate
59	818-61-1	2-hydroxyethyl acrylate
60	141-32-2	n-butyl acrylate
61	96-33-3	Methyl acrylate
62	107-13-1	Acrylonitrile
63	107-02-8	Acrolein
64	26628-22-8	sodium azide
65	75-07-0	Acetaldehyde
66	75-05-8	Acetonitrile
67	75-86-5	acetone cyanohydrin
68	83-32-9	acenaphthene
69	78-67-1	2,2'-Azobisisobutyronitrile
70	90-04-0	<i>o</i> -anisidine
71	62-53-3	aniline
72	82-45-1	1-amino-9,10-anthraquinone
73	141-43-5	2-aminoethanol
74	1698-60-8	5-amino-4-chloro-2-phenylpyridazin-3(2H)-one (chloridazon)
75	120068-37-3	5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-3-cyano-4-[(trifluoromethyl) sulfinyl]pyrazole
76	123-30-8	<i>p</i> -aminophenol
77	591-27-5	<i>m</i> -aminophenol
78	21087-64-9	4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin)
79	107-11-9	3-amino-1-propene
80	41394-05-2	4-amino-3-methyl-6-phenyl-1,2,4-triazin-5(4H)-one (metamitron)
81	107-18-6	Allyl alcohol
82	106-92-3	1-allyloxy-2,3-epoxypropane
83	-	n-alkylbenzenesulfonic acid and its salts (alkyl C=10-14)
84	-	Antimony and its compounds
85	120-12-7	Anthracene
86	4098-71-9	3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
87	78-84-2	isobutyraldehyde
88	78-79-5	Isoprene
89	80-05-7	4,4'-isopropylidenediphenol (Bisphenol A)
90	4162-45-2	2,2'-{Isopropylidenebis[(2,6-dibromo-4,1-phenylene)oxy]} diethanol
91	22224-92-6	O-ethyl-O-(3-methyl-4-methylthiophenyl) N-isopropylaminophosphonate (fenamiphos)
92	149877-41-8	isopropyl 2-(4-methoxybiphenyl-3-yl)hydrazinofornate (bifenazate)
93	66332-96-5	3'-isopropoxy-2-trifluoromethylbenzanilide (flutolanil)
94	96-45-7	2-imidazolidinethione
95	13516-27-3	1,1'-[iminodi(octamethylene)]diguandine (Iminoctadine)
96	-	indium and its compounds

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
97	75-08-1	Ethanethiol
98	76578-14-8	Ethyl 2-[4-(6-chloro-2-quinoxanyloxy)phenoxy]propionate
99	36335-67-8	O- ethylO-(6-nitro-m-tolyl)sec-butylphosphoramidothioate (Butamifos)
100	2104-64-5	O- ethylO-4-nitrophenylphosphonothioate (EPN)
101	40487-42-1	Pendimethalin
102	2212-67-1	Molinate
103	149-57-5	2-ethylhexanoic acid
104	83130-01-2	Ethyl (Z)-3-[N-benzyl-N-[[methyl(1-methylthioethylideneaminooxycarbonyl)amino]thio]amino]propionate (alanycarb)
105	100-41-4	Ethylbenzene
106	98886-44-3	O-ethyl S-1-methylpropyl (2-oxo-3-thiazolidinyl)phosphonothioate (fosthiazate)
107	151-56-4	ethyleneimine
108	75-21-8	Ethylene oxide
109	110-80-5	Ethylene glycol monoethyl ether
110	109-86-4	Ethylene glycol monomethyl ether
111	107-15-3	Ethylenediamine
112	60-00-4	Ethylenediaminetetraacetic acid
113	12427-38-2	Maneb
114	8018-01-7	mancozeb
115	85-00-7	1,1'-ethylene-2,2'-bipyridinium dibromide
116	80844-07-1	2-(4-ethoxyphenyl)-2-methylpropyl 3-phenoxybenzyl ether (etofenprox)
117	106-89-8	Epichlorohydrin
118	106-88-7	1,2-epoxybutane
119	556-52-5	2,3-Epoxy-1-propanol
120	75-56-9	Propylene oxide
121	122-60-1	2,3-Epoxypropyl phenyl ether
122	155569-91-8	emamectin benzoate (mixture of emamectinB1a benzoate and emamectinB1b benzoate)
123	7705-08-0	ferric chloride
124	85535-84-8	chlorinated paraffin (C=10-13)
125	111-87-5	1-Octanol
126	1806-26-4	<i>p</i> -Octylphenol
127	-	Cadmium and its compounds
128	105-60-2	ϵ -Caprolactam
129	156-62-7	calcium cyanamide
130	105-67-9	2,4-xylenol
131	576-26-1	2,6-Xylenol
132	1330-20-7	Xylene
133	91-22-5	quinoline
134	-	Silver and its compounds (water soluble)
135	98-82-8	cumene
136	107-22-2	Glyoxal
137	111-30-8	Glutaraldehyde
138	1319-77-3	Cresol
139	-	Chromium and chromium (III) compounds
140	-	Chromium(VI) compounds
141	-	Chloroaniline
142	1912-24-9	Atrazine
143	21725-46-2	2-(4-chloro-6-ethylamino-1,3,5-triazin-2-yl)amino-2-methylpropionitrile (cyanazine)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
144	129558-76-5	4-chloro-3-ethyl-1-methyl-N-[4-(p-tolyloxy)benzyl]pyrazole-5-carboxamide (tolfenpyrad)
145	51218-45-2	2-Chloro-2'-ethyl-N-(2-methoxy-1-methylethyl)-6'-methylacetanilide
146	75-01-4	Vinyl chloride [monomer only]
147	79622-59-6	3-Chloro-N-(3-chloro-5-trifluoromethyl-2-pyridyl)- α,α,α -trifluoro-2,6-dinitro-p-toluidine
148	119446-68-3	1-[[2-[2-Chloro(4-chlorophenoxy)phenyl]-4-methyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazol
149	611-19-8	1-chloro-2-(chloromethyl)benzene
150	79-11-8	Chloroacetic acid
151	105-39-5	ethyl chloroacetate
152	51218-49-6	Pretilachlor
153	15972-60-8	Alachlor
154	97-00-7	1-Chloro-2,4-dinitrobenzene
155	7085-19-0	(RS)-2-(4-chloro-o-tolyloxy)propionic acid (mecoprop)
156	95-49-8	<i>o</i> -Chlorotoluene
157	106-43-4	<i>p</i> -chlorotoluene
158	121-87-9	2-chloro-4-nitroaniline
159	88-73-3	2-chloronitrobenzene
160	122-34-9	Simazine
161	133220-30-1	(RS)-2-[2-(3-chlorophenyl)-2,3-epoxypropyl]-2-ethylindane-1,3-dione (indanofan)
162	158237-07-1	4-(2-chlorophenyl)-N-cyclohexyl-N-ethyl-4,5-dihydro-5-oxo-1H-tetrazole-1-carboxamide (fentrazamide)
163	78587-05-0	(4RS,5RS)-5-(4-chlorophenyl)-N-cyclohexyl-4-methyl-2-oxo-1,3-thiazolidine-3-carboxamide (hexythiazox)
164	107534-96-3	(RS)- 1-p-chlorophenyl-4,4-dimethyl-3--(1H-1,2,4-triazol-1-ylmethyl)pentan-3-ol (tebuconazole)
165	88671-89-0	2-(4-chlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)hexanenitrile (myclobutanil)
166	114369-43-6	(RS)-4-(4-chlorophenyl)-2-phenyl-2-(1H-1,2,4-triazol-1-ylmethyl)butyronitrile (fenbuconazole)
167	95-57-8	<i>o</i> -chlorophenol
168	106-48-9	<i>p</i> -chlorophenol
169	598-78-7	2-chloropropionic acid
170	107-05-1	Allyl chloride
171	99485-76-4	1-(2-chlorobenzyl)-3-(1-methyl-1-phenylethyl)urea (cumyluron)
172	108-90-7	Chlorobenzene
173	67-66-3	Chloroform
174	74-87-3	Methyl chloride
175	59-50-7	4-chloro-3-methylphenol
176	94-74-6	(4-Chloro-2-methylphenoxy) acetic acid
177	563-47-3	3-chloro-2-methyl-1-propene
178	-	Cobalt and its compounds
179	111-15-9	Ethylene glycol monoethyl ether acetate
180	108-05-4	Vinyl acetate
181	110-49-6	Ethylene glycol monomethyl ether acetate
182	90-02-8	Salicylaldehyde
183	420-04-2	cyanamide
184	139920-32-4	(RS)-2-cyano-N-[(R)-1-(2,4-dichlorophenyl)ethyl]-3,3-dimethylbutyramide (diclocymet)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
185	66841-25-6	(S)-alpha-cyano-3-phenoxybenzyl (1R,3S)-2,2-dimethyl-3-(1,2,2,2-tetrabromoethyl)cyclopropanecarboxylate (tralomethrin)
186	39515-41-8	(RS)-alpha-cyano-3-phenoxybenzyl 2,2,3,3-tetramethylcyclopropanecarboxylate (fenpropathrin)
187	57966-95-7	trans-1-(2-cyano-2-methoxyiminoacetyl)-3-ethylurea (cymoxanil)
188	615-05-4	2,4-diaminoanisole
189	101-80-4	4,4'-diaminodiphenyl ether
190	-	Inorganic cyanogen compounds(except complex salts and cyanate)
191	100-37-8	2-(Diethylamino) ethanol
192	29232-93-7	O-2-diethylamino-6-methylpyrimidin-4-yl O,O-dimethyl phosphorothioate (pirimiphos-methyl)
193	28249-77-6	S-4-chlorobenzylN,N-diethylthiocarbamate (Thiobencarb)
194	125306-83-4	N, N-Diethyl-3-(2,4,6-trimethylphenylsulfonyl)-1H-1,2,4-triazol-1-carboxamide (cafenstrole)
195	123-91-1	1,4-Dioxane
196	646-06-0	1,3-dioxolane
197	15263-53-3	1,3-dicarbamoylthio-2-(N,N-dimethylamino)-propane (cartap)
198	7696-12-0	cyclohex-1-ene-1,2-dicarboximidomethyl (1RS)-cis-trans-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate (tetramethrin)
199	108-91-8	Cyclohexylamine
200	17796-82-6	N-(cyclohexylthio)phthalimide
201	-	Dichloroaniline
202	101-14-4	3,3'-dichloro-4,4'-diaminodiphenylmethane
203	23950-58-5	Propyzamide
204	95-73-8	2,4-dichlorotoluene
205	99-54-7	1,2-dichloro-4-nitrobenzene
206	89-61-2	1,4-Dichloro-2-nitrobenzene
207	36734-19-7	3-(3,5-dichlorophenyl)-N-isopropyl-2,4-dioximidazolidine-1-carboxamide (iprodione)
208	330-54-1	3-(3,4-Dichlorophenyl)-1,1-dimethylurea
209	112281-77-3	(RS)-2-(2,4-dichlorophenyl)-3-(1H-1,2,4-triazol-1-yl)propyl 1,1,2,2-tetrafluoroethyl ether (tetraconazole)
210	60207-90-1	mixture of (2RS,4RS)-1-[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-ylmethyl]-1H-1,2,4-triazole and (2RS,4SR)-1-[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-ylmethyl]-1H-1,2,4-triazole (propiconazole)
211	153197-14-9	3-[1-(3,5-dichlorophenyl)-1-methylethyl]-3,4-dihydro-6-methyl-5-phenyl-2H-1,3-oxazin-4-one (oxaziclomefone)
212	50471-44-8	(RS)-3-(3,5-dichlorophenyl)-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione (vinclozolin)
213	330-55-2	3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea
214	94-75-7	2,4-Dichlorophenoxyacetic acid
215	78-87-5	1,2-Dichloropropane
216	91-94-1	3,3'-Dichlorobenzidine
217	-	Dichlorobenzene
218	71561-11-0	2-[4-(2,4-Dichlorobenzoyl)-1,3-dimethyl-5-pyrazolyloxy] acetophenone

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
219	1194-65-6	4-(2,4-Dichlorobenzoyl)-1,3-dimethyl-5-pyrazolyl 4-toluenesulfonate
220	58011-68-0	2,6-Dichlorobenzonitrile
221	3347-22-6	2,3-Dicyano-1,4-dithiaanthraquinone
222	101-83-7	N,N-dicyclohexylamine
223	4979-32-2	N,N-dicyclohexyl-2-benzothiazolesulfenamide
224	77-73-6	dicyclopentadiene
225	50512-35-1	Isoprothiolane
226	17109-49-8	O-ethyl S,S-dyphenyl phosphorodithioate
227	298-04-4	O,O-diethyl-S-2-(ethylthio)ethyl phosphorodithioate
228	2310-17-0	O,O-diethyl-S-(6-chloro-2,3-dihydro-2-oxobenzoxazoliny)methyl (phosphorodithioate)
229	34643-46-4	O-2,4-Dichlorophenyl-O-ethyl-S-propyl dithiophosphate
230	950-37-8	S-(2,3-dihydro-5-methoxy-2-oxo-1,3,4- thiaziazolin-3-yl)methyl O,O-dimethylphosphorodithioate
231	121-75-5	Malathon
232	60-51-5	Dimethoate
233	16090-02-1	disodium 2,2'-vinylenebis[5-(4-morpholino-6-anilino-1,3,5-triazin-2-ylamino) benzenesulfonate] (C.I. Fluorescent 260)
234	25321-14-6	Dinitrotoluene
235	51-28-5	2,4-Dinitrophenol
236	1321-74-0	divinylbenzene
237	122-39-4	Diphenylamine
238	101-84-8	diphenyl ether
239	102-06-7	1,3-diphenylguanidine
240	55285-14-8	Carbosulfan
241	128-37-0	2,6-di-tert-butyl-4-cresol
242	96-76-4	2,4-di-tert-butylphenol
243	124-48-1	dibromochloromethane
244	10222-01-2	2,2-dibromo-2-cyanoacetamide
245	30560-19-1	(RS)-O,S-dimethyl acetylphosphoramidothioate (acephate)
246	127-19-5	N,N-dimethylacetamide
247	95-68-1	2,4-dimethylaniline
248	87-62-7	2,6-Dimethylaniline
249	121-69-7	N,N-dimethylaniline
250	31895-21-3	5-dimethylamino-1,2,3-trithiane (thiocyclam)
251	124-40-3	dimethylamine
252	624-92-0	dimethyl disulfide
253	-	water-soluble salts of dimethyldithiocarbamic acid
254	82560-54-1	2,2-dimethyl-2,3-dihydro-1-benzofuran-7-yl N-[N-(2-ethoxycarbonyl)ethyl]-N-isopropylsulfenamoyl]-N-methylcarbamate (benfuracarb)
255	62850-32-2	S-4-Phenoxybutyl N,N-dimethylthiocarbamate (phenothiocarb)
256	112-18-5	N,N-dimethyldodecylamine
257	1643-20-5	N,N-Dimethyldodecylamine-N-oxide
258	52-68-6	dimethyl 2,2,2-trichloro-1- hydroxyethyl phosphonate
259	57-14-7	1,1-dimethylhydrazine
260	1910-42-5	1,1'-Dimethyl-4,4'-dipyridinium dichloride
261	91-97-4	3,3'-dimethylbiphenyl-4,4'-diyl diisocyanate
262	23564-05-8	dimethyl 4,4'-(o-phenylene)bis(3-thioallophanate) (thiophanate-methyl)
263	793-24-8	N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
264	119-93-7	<i>o</i> -Tolidine
265	68-12-2	N,N-dimethylformamide
266	2597-03-7	ethyl 2-[(dimethoxyphosphinothioyl)thio]-2-phenylacetate (phenthoate;PAP)
267	7726-95-6	bromine
268	-	water-soluble salts of bromic acid
269	3861-47-0	3,5-Diiodo-4-octanoyloxybenzotrile
270	-	Mercury and its compounds
271	61788-32-7	hydrogenated terphenyl
272	-	Organic tin compounds
273	100-42-5	Styrene [monomer only]
274	4016-24-4	sodium salt of 2-sulfohexadecanoic acid 1-methyl ester
275	-	Selenium and its compounds
276	-	dioxins
277	533-74-4	2-Thio-3,5-dimethyltetrahydro-1,3,5-thiadiazine (dazomet)
278	62-56-6	Thiourea
279	108-98-5	Thiophenol
280	77458-01-6 (89784-60-1)	Pyraclofos (including both optical isomers)
281	333-41-5	Diazinon
282	2921-88-2	Chlorpyrifos
283	18854-01-8	Isoxathone
284	122-14-5	Fenitrothion
285	55-38-9	O,O-dimethylO -3-methyl-4-(methylthio)phenyl phosphorothioate (fenthion;MPP)
286	41198-08-7	O-4-Bromo-2-chlorophenyl-O-ethyl-S-propylphosphorothioate (profenofos)
287	26087-47-8	Iprobenphos
288	1163-19-5	Decabromodiphenyl ether
289	334-48-5	decanoic acid
290	112-30-1	decyl alcohol (decanol)
291	100-97-0	1,3,5,7-Tetrazatricyclo[3.3.1.1 ^{3,7}]decane
292	97-77-8	tetraethylthiuram disulfide (disulfiram)
293	1897-45-6	Chlorothalonil
294	27355-22-2	4,5,6,7-tetrachloroisobenzofuran-1(3H)-one (phthalide)
295	118-75-2	2,3,5,6-tetrachloro-p-benzoquinone
296	11070-44-3	Tetrahydromethylphthalic anhydride
297	79538-32-2	2,3,5,6-tetrafluoro-4-methylbenzyl (Z)-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate (tefluthrin)
298	59669-26-0	3,7,9,13-tetramethyl-5,11-dioxa-2,8,14-trithia-4,7,9,12-tetraazapentadeca-3,12-diene-6,10-dione (thiodicarb)
299	137-26-8	Tetramethylthiuram disulfide (thiram)
300	505-32-8	3,7,11,15-tetramethylhexadec-1-en-3-ol (isophytol)
301	100-21-0	Terephthalic acid
302	120-61-6	dimethyl terephthalate
303	-	copper salts (water-soluble, except complex salts)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
304	112-53-8	1-dodecanol (n-dodecyl alcohol)
305	25103-58-6	tert-dodecanethiol
306	151-21-3	sodium dodecyl sulfate
307	112-57-2	3,6,9-triazaundecane-1,11-diamine (tetraethylenepentamine)
308	121-44-8	triethylamine
309	112-24-3	triethylenetetramine
310	76-03-9	trichloroacetic acid
311	108-77-0	2,4,6-trichloro-1,3,5-triazine
312	76-06-2	Trichloronitromethane (chloropicrin)
313	55335-06-3	(3,5,6-Trichloro-2-pyridyl)oxyacetic acid (triclopyr)
314	88-06-2	2,4,6-trichlorophenol
315	96-18-4	1,2,3-trichloropropane
316	-	trichlorobenzene
317	2451-62-9	1,3,5-Tris(2,3-epoxypropyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione
318	102-82-9	tributylamine
319	1582-09-8	Trifluralin
320	118-79-6	2,4,6-Tribromophenol
321	3452-97-9	3,5,5-Trimethyl-1-hexanol
322	95-63-6	1,2,4-trimethylbenzene
323	108-67-8	1,3,5-Trimethylbenzene
324	26471-62-5	Tolylene diisocyanate
325	-	Toluidine
326	108-88-3	Toluene
327	25376-45-8	toluenediamine
328	91-20-3	naphthalene
329	3173-72-6	1,5-naphthalenediyl diisocyanate
330	7439-92-1	Lead
331	-	lead compounds
332	13048-33-4	hexamethylene diacrylate
333	7699-43-6	zirconium dichloride oxide
334	7440-02-0	Nickel
335	-	Nickel compounds
336	139-13-9	Nitrilotriacetic acid (NTA)
337	91-23-6	o-nitroanisole
338	88-74-4	o-nitroaniline
339	55-63-0	Nitroglycerine
340	100-00-5	p-nitrochlorobenzene
341	88-72-2	o-nitrotoluene
342	98-95-3	Nitrobenzenes
343	75-52-5	nitromethane
344	75-15-0	Carbon disulfide
345	143-08-8	1-nonanol (n-nonyl alcohol)
346	25154-52-3	Nonylphenol
347	-	vanadium compounds
348	3618-72-2	5'-[N,N-bis(2-acetyloxyethyl)amino]-2'-(2-bromo-4,6-dinitrophenylazo)-4'-methoxyacetanilide
349	1014-70-6	Simetryn
350	101-90-6	1,3-bis[(2,3-epoxypropyl)oxy]benzene
351	10380-28-6	Oxine copper

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
352	74115-24-5	3,6-Bis(2-chlorophenyl)-1,2,4,5-tetrazine
353	782-74-1	1,2-bis(2-chlorophenyl)hydrazine
354	137-30-4	Ziram
355	64440-88-6	N,N-Ethylenebis(thiocarbamoylthiozinc) bis(N,N-dimethyldithiocarbamate)
356	80-43-3	bis(1-methyl-1-phenylethyl) peroxide
357	95465-99-9	S,S-bis(1-methylpropyl) O-ethyl phosphorodithioate (cadusafos)
358	-	Arsenic and its inorganic compounds
359	302-01-2	Hydrazine
360	99-76-3	methyl 4-hydroxybenzoate
361	103-90-2	N-(4-hydroxyphenyl)acetamide
362	123-31-9	Hydroquinone
363	100-40-3	4-Vinyl-1-cyclohexene
364	100-69-6	2-Vinylpyridine
365	88-12-0	N-vinyl-2-pyrrolidone
366	92-52-4	biphenyl
367	110-85-0	Piperazine
368	110-86-1	Pyridine
369	120-80-9	Pyrocatechol
370	96-09-3	phenyloxirane
371	100-63-0	phenylhydrazine
372	90-43-7	2-phenylphenol
373	941-69-5	N-phenylmaleimide
374	-	Phenylenediamine
375	108-95-2	Phenol
376	52645-53-1	Permethrin
377	106-99-0	1,3-butadiene
378	131-17-9	diallyl phthalate
379	84-66-2	diethyl phthalate
380	84-74-2	Di-n-butyl phthalate
381	117-81-7	Bis(2-ethylhexyl) phthalate
382	85-68-7	n-butyl benzyl phthalate
383	69327-76-0	2-tert-Butylimino-3-isopropyl-5-phenyltetrahydro-4H-1,3,5-thiadiazin-4-one (buprofezin)
384	112410-23-8	N-tert-Butyl-N'-(4-ethylbenzoyl)-3,5-dimethylbenzohydrazide (tebufenozide)
385	2426-08-6	n-butyl-2,3-epoxypropyl ether
386	17804-35-2	Benomyl
387	122008-85-9	Butyl (R)-2-[4-(4-cyano-2-fluorophenoxy)phenoxy]propionate (cyhalofop-butyl)
388	80060-09-9	1-tert-Butyl-3-(2,6-diisopropyl-4-phenoxyphenyl)thiourea (diafenthiuron)
389	19666-30-9	5-tert-butyl-3-(2,4-dichloro-5-isopropoxyphenyl)-1,3,4-oxadiazol-2(3H)-one (oxadiazon)
390	134098-61-6	Tert-butyl 4-([1,3-dimethyl-5-phenoxy-4-pyrazolyl)methylene]aminoxymethyl)benzoate
391	25013-16-5	Butylhydroxyanisole (BHA)
392	75-91-2	tert-butyl hydroperoxide
393	89-72-5	o-sec-butylphenol
394	98-54-4	4-tert-butylphenol
395	2312-35-8	2-(4-tert-Butylphenoxy) cyclohexyl-2-propynyl sulfite (propargite;BPPS)
396	96489-71-3	2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloro-3(2H)-pyridazinone
397	119168-77-3	Tebufenpyrad

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
398	95-31-8	N-(tert-Butyl)-2-benzothiazolesulfenamido
399	88-60-8	2-tert-butyl-5-methylphenol
400	-	Hydrogen fluoride and its salts (water-soluble)
401	4170-30-3	2-butenal
402	23184-66-9	N-butoxymethyl-2-chloro-2',6'-diethylacetanilide (butachlor)
403	110-00-9	furan
404	12071-83-9	Polymer of N,N'-propylenebis (dithiocarbamate) and zinc
405	107-19-7	2-propyn-1-ol
406	75-27-4	Bromodichloromethane
407	314-40-9	5-bromo-3-sec-butyl-6-methyl-1,2,3,4-tetrahydropyrimidine-2,4-dione (bromacil)
408	106-94-5	1-bromopropane
409	75-26-3	2-Bromopropane
410	13356-08-6	Fenbutatin oxide
411	115-29-7	6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepine 3-oxide
412	112-02-7	hexadecyltrimethylammonium chloride
413	124-09-4	Hexamethylenediamine
414	822-06-0	Hexamethylene diisocyanate
415	110-54-3	n-hexane
416	135-19-3	betanaphthol
417	-	Beryllium and its compounds
418	-	water-soluble salts of peroxodisulfuric acid
419	1763-23-1	perfluoro(octane-1-sulfonic acid) (PFOS)
420	98-07-7	Benzylidene trichloride
421	100-44-7	Benzyl chloride
422	100-52-7	Benzaldehyde
423	552-30-7	1,2,4-Benzenetricarboxylic acid 1,2-anhydride
424	73250-68-7	2-(2-Benzothiazolyloxy)-N-methylacetanilide
425	119-61-9	benzophenone
426	87-86-5	Pentachlorophenol
427	-	Boron compounds
428	-	Poly(oxyethylene) alkyl ether (C=12-15)
429	9036-19-5	Poly(oxyethylene) octylphenyl ether
430	9004-82-4	sodium poly(oxyethylene) dodecyl ether sulfate
431	9016-45-9	Poly(oxyethylene) nonylphenyl ether
432	50-00-0	Formaldehyde
433	-	Manganese and its compounds
434	85-44-9	Phthalic anhydride
435	108-31-6	Maleic anhydride
436	79-41-4	Methacrylic acid
437	688-84-6	2-Ethylhexyl methacrylate
438	106-91-2	2,3-epoxypropyl methacrylate
439	2867-47-2	2-(Dimethylamino) ethyl methacrylate
440	97-88-1	n-Butyl methacrylate
441	80-62-6	Methyl methacrylate
442	674-82-8	4-methylideneoxetan-2-one
443	89269-64-7	(z)-2'-Methylacetophenone 4,6-dimethyl-2-pyrimidinylhydrazone
444	74-89-5	methylamine
445	556-61-6	Methyl isocyanate
446	2631-40-5	2-Isopropylphenyl N-methylcarbamate
447	1563-66-2	Carbofuran

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
448	63-25-2	1-naphthyl N-methylcarbamate
449	3766-81-2	2-sec-butylphenyl N-methylcarbamate
450	100784-20-1	Methyl 3-chloro-5-(4,6-dimethoxy-2-pyrimidinylcarbamoylsulfamoyl)-1-methylpyrazole-4-carboxylate
451	173584-44-6	Methyl (S)-7-chloro-2,3,4a,5-tetrahydro-2-[methoxycarbonyl(4-trifluoromethoxyphenyl)carbamoyl]indeno[1,2-e][1,3,4]oxadiazine-4a-carboxylate (indoxacarb)
452	131860-33-8	Methyl (E)-2-[2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl]-3-methoxyacrylate (azoxystrobin)
453	33089-61-1	3-Methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene (amitraz)
454	144-54-7	N-Methyldithiocarbamic acid (carbam)
455	23135-22-0	methyl-N',N'-dimethyl-N-[(methylcarbamoyl)oxy]-1-thiooxamimidate (oxamyl)
456	136191-64-5	methyl 2-(4,6-dimethoxy-2-pyrimizinyloxy)-6-[1-(methoxyimino)ethyl]benzoate (pyriminobac-methyl)
457	98-83-9	α -Methylstyrene
458	3268-49-3	3-methylthiopropional
459	-	methylnaphthalene
460	108-99-6	3-Methylpyridine
461	80-15-9	1-methyl-1-phenylethyl hydroperoxide
462	88-85-7	2-(1-methylethoxy)-4,6-dinitrophenol
463	55814-41-0	2-methyl-N-[3-(1-methylethoxy)phenyl]benzamide (mepronil)
464	16752-77-5	S-methyl-N-(methylcarbamoyloxy)thioacetimidate (methomyl)
465	141517-21-7	Methyl (E)-methoxyimino-[2-[[[(E)-1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]acetate (trifloxystrobin)
466	143390-89-0	methyl (E)-methoxyimino[2-(o-tolyloxymethyl)phenyl]acetate (kresoxim-methyl)
467	101-77-9	4,4'-Methylenedianiline
468	5124-30-1	Methylenebis(4,1-cyclohexylene) diisocyanate
469	101-68-8	Methylenebis(4,1-phenylene) diisocyanate
470	13684-63-4	3-methoxycarbonylamino phenyl 3'-methylcarbanilate (phenmedipham)
471	88678-67-5	Pyributicarb
472	120-71-8	2-methoxy-5-methylaniline
473	149-30-4	2-mercaptobenzothiazole
474	-	Molybdenum and its compounds
475	95-32-9	2-(morpholinodithio)benzothiazole
476	110-91-8	morpholine
477	20859-73-8	aluminium phosphide
478	62-73-7	dimethyl2,2-dichlorovinylphosphate (dichlorvos)
479	78-42-2	tris(2-ethylhexyl) phosphate
480	115-96-8	tris(2-chloroethyl) phosphate
481	1330-78-5	tritoyl phosphate
482	115-86-6	triphenyl phosphate
483	126-73-8	tri-n-butyl phosphate

Note

1. Unintentional chemical substances caused by corporate activities

If your company incinerates waste with chlorine within the plant, Canon regards that dioxin(unintentional chemical substance) is generated and that your company uses chemical substances.

2. Handling of mixture

When it is clear by material safety data sheet (MSDS) or other means that certain mixture is composed of the listed chemical substances, then regardless of the content, Canon regards that they are used.

3. Exemption of use of chemical substances

When chemical substances are handled in the following cases, Canon does not regard that chemical substances are used.

(1) Chemical substances contained in alloys etc., in non-toxic forms

(2) Chemical substances contained in industrial water or air constituent

(3) Chemical substance which is used hermetically in the purchased device and not to be supplemented.
(e.g., refrigerant of refrigerator)

Attachment 2 List of Product Environmental Impact Substances

This Attachment 2 makes a list of management criteria for the product environmental impact substances specified in the Canon Green Procurement Standards. All parts and materials delivered to Canon are required to satisfy the management criteria specified in the “Products” part. Similarly, packaging is required to satisfy the management criteria specified in the “Packaging” part.

Please refer to the Canon Green Procurement Standards for the definitions of terms.

Products

2A	Prohibited substances	39
Annex 2A-1	Exempted Applications of Heavy Metals Restricted by RoHS Directives...	49
Annex 2A-2	Items for Prohibition of the Use of Heavy Metals in Batteries	54
Annex 2A-3	Ozone-depleting Substances defined by the Montreal Protocol	58
Annex 2A-4	Some aromatic amines generated in the decomposition of one or more azo groups.....	60
2B	Use-restricted substances.....	61
2C	Controlled substances.....	62
2D	Environmental label substances in plastic exterior enclosure members/cabinets for business machine products(Eco Mark, Blue Angel)	68
2E	Prohibited substances in LBP (Laser Printer) parts.....	69

Packaging

3A	Prohibited substances in packaging materials.....	70
Annex 3A-1	Some aromatic amines generated in the decomposition of one or more azo groups in packaging materials.....	77
3B	Use-restricted substances in packaging materials.....	78
3C	Controlled substances in packaging materials.....	79
Reference	List of Product Environmental Impact Substances.....	83

Products

2A Prohibited substances (Chemical substances prohibited to be included in products delivered to Canon.)

1. Polybrominated biphenyls (PBBs)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Decabromobiphenyl	13654-09-6	Flame retardants
3,3',4,4'-bromobiphenyl	77102-82-0	
2,2',4,5'-bromobiphenyl	67888-96-4	
If the following case applies, the use of chemical substances is prohibited. (1) Inclusion of more than 1,000 ppm in homogeneous materials		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII), EU RoHS Directive 2002/95/EC		
2. Polybrominated diphenyl ethers (PBDEs)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Pentabromodiphenyl ether	32534-81-9	Flame retardants
Octabromodiphenyl ether	32536-52-0	
Decabromodiphenyl ether	1163-19-5	
If any of the following cases applies, the use of chemical substances is prohibited. (1) Intentional use (2) Inclusion of more than 1,000 ppm as impurity in homogeneous materials		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN), REACH Regulation (EC) No1907/2006 (ANNEX XVII), EU RoHS Directive 2002/95/EC		
3. Polychlorinated biphenyls (PCBs) and specific substitutes		
Target chemical substances	CAS No.	Application
Polychlorinated biphenyls (All isomers and homologs)	1336-36-3	Insulating oils, lube oil, electrical insulation medium, plasticizers, paints solvent, heat transfer medium
Monomethyl-tetrachloro-diphenyl methane (Ugilec 141) ^{a)}	76253-60-6	
Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21) ^{b)}	81161-70-8	
monomethyl-dibromo-diphenyl methane (DBBT) ^{c)}	99688-47-8	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use Note: Three substances of a), b) and c) listed above are specified alternatives of PCB defined in REACH Regulation Restriction List.		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN), REACH Regulation (EC) No.1907/2006 (ANNEX XVII)		
4. Polychlorinated terphenyls (PCTs)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Polychlorinated terphenyls (PCTs) (All isomers and homologs)	61788-33-8	Insulating oils, lube oil, electrical insulation medium, plasticizers, paints solvent, heat transfer medium
If the following case applies, the use of chemical substances is prohibited: (1) Inclusion of more than 50 ppm in homogeneous materials		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)		

2A Prohibited substances (continued)

5. Polychlorinated naphthalenes (more than 3 chlorine atoms)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Polychlorinated naphthalene (more than 3 chlorine atoms)	70776-03-3	Lubricating oils, paints, stabilizer in plastics, electrical insulation medium, flame retardants
Pentachloronaphthalene	1321-64-8	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN)		
6. Tributyl tin oxide (TBTO)		
Target chemical substances	CAS No.	Application
Tributyl tin oxide (TBTO)	56-35-9	Paints, pigments, antiseptic agents, refrigerants, digestives, foaming agents
If any of the following cases applies, the use of chemical substances is prohibited. (1) Intentional use (2) Inclusion of more than 1,000 ppm as impurity in parts		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN), REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
7. Tri-substituted organostannic compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Triphenyltin fluoride	379-52-2	Pigment, paints, flame retardants, stabilizer, n-type semiconductor dopant
Triphenyltin chloride	639-58-7	
Tributyltin acetate	56-36-0	
Tributyltin laurate	3090-36-6	
Trioctyltin chloride	2587-76-0	
Trimethyltin hydroxide	994-32-1	
Trimethyltin chloride	994-31-0	
If any of the following cases applies, the use of chemical substances is prohibited. (1) Intentional use (2) Inclusion of more than 1,000 ppm as impurity in homogeneous materials Note1: A tri-substituted organostannic compound refers to a tin compound that has three organic substituents, such as tributyltin (TBT) compounds and triphenyltin (TPT) compounds. Note2: A metal converted value applies to the concentration for the target range.		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 276/2010), Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 2 Specified Chemical Substances (JPN)		

2A Prohibited substances (continued)

8. Azocolourants and azodyes which form certain aromatic amines		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Pigment Red 8	6410-30-6	Pigment, dye, coloring agents
Pigment Red 22	6448-95-9	
Pigment Red 38	6358-87-8	
If the following case applies, the use of chemical substances is prohibited. (1) Azo dyes/pigments that are in fabric products/leather products and generate more than 30 ppm of some aromatic amines listed in Annex 2A-4		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)		
9. Shortchain chlorinated paraffins (C10-C13)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Alkanes, C10-13, chloro	85535-84-8	Greases, metal treatment liquids, flame retardants, plasticizer for PVC
Alkanes, C10-12, chloro	108171-26-2	
Alkanes, C12-13, chloro	71011-12-6	
If the following case applies, the use of chemical substances is prohibited. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), Regulations relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products hazardous to health and the environment (Product Regulations)		
10. Ozone-depleting substances		
Target chemical substances	CAS No.	Application
The applicable substances are those specified in Annex to the Montreal Protocol. These substances are listed in Annex Table 2A-3.		Refrigerants, fire extinguishant, foaming agents, detergent, fumigation
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: Montreal Protocol, Japanese Law for the Protection of the Ozone Layer by restriction of specific substances.		

2A Prohibited substances (continued)

11. Cadmium and its compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Cadmium	7440-43-9	Pigments, corrosion-resisting surface treatment, batteries, contact points, optical materials, stabilizers in PVC
Cadmium oxide	1306-19-0	
Cadmium sulfide	1306-23-6	
Cadmium chloride	10108-64-2	
Cadmium sulfate	10124-36-4	
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 100 ppm in homogeneous materials</p> <p>(2) Inclusion of more than 75 ppm when used for surface treatment, coloring agent, or plastic stabilizer in product not subject to the RoHS Directive.</p> <p>(3) Use of cadmium in batteries under the condition indicated in “Annex 2A-2: Items for Prohibition of the Use of Heavy Metals in Batteries”</p> <p>Note: A metal converted value applies to the concentration for the target range.</p> <p><Exemption></p> <p>(i) Applications that meet the condition indicated in “Annex 2A-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive” for (1) listed above.</p>		
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (ANNEX XVII), EU RoHS Directive 2002/95/EC, Chemical Substances Act Cadmium Decree of the Netherlands, Statutory Order on the Prohibition of Sale, Import and Manufacture of Cadmium-Containing Products of Denmark, Refer to battery-related laws and regulations in Annex 2A-2.</p>		

2A Prohibited substances (continued)

12. Hexavalent chromium compounds										
Examples (Typical examples of target chemical substances)	CAS No.	Application								
Sodium dichromate	10588-01-9	Pigments, paints, ink, catalysts, anticorrosive surface treatment for steel plates, dyestuffs, anti-rust paint								
Chromium trioxide	1333-82-0									
Calcium chromate	13765-19-0									
Lead chromate (*)	7758-97-6									
Potassium dichromate	7778-50-9									
Potassium chromate	7789-00-6									
Sodium bichromate dihydrate	7789-12-0									
Lead chromate molybdate sulphate red (C.I. Pigment Red 104) (*)	12656-85-8									
Lead sulfochromate yellow (C.I. Pigment Yellow 34) (*)	1344-37-2									
<p>If the of the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 1,000 ppm in homogeneous materials</p> <p>Note: A metal converted value applies to the concentration for the target range.</p> <p><Exemption></p> <p>(i) Applications that meet the condition indicated in “Annex 2A-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive” for (1) listed above.</p> <p>Even when substance is used outside the “applicable range” described above or its application is exempted as in “Exemption” above, the chemical substances listed below (names are suffixed with (*) in the Examples table above) must be controlled in the same manner as the controlled substances if their content as a compound exceeds 0.1% by weight of a delivered part/material.</p> <table border="1" data-bbox="379 1032 1238 1200"> <thead> <tr> <th>Target chemical substances</th> <th>CAS No.</th> </tr> </thead> <tbody> <tr> <td>Lead chromate</td> <td>7758-97-6</td> </tr> <tr> <td>Lead chromate molybdate sulphate red (C.I. Pigment Red 104)</td> <td>12656-85-8</td> </tr> <tr> <td>Lead sulfochromate yellow (C.I. Pigment Yellow 34)</td> <td>1344-37-2</td> </tr> </tbody> </table>			Target chemical substances	CAS No.	Lead chromate	7758-97-6	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2
Target chemical substances	CAS No.									
Lead chromate	7758-97-6									
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8									
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2									
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33), EU RoHS Directive 2002/95/EC</p>										

2A Prohibited substances (continued)

13. Lead and its compounds										
Examples (Typical examples of target chemical substances)	CAS No.	Application								
Lead	7439-92-1	Pigments, paints, stiffener in rubber, stabilizer in plastics, batteries, curing (vulcanizing) agents for rubber, solders, solders, glasses, free cutting alloy, contents of alloys, additives in various type of resins								
Lead carbonate	598-63-0									
Lead (IV) oxide	1309-60-0									
Plumbo-plumbic oxide	1314-41-6									
Lead (II) sulfide	1314-87-0									
Lead (II) oxide	1317-36-8									
Basic lead (II) carbonate	1319-46-6									
Lead (II) sulfate	7446-14-2									
Lead chromate (*)	7758-97-6									
Lead titanium oxide	12060-00-3									
Lead stearate	1072-35-1									
Dibasic lead stearate	56189-09-4									
Lead arsenate	7784-40-9									
Lead chromate molybdate sulphate red (C.I. Pigment Red 104) (*)	12656-85-8									
Lead sulfochromate yellow (C.I. Pigment Yellow 34) (*)	1344-37-2									
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 1,000 ppm in homogeneous materials</p> <p>(2) Inclusion of more than 300 ppm in the polyvinyl chloride resin coating of polyvinyl chloride wire.</p> <p>(3) Inclusion of more than 300 ppm (100 ppm starting from February 2012) in each part of products intended for children 12 years of age or younger, or inclusion of more than 90 ppm in the paints/dry coatings of such products</p> <p>(4) Use of lead in batteries under the condition indicated in “Annex 2A-2: Items for Prohibition of the Use of Heavy Metals in Batteries”</p> <p>Note1: Canon will inform separately if any of its products is concerned with (3) above.</p> <p>Note2: A metal converted value applies to the concentration for the target range.</p> <p><Exemption></p> <p>(i) Applications that meet the condition indicated in “Annex 2A-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive” for (1) listed above.</p> <p>Even when substance is used outside the “applicable range” described above or its application is exempted as in “Exemption” above, the chemical substances listed below (names are suffixed with (*) in the Examples table above) must be controlled in the same manner as the controlled substances if their content as a compound exceeds 0.1% by weight of a delivered part/material.</p> <table border="1" data-bbox="379 1458 1238 1630"> <thead> <tr> <th>Target chemical substances</th> <th>CAS No.</th> </tr> </thead> <tbody> <tr> <td>Lead chromate</td> <td>7758-97-6</td> </tr> <tr> <td>Lead chromate molybdate sulphate red (C.I. Pigment Red 104)</td> <td>12656-85-8</td> </tr> <tr> <td>Lead sulfochromate yellow (C.I. Pigment Yellow 34)</td> <td>1344-37-2</td> </tr> </tbody> </table>			Target chemical substances	CAS No.	Lead chromate	7758-97-6	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2
Target chemical substances	CAS No.									
Lead chromate	7758-97-6									
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8									
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2									
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), EU RoHS Directive 2002/95/EC, Denmark Lead Ban, Proposition 65, US Federal Public Law “Consumer Product Safety Improvement Law in 2008” 110-314, Refer to battery-related laws and regulations in Annex 2A-2.</p>										

2A Prohibited substances (continued)

14. Mercury and its compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Mercury	7439-97-6	Batteries, fluorescent materials, contact points, thermometers, pigments
Mercuric chloride	7487-94-7	
Mercury (II) oxide	21908-53-2	
(2-ethylhexanoato)phenylmercury	13302-00-6	
Phenylmercuric octanoate	13864-38-5	
Phenylmercury acetate	62-38-4	
(neodecanoato-O)phenylmercury	26545-49-3	
Phenylmercury propionate	103-27-5	
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>(2) Inclusion of more than 1,000 ppm as impurity in homogeneous materials</p> <p>(3) Use of mercury in batteries under the condition indicated in “Annex 2A-2: Items for Prohibition of the Use of Heavy Metals in Batteries”</p> <p>Note: A metal converted value applies to the concentration for the target range.</p> <p><Exemption></p> <p>(i) Applications that meet the condition indicated in “Annex 2A-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive” for (1) and (2) listed above.</p>		
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (ANNEX XVII), EU RoHS Directive 2002/95/EC, Louisiana Mercury Risk Reduction Act, Refer to battery-related laws and regulations in Annex 2A-2.</p>		
15. Asbestos		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Asbestos	1332-21-4	Insulators, fillers, heat insulators, frictional materials
Actinoit	77536-66-4	
Amosite	12172-73-5	
Ansophylite	77536-67-5	
Chrysotile	12001-29-5	
Crocidolite	12001-28-4	
Tremolite	77536-68-6	
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p>		
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (ANNEX XVII), TSCA (Toxic Substances Control Act) in U.S., RS814.81 Act of Reduction of Risks in Treatment of Specified Hazardous Substances, Preparations, and Articles in Switzerland (ChemRRV) (Appendix 1.6)</p>		

2A Prohibited substances (continued)

16. Perfluorooctane sulfonate (PFOS)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Heptadecafluorooctane-1-sulphonic acid	1763-23-1	Photolithography, photo-coating materials, hydraulic fluid, metal plating, cleaning materials, fire-fighting foams, and coating materials for paper
Perfluorooctane sulfonate fluoride	307-35-7	
Lithium heptadecafluorooctanesulphonate	29457-72-5	
Potassium heptadecafluorooctane-1-sulphonate	2795-39-3	
Ammonium nonadecafluorononanesulphonate	17202-41-4	
<p>If any following cases applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>(2) Inclusion of more than 1,000 ppm as impurity in homogeneous materials</p> <p><Exemption></p> <p>(i) Photoresist or anti-mirror coating for photolithography process</p> <p>(ii) Photo coating applied to films, documents, or printing plates</p> <p>(iii) Inclusion of less than 0.1 % in the following specified metal plating until May, 2013</p> <p>(a) Chromium electroplating, chromium anodizing and reverse etching</p> <p>(b) Non-electrodeposited metallic precipitate nickel-polytetrafluoroethylene plating</p> <p>(c) Etching of the plastic plate before hardened</p>		
<p>Reference laws and regulations:</p> <p>Stockholm Convention on Persistent Organic Pollutants (POPs Convention), Canadian Environmental Protection Act in 1999; Regulation of perfluorooctane sulfonate and its salt and other specified compounds SOR/2008-974, Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN)</p>		

2A Prohibited substances (continued)

17. Fluorinated greenhouse gases (PFC, SF6, HFC)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Carbon tetrafluoride (perfluoromethane)	75-73-0	Cooling medium, blowing agents, digestive, cleaning agents, insulating materials, caustic gas
Perfluoroethane (hexafluoroethane)	76-16-4	
Perfluoropropane (octafluoropropane)	76-19-7	
Perfluorobutane (decafluorobutane)	355-25-9	
Perfluoropentane (dodecafluorobutane)	678-26-2	
Perfluorohexane (tetradecafluorohexane)	355-42-0	
Perfluorocyclobutane	115-25-3	
Sulfur hexafluoride (SF6)	2551-62-4	
Trifluoromethane - (HFC-23)	75-46-7	
Difluoromethane (HFC-32)	75-10-5	
Methyl fluoride- (HFC-41)	593-53-3	
2H,3H-Decafluoropentane (HFC-43-10mee)	138495-42-8	
Pentafluoroethane (HFC-125)	354-33-6	
1,1,2,2-Tetrafluoroethane (HFC-134)	359-35-3	
1,1,1,2-Tetrafluoroethane - (HFC-134a)	811-97-2	
1,1-Difluoroethane -(HFC-152a)	75-37-6	
1,1,2-Trifluoroethane -(HFC-143)	430-66-0	
1,1,1-Trifluoroethane -(HFC-143a)	420-46-2	
2H-Heptafluoropropane -(HFC-227ea)	431-89-0	
1,1,1,2,2,3-Hexafluoropropane (HFC-236cb)	677-56-5	
1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431-63-0	
1,1,1,3,3,3-Hexafluoropropane (HFC-236fa)	690-39-1	
1,1,2,2,3-Pentafluoropropane (HFC-245ca)	679-86-7	
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	460-73-1	
1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406-58-6	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: EU Regulation (EC) No 842/2006		
18. Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl) (Other name: 2-(2H-1,2,3-benzotriazol-2-yl)-4,6-di-tert-butylphenyl)		
Target chemical substances	CAS No.	Application
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7	Adhesive agents, paints, printing ink, plastics, ink ribbons, putties, caulking, filling materials (ultraviolet light absorbers)
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN)		

2A Prohibited substances (continued)

19. Dimethyl fumarate		
Target chemical substances	CAS No.	Application
Dimethyl fumarate	624-49-7	Moisture prevention agents, mildew-proofing agents
If the following case applies, the use of chemical substances is prohibited. (1) Inclusion of more than 0.1 ppm in homogeneous materials		
Reference laws and regulations: 2009/251/EC concerning prohibition of launching products containing the biocide DMF according to the General Product Safety Directive (2001/95/EC)		
20. Dibutyltin (DBT) compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Dibutyltin oxide	818-08-6	Stabilizer for PVC, curing catalysts for silicone resin and urethane resin
Dibutyltin diacetate	1067-33-0	
Dibutyltin dilaurate	77-58-7	
If the following case applies, the use of chemical substances is prohibited. Inclusion exceeding the threshold given below is prohibited starting from July 1, 2011. (1) Inclusion of more than 1,000 ppm in homogeneous materials		
<Exemption> The above compounds may be included up to June 30, 2014 if any of the following cases applies (deadline for placing on the EU market: December 31, 2014): (i) One-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives (ii) Paints and coatings containing DBT compounds as catalysts when applied on articles (iii) Soft polyvinyl chloride (PVC) profiles whether by themselves or coextruded with hard PVC (iv) Fabrics coated with PVC containing DBT compounds as stabilisers when intended for outdoor applications (v) Outdoor rainwater pipes, gutters and fittings, as well as covering material for roofing and facades		
Note: A metal converted value applies to the concentration for the target range.		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 276/2010)		
21. Dioctyltin (DOT) compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Dioctyltin oxide	870-08-6	Stabilizer for PVC, curing catalysts for silicone resin and urethane resin
Dioctyltin dilaurate	3648-18-8	
If the following case applies, the use of chemical substances is prohibited. Inclusion exceeding the threshold given below is prohibited starting from July 1, 2011. (1) Inclusion of more than 1,000 ppm in homogeneous materials in the following items: (i) Textile and (natural and/or man-made) leather articles intended to come into contact with the skin (ii) Childcare articles (iii) Two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)		
Note: A metal converted value applies to the concentration for the target range.		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 276/2010)		

< Annex 2A-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives >

The numbers indicated under Exempted Applications show the exempted item numbers assigned for the EU Directives.

Canon has decided on its own expiry dates in accordance with the legal time limits specified for RoHS exemptions; these dates are given in “Expiry of exemption in Canon”. For the RoHS exemptions that will expire prior to the end of November 2012, expiry dates of exemption in Canon are set one year in advance, as a general rule. As for the RoHS exemptions that will expire prior to the end of November 2011, expiry of exemption in Canon is set to dates preceding the start of application of the revised Green Procurement Standards version 7 (end of November 2010). When no date is specified (marked -) in the “expiry of exemption in Canon” column, the date of expiry will be decided in line with the next review on exempted applications from the RoHS Directive.

11. Cadmium and its compounds		Expiry of exemption in Canon
Exempted Applications		
8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs ^{a)} Note ^{a)} Refers to pellet-type thermal fuses. This type of fuse has leads connected to alloy, which melts to disconnect a circuit. The alloy is covered with a resin coating or resin pellet so that the resin flows into the melted portion and shuts off the circuit without fail.	Expired on 1 January 2011
8(b)	Cadmium and its compounds in electrical contacts	-
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	-
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	-
30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	-
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	-
39	Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm ² of light-emitting area) for use in solid state illumination or display systems	Expires on 1 July 2014
12. Hexavalent chromium compounds		
Exempted Application		Expiry of exemption in Canon
9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75 % by weight in the cooling solution	-
13. Lead and its compounds		
Exempted Application		Expiry of exemption in Canon
5(a)	Lead in glass of cathode ray tubes	-
5(b)	Lead in glass of fluorescent tubes not exceeding 0.2 % by weight	-
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35 % lead by weight	-
6(b)	Lead as an alloying element in aluminium containing up to 0.4 % lead by weight	-
6(c)	Copper alloy containing up to 4 % lead by weight	-
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	-

< Annex 2A-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives > (continued)

13. Lead and its compounds (continued)		Expiry of exemption in Canon
Exempted Applications		
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	-
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound	-
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	-
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expires on 31 December 2011
9(b)	Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	-
11(a)	Lead used in C-press compliant pin connector systems	Expired on 24 September 2010
11(b)	Lead used in other than C-press compliant pin connector systems	Expires on 1 January 2013
12	Lead as a coating material for the thermal conduction module C-ring	Expired on 24 September 2010
13(a)	Lead in white glasses used for optical applications	-
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	-
14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85 % by weight	Expired on 30 November 2010
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	-
16	Lead in linear incandescent lamps with silicate coated tubes	Expired on 1 September 2013
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	-
18(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazoprinting reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba) ₂ MgSi ₂ O ₇ :Pb)	Expired on 30 November 2010
18(b)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi ₂ O ₅ :Pb)	-
19	Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps (ESL)	Expired on 30 November 2010

< Annex 2A-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives > (continued)

13. Lead and its compounds (continued)		
Exempted Applications		Expiry of exemption in Canon
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	Expired on 30 November 2010
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	-
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	Expired on 24 September 2010
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	-
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	-
26	Lead oxide in the glass envelope of black light blue lamps	Expired on 30 November 2010
27	Lead alloys as solder for transducers used in highpowered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers	Expired on 24 September 2010
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	-
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)	-
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	-
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	-
34	Lead in cermet ^{b)} -based trimmer potentiometer elements Note ^{b)} A composite in which powder of a hard compound such as metal carbide or nitride is sintered as a metal bonding material. (Coined term from "Ceramic + Metal")	-
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	-
14. Mercury and its compounds		
Exempted Applications		Expiry of exemption in Canon
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
1(a)	For general lighting purposes < 30 W : 5 mg	Expired on 31 December 2010
	For general lighting purposes < 30 W : 3.5 mg	Expires on 31 December 2012
	For general lighting purposes < 30 W : 2.5 mg	-

< Annex 2A-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives > (continued)

14. Mercury and its compounds (continued)		Expiry of exemption in Canon
Exempted Applications		
1(b)	For general lighting purposes ≥ 30 W and < 50 W : 5 mg	Expired on 31 December 2010
	For general lighting purposes ≥ 30 W and < 50 W : 3.5 mg	-
1(c)	For general lighting purposes ≥ 50 W and < 150 W : 5 mg	-
1(d)	For general lighting purposes ≥ 150 W : 15 mg	-
1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm	Expired on 31 December 2010
	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm : 7 mg	-
1(f)	For special purposes : 5 mg	-
2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) : 5 mg	Expired on 31 December 2010
	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) : 4 mg	-
2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5) : 5 mg	Expired on 31 December 2010
	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5) : 3 mg	-
2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) : 5 mg	Expired on 31 December 2010
	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) : 3.5 mg	-
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 5 mg	Expires on 31 December 2012
	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 3.5 mg	-
2(a)(5)	Tri-band phosphor with long lifetime ($\geq 25,000$ h) : 8 mg	Expired on 31 December 2010
	Tri-band phosphor with long lifetime ($\geq 25,000$ h) : 5 mg	-
2(b)	Mercury in other fluorescent lamps (per lamp):	
2(b)(1)	Linear halophosphate lamps with tube diameter > 28 mm (e.g. T10 and T12) : 10 mg or less (≤ 10 mg)	Expired on 13 April 2011
2(b)(2)	Non-linear halophosphate lamps (all diameters) : 15 mg or less (≤ 15 mg)	Expires on 13 April 2016
2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : more than 15 mg (> 15 mg)	Expired on 31 December 2010
	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : 15 mg or less (≤ 15 mg)	-
2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps) : more than 15 mg (> 15 mg)	Expired on 31 December 2010
	Lamps for other general lighting and special purposes (e.g. induction lamps) : 15 mg or less (≤ 15 mg)	-
3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes (per lamp):	
3(a)	Short length (≤ 500 mm) : more than 3.5 mg (> 3.5 mg)	Expired on 31 December 2010
	Short length (≤ 500 mm) : 3.5 mg or less (≤ 3.5 mg)	-

< Annex 2A-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives > (continued)

14. Mercury and its compounds (continued)		Expiry of exemption in Canon
Exempted Applications		
3(b)	Medium length (> 500 mm and ≤ 1,500 mm) : more than 5 mg (> 5 mg)	Expired on 31 December 2010
	Medium length (> 500 mm and ≤ 1,500 mm) : 5 mg or less (≤ 5 mg)	-
3(c)	Long length (> 1,500 mm) : more than 13 mg (> 13 mg)	Expired on 31 December 2010
	Long length (> 1,500 mm) : 13 mg or less (≤ 13 mg)	-
4(a)	Mercury more than 15 mg (> 15 mg) in other low pressure discharge lamps (per lamp)	Expired on 31 December 2010
	Mercury of 15 mg or less (≤ 15 mg) in other low pressure discharge lamps (per lamp)	-
4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes (per burner) in lamps with improved colour rendering index Ra > 60:	
4(b)-I	P ≤ 155 W : more than 30 mg (> 30 mg)	Expired on 31 December 2010
	P ≤ 155 W : 30 mg or less (≤ 30 mg)	-
4(b)-II	155 W < P ≤ 405 W : more than 40 mg (> 40 mg)	Expired on 31 December 2010
	155 W < P ≤ 405 W : 40 mg or less (≤ 40 mg)	-
4(b)-III	P > 405 W : more than 40 mg (> 40 mg)	Expired on 31 December 2010
	P > 405 W : 40 mg or less (≤ 40 mg)	-
4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes (per burner):	
4(c)-I	P ≤ 155 W : more than 25 mg (> 25 mg)	Expired on 31 December 2010
	P ≤ 155 W : 25 mg or less (≤ 25 mg)	-
4(c)-II	155 W < P ≤ 405W : more than 30 mg (> 30 mg)	Expired on 31 December 2010
	155 W < P ≤ 405W : 30 mg or less (≤ 30 mg)	-
4(c)-III	P > 405 W : more than 40 mg (> 40 mg)	Expired on 31 December 2010
	P > 405 W : 40 mg or less (≤ 40 mg)	-
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 13 April 2015
4(e)	Mercury in metal halide lamps (MH)	-
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	-
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Expired on 24 September 2010

Note: Information about the items exempted from the RoHS Directives indicated in this list is valid as of June 20, 2011, and it does not assure the provisions stipulated in the law. Please see the original provisions of the law for the latest information.

< Annex 2A-2 Items for Prohibition of the Use of Heavy Metals in Batteries >

11. Cadmium and its compounds	
Classification of batteries	
A. All batteries except those indicated in B through D	
Application range	Batteries containing cadmium of which concentration is more than 0.002 % by mass
Exemption	The battery of the use of following (1) to (3) (1) Emergency and warning system including emergency lamps (2) Medical equipment (3) Cordless electrical tools
B. Nickel-cadmium batteries ^{a)}	
Application range	All uses (Prohibited in the internal standard)
Exemption	None. Except cases when nickel-cadmium batteries are used for consumables or service parts contained in products sold by the end of 2007.
C. Manganese dioxide battery ^{b)} , alkaline battery ^{c)} , and nickel hydride secondary battery (Ni-MH) ^{d)} except those indicated in D listed below	
Application range	Batteries containing cadmium of which concentration if more than 0.001 % by mass
Exemption	Button batteries (A is applied.)
D. Batteries incorporated into equipment on a fixed basis	
Application range	Batteries containing cadmium of which concentration is more than 0.0005 % by mass
Exemption	If the following cases (1) and (2) apply, the application range of the restriction defined in A and B listed above applies. (1) The batteries are usually replaced by a technician. (2) Batteries/rechargeable batteries in which a major concern on protection of users or functionality of its articles is incorporated on a fixed basis are needed, and a minimum amount of lead, mercury, or cadmium is contained in them.
Reference laws and regulations: EU Battery Directive 2006/66/EC, Korean Quality Management and Manufactured Product Safety Management Law (Battery Regulation), RS814.81 Act of Reduction of Risks in Treatment of Specified Hazardous Substances, Preparations, and Articles in Switzerland (ChemRRV) (Appendix 215)	

< Annex 2A-2 Items for Prohibition of the Use of Heavy Metals in Batteries > (continued)

13. Lead and its compounds	
Classification of batteries	
A. Manganese dioxide battery (including button batteries)	
Application range	Batteries containing lead of which concentration is more than 0.1 % by mass
Exemption	None
B. Aalkaline battery (including button batteries)	
Application range	Batteries containing lead of which concentration is more than 0.004 % by mass
Exemption	None
C. Nickel hydride secondary batteries (Ni-MH) except those indicated in D listed below	
Application range	Batteries containing lead of which concentration is more than 0.4 % by mass
Exemption	Button batteries
D. Batteries incorporated into equipment on a fixed basis	
Application range	Batteries containing lead of which concentration is more than 0.1 % by mass
Exemption	If the following cases (1) and (2) apply, the application range of the restriction defined in A and B listed above applies. (1) The batteries are usually replaced by a technician. (2) Batteries/rechargeable batteries in which a major concern on protection of users or functionality of its articles is incorporated on a fixed basis are needed, and a minimum amount of lead, mercury, or cadmium is contained in them.
No batteries other than those listed above in A through D are subject to lead content regulations.	
Reference laws and regulations: Brazil Battery Regulation (Resolution No.401), Korean Quality Management and Manufactured Product Safety Management Law (Battery Regulation), RS814.81 Act of Reduction of Risks in Treatment of Specified Hazardous Substances, Preparations, and Articles in Switzerland (ChemRRV) (Appendix 215), China's limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries (GB24427-2009)	

< Annex 2A-2 Items for Prohibition of the Use of Heavy Metals in Batteries > (continued)

14. Mercury and its compounds	
Classification of batteries	
A. All batteries except those indicated in B through H listed below	
Application range	Batteries containing mercury of which concentration is more than 0.0005 % by mass
Exemption	None
B. Button batteries except those indicated in C through H listed below	
Application range	Batteries containing mercury of which concentration is more than 2 % by mass
Exemption	None
C. Alkaline battery, manganese dioxide battery (including button battery)	
Application range	If any of the following (1) through (3) applies, the use of chemical substances is prohibited. (1) Batteries containing mercury of which concentration is 0.0001 % or more by mass (2) Intentional use (3) Batteries provided for home use
Exemption	Mercury with a concentration of less than 0.0001 % is contained as impurity in other materials.
D. Nickel hydride (Ni-MH) secondary battery	
Application range	Batteries containing mercury of which concentration is more than 0.0001 % by mass
Exemption	Button batteries
E. Mercury oxide cells ^{e)} , mercury oxide button cells	
Application range	Intentional use. When the substance is contained as impurity, item B above shall apply.
Exemption	None
F. Button-type air-zinc battery	
Application range	Intentional use. When the substance is contained as impurity, item B above shall apply.
Exemption	None
G. Button-type silver oxide battery	
Application range	Intentional use. When the substance is contained as impurity, item B above shall apply.
Exemption	Button-type silver oxide cell batteries other than SR357, SR364, SR371, SR377, and SR395, containing mercury of which concentration is less than 2 % by mass in non-consumer products sold until December 31, 2014
H. All button batteries used in consumer products	
Application range	Intentional use. When the substance is contained as impurity, item B above shall apply.
Exemption	None
Reference laws and regulations: EU Battery Directive 2006/66/EC, Federal Mercury-Containing and Rechargeable Battery Management Act (104-142) of the United State, Mercury Cell Regulations in Iowa, Regulation concerning mercury added button-type cell in Maine(LD 1026) , Mercury Cell Regulations in Minnesota, Battery Reduction Rules in the State of New York, Rhode Island Mercury Reduction and Education Act SECTION 23-24.9-6, Chinese regulations on the mercury content of battery products	

Notes:

- a) Definition of a nickel-cadmium battery: A battery that consists of a nickel positive electrode and a cadmium negative electrode
- b) Definition of a manganese dioxide battery: A battery that consists of a manganese dioxide positive electrode, a zinc negative electrode, and a non-alkaline electrolyte
- c) Definition of an alkaline battery: A battery that consists of a manganese dioxide positive electrode, a zinc negative electrode, and an alkaline electrolyte
- d) Definition of a nickel hydride (Ni-MH) secondary battery: A battery that consists of a nickel oxide positive electrode, a hydrogen storing alloy negative electrode, and an alkaline electrolyte
- e) Definition of a mercury oxide cell: A battery in which a mercuric-oxide electrode is used

Attachment 2 List of Product Environmental Impact Substances

< Annex 2A-3 Ozone-depleting Substances defined by the Montreal Protocol >

Controlled substances as given in Annex A			
Group	Substances	Group	Substances
Group I	CFCl ₃ (CFC-11)	Group II	CF ₂ BrCl (halon-1211)
	CF ₂ Cl ₂ (CFC-12)		CF ₃ Br (halon-1301)
	C ₂ F ₃ Cl ₃ (CFC-113)		C ₂ F ₄ Br ₂ (halon-2402)
	C ₂ F ₄ Cl ₂ (CFC-114)		
	C ₂ F ₅ Cl (CFC-115)		
Controlled substances as given in Annex B			
Group	Substances	Group	Substances
Group I	CF ₃ Cl (CFC-13)	Group I	C ₃ F ₃ Cl ₅ (CFC-213)
	C ₂ FCl ₅ (CFC-111)		C ₃ F ₄ Cl ₄ (CFC-214)
	C ₂ F ₂ Cl ₄ (CFC-112)		C ₃ F ₅ Cl ₃ (CFC-215)
	C ₃ FCl ₇ (CFC-211)		C ₃ F ₆ Cl ₂ (CFC-216)
	C ₃ F ₂ Cl ₆ (CFC-212)		C ₃ F ₇ Cl (CFC-217)
Group II	CCl ₄ Carbon tetrachloride		
Group III	C ₂ H ₃ Cl ₃ 1, 1, 1-trichloroethane (methylchloroform)		
Controlled substances as given in Annex C			
Group	Substances	Number of isomers	
Group I	CHFCl ₂ (HCFC-21)	1	
	CHF ₂ Cl (HCFC-22)	1	
	CH ₂ FCl (HCFC-31)	1	
	C ₂ HFCl ₄ (HCFC-121)	2	
	C ₂ HF ₂ Cl ₃ (HCFC-122)	3	
	C ₂ HF ₃ Cl ₂ (HCFC-123)	3	
	CHCl ₂ CF ₃ (HCFC-123) ^{a)}	-	
	C ₂ HF ₄ Cl (HCFC-124)	2	
	CHFCICF ₃ (HCFC-124) ^{a)}	-	
	C ₂ H ₂ FCl ₃ (HCFC-131)	3	
	C ₂ H ₂ F ₂ Cl ₂ (HCFC-132)	4	
	C ₂ H ₂ F ₃ Cl (HCFC-133)	3	
	C ₂ H ₃ FCl ₂ (HCFC-141)	3	
	CH ₃ CFCl ₂ (HCFC-141b) ^{a)}	-	
	C ₂ H ₃ F ₂ Cl (HCFC-142)	3	
	CH ₃ CF ₂ Cl (HCFC-142b) ^{a)}	-	
	C ₂ H ₄ FCl (HCFC-151)	2	
	C ₃ HFCl ₆ (HCFC-221)	5	
	C ₃ HF ₂ Cl ₅ (HCFC-222)	9	
	C ₃ HF ₃ Cl ₄ (HCFC-223)	12	
	C ₃ HF ₄ Cl ₃ (HCFC-224)	12	
	C ₃ HF ₅ Cl ₂ (HCFC-225)	9	
	CF ₃ CF ₂ CHCl ₂ (HCFC-225ca) ^{a)}	-	
	CF ₂ CICF ₂ CHClF (HCFC-225cb) ^{a)}	-	
	C ₃ HF ₆ Cl (HCFC-226)	5	
	C ₃ H ₂ FCl ₅ (HCFC-231)	9	

< Annex 2A-3 Ozone-depleting Substances defined by the Montreal Protocol > (continued)

Controlled substances as given in Annex C				
Group	Substances			Number of isomers
Group I (continued)	C ₃ H ₂ F ₂ Cl ₄ (HCFC-232)			16
	C ₃ H ₂ F ₃ Cl ₃ (HCFC-233)			18
	C ₃ H ₂ F ₄ Cl ₂ (HCFC-234)			16
	C ₃ H ₂ F ₅ Cl (HCFC-235)			9
	C ₃ H ₃ FCl ₄ (HCFC-241)			12
	C ₃ H ₃ F ₂ Cl ₃ (HCFC-242)			18
	C ₃ H ₃ F ₃ Cl ₂ (HCFC-243)			18
	C ₃ H ₃ F ₄ Cl (HCFC-244)			12
	C ₃ H ₄ FCl ₃ (HCFC-251)			12
	C ₃ H ₄ F ₂ Cl ₂ (HCFC-252)			16
	C ₃ H ₄ F ₃ Cl (HCFC-253)			12
	C ₃ H ₅ FCl ₂ (HCFC-261)			9
	C ₃ H ₅ F ₂ Cl (HCFC-262)			9
	C ₃ H ₆ FCl (HCFC-271)			5
	Group	Substances	Number of isomers	Substances
Group II	CH ₂ Br ₂	1	CH ₂ FBr	1
	CHF ₂ Br (HBFC-22B1)	1	C ₂ HFBr ₄	2
	C ₂ HF ₂ Br ₃	3	C ₂ HF ₃ Br ₂	3
	C ₂ HF ₄ Br	2	C ₂ H ₂ FBr ₃	3
	C ₂ H ₂ F ₂ Br ₂	4	C ₂ H ₂ F ₃ Br	3
	C ₂ H ₃ FBr ₂	3	C ₂ H ₃ F ₂ Br	3
	C ₂ H ₄ FBr	2	C ₃ HFBr ₆	5
	C ₃ HF ₂ Br ₅	9	C ₃ HF ₃ Br ₄	12
	C ₃ HF ₄ Br ₃	12	C ₃ HF ₅ Br ₂	9
	C ₃ HF ₆ Br	5	C ₃ H ₂ FBr ₅	9
	C ₃ H ₂ F ₂ Br ₄	16	C ₃ H ₂ F ₃ Br ₃	18
	C ₃ H ₂ F ₄ Br ₂	16	C ₃ H ₂ F ₅ Br	8
	C ₃ H ₃ FBr ₄	12	C ₃ H ₃ F ₂ Br ₃	18
	C ₃ H ₃ F ₃ Br ₂	18	C ₃ H ₃ F ₄ Br	12
	C ₃ H ₄ FBr ₃	12	C ₃ H ₄ F ₂ Br ₂	16
C ₃ H ₄ F ₃ Br	12	C ₃ H ₅ FBr ₂	9	
C ₃ H ₅ F ₂ Br	9	C ₃ H ₆ FBr	5	
Group III	CH ₂ BrCl Bromochloromethane			
Controlled substances as given in Annex E				
Group	Substances			
Group I	CH ₃ Br Methylbromide			
Note ^{a)} These are substances which have the highest possibility of being used commercially.				

< Annex 2A-4 Some aromatic amines generated in the decomposition of one or more azo groups >

Some aromatic amines generated in the decomposition of one or more azo groups	
Name of aromatic amines	CAS No.
4-Aminoazobenzene	60-09-3
<i>o</i> -anisidine	90-04-0
2-naphthylamine	91-59-8
3,3'-dichlorobenzidine	91-94-1
biphenyl-4-ylamine	92-67-1
Benzidine	92-87-5
<i>o</i> -toluidine	95-53-4
4-chloro- <i>o</i> -toluidine	95-69-2
2,4-toluenediamine	95-80-7
<i>o</i> -aminoazotoluene	97-56-3
5-nitro- <i>o</i> -toluidine	99-55-8
3,3'-dichloro-4,4'-diaminodiphenylmethane	101-14-4
4,4'-methylenedianiline	101-77-9
4,4'-diaminodiphenylether	101-80-4
<i>p</i> -chloroaniline	106-47-8
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
2-methoxy-5-methylaniline	120-71-8
2,4,5-trimethylaniline	137-17-7
4,4'-thiodianiline	139-65-1
4-methoxy- <i>m</i> -phenylenediamine	615-05-4
4,4'-methylenedi- <i>o</i> -toluidine	838-88-0
<p>Note: The object of control under the these Standards is “azo dye/pigment that generates some aromatic amines.” This refers to azo compounds that generate any of the amines listed in Annex 2A-4 during the reductive decomposition of azo groups. The threshold level of 30 ppm specified in the applicable range applies not to the azo dyes/pigments but to the amines listed in Annex 2A-4.</p>	

2B Use-restricted substances (Chemical substances of which the deadline for allowing the inclusion in products delivered to Canon is set by Canon and of which the inclusion is prohibited after the deadline)

1. Perfluorooctanoate (PFOA)		
Target chemical substances	CAS No.	Application
Pentadecafluorooctanoic acid	335-67-1	Photolithography, photo-coating materials, hydraulic fluid, metal plating, cleaning materials, fire-fighting foams, and coating materials for paper
If the following case applies, the use of chemical substances is prohibited.		
(1) Intentional use		
The deadline for the inclusion of this substance in parts and materials delivered to Canon is December 31, 2015.		
Note: The deadline for the use is the one defined by the U.S. PFOA Self-Elimination Program. It may, however, become earlier according to laws and regulations or social trend, so please strive to eliminate PFOA.		
Reference laws and regulations:		
U.S. PFOA Self-Elimination Program		

Note: Handling of PFOA

For PFOA, which are newly defined as use-restricted substances, we do not in principle perform the chemical substance surveys for each part and material using the JGP File and the Canon's additional survey form for the time being. We plan to perform surveys for this substance group at the point when the JGPSSI format is revised and this substance group is added to the target of the surveys.

Information about surveys and alternative activities, etc. to be performed during the period before the execution of surveys will be separately informed.

In addition, the applicable range and deadline for the use of this substance group may be changed from the viewpoint of social trends and risk management. If such changes are made, they will be informed separately.

2C Controlled substances (Chemical substances requiring tracking of their absence/presence, content, purpose of use, and where they are used in products delivered to Canon.)

1. Beryllium oxide (BeO)		
Target chemical substances	CAS No.	Application
Beryllium oxide	1304-56-9	Ceramics materials
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: EU WEEE Directive 2002/96/EC Article 11: DIGITAL EUROPE/CECED/AeA/EERA Guidance concerning implementation of information provision to processing facilities		
2. Nickel		
Target chemical substances	CAS No.	Application
Nickel	7440-02-0	Stainless steel, plating
If the following case applies, the use of chemical substances is controlled. (1) Intentional use in the parts that come into contact with skin for a long period of time		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)		
3. Polyvinyl chloride (PVC)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Polyvinyl chloride (PVC)	9002-86-2	Resin materials, electrical wire sheathing materials, insulators, chemical resistance, transparency, seize materials
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: IEEE1680 (EPEAT: Electrical Product Environmental Assessment Tool)		
4. Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
1,1,2,2-Tetrabromoethane	79-27-6	Flame retardants
3,5,3',5'-Tetrabromo-bisphenol A (TBBPA)	79-94-7	
1.1 Isopropyliden bis [3.5 dibromo 4 (2.3- dibromo propoxy) benzene]	21850-44-2	
TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2	
Hexabromobenzene	87-82-1	
2,3-dibromo-1-propanol	96-13-9	
If any of the following cases applies, the use of chemical substances is controlled. (1) When a part has more than 25 g of plastic (excluding plastic in printed wiring board units) and more than 1,000 ppm of the concerned substance is included in the plastic. (2) Inclusion of more than 900 ppm of bromine in a laminated printed wiring board (total content in the laminated board)		
Reference laws and regulations: EU WEEE Directive 2002/96/EC Article 11: DIGITAL EUROPE/CECED/AeA/EERA Guidance concerning implementation of information provision to processing facilities, Blue Angle Mark in Germany, IPC-04101 and IEC61249-2-21		

2C Controlled substances (continued)

5. Diisononyl phthalate (DINP), Diisodecyl phthalate (DIDP), Di-n-octyl phthalate (DNOP)		
Target chemical substances	CAS No.	Application
Diisononyl phthalate (DINP)	28553-12-0	Plasticizers, dyes, pigments, paints, ink, adhesive
	68515-48-0	
Diisodecyl phthalate (DIDP)	26761-40-0	
	68515-49-1	
Di-n-octyl phthalate (DNOP)	117-84-0	
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm as a sum of DINP, DIDP, and DNOP in homogeneous materials		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII), US Federal Public Law "Consumer Product Safety Improvement Law in 2008" 110-314		
6. Radioactive substances		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Promethium (Pm-147)	-	Optical characteristics (thorium), smoke detector, measurement equipment, gauges, detectors
Americium (Am-241)	-	
Thorium (Th-232)	-	
If the following case applies, the use of chemical substances is controlled. (1) Intentional use		
Reference laws and regulations: Law Concerning Prevention from Radiation Hazards due to Radio-Isotopes, etc. Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors		
7. Formaldehyde		
Target chemical substances	CAS No.	Application
Formaldehyde	50-00-0	Protection of wood, etc., from insects/corrosion, adhesive
If any of the following cases applies, the use of chemical substances is controlled. (1) Intentional use in products made of wood (plyboards, particle boards, MDF) or parts made of wood (2) Textile products containing formaldehyde of which concentration is more than 0.0075 % (75ppm) by mass		
Reference laws and regulations: U.S. California State CARB Regulation (Wooden Products), Australia-BGB I 1990/194: Formaldehyde Restriction §2, 12/2/1990 (Textile Products)		
8. Perchlorates		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Lithium perchlorate	7791-03-9	Coin-cell batteries
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 0.006 ppm in parts		
Reference laws and regulations: U.S. California State DTSC Regulation (California Code of Regulations, Title 22, Division 4.5: Chapter 33: Best Management Practices for Perchlorate Materials)		

2C Controlled substances (continued)

9. Diarsenic pentoxide		
Target chemical substances	CAS No.	Application
Diarsenic pentoxide	1303-28-2	Semiconductor substrate, glass antifoaming agent, pigments, paints, flame retardants
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
10. Diarsenic trioxide		
Target chemical substances	CAS No.	Application
Diarsenic trioxide	1327-53-3	Semiconductor substrate, glass antifoaming agent, pigments, paints, flame retardants
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
11. Hexabromocyclododecane (HBCDD) and all major diastereoisomers		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Hexabromocyclododecane	25637-99-4	Flame retardants (mainly used in expanded polystyrenes and certain kinds of fibers)
1,2,5,6,9,10-hexabromocyclododecane	3194-55-6	
α -hexabromocyclododecane	134237-50-6	
β -hexabromocyclododecane	134237-51-7	
γ -hexabromocyclododecane	134237-52-8	
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
12. Bis (2-ethylhexyl) phthalate (DEHP)		
Target chemical substances	CAS No.	Application
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), US Federal Public Law "Consumer Product Safety Improvement Law in 2008" 110-314		
13. Dibutyl phthalate (DBP)		
Target chemical substances	CAS No.	Application
Dibutyl phthalate (DBP)	84-74-2	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), US Federal Public Law "Consumer Product Safety Improvement Law in 2008" 110-314		

2C Controlled substances (continued)

14. Benzyl butyl phthalate (BBP)		
Target chemical substances	CAS No.	Application
Benzyl butyl phthalate (BBP)	85-68-7	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), US Federal Public Law “Consumer Product Safety Improvement Law in 2008” 110-314		
15. Diisobutyl phthalate (DIBP)		
Target chemical substances	CAS No.	Application
Diisobutyl phthalate (DIBP)	84-69-5	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
16. Tris(2-chloroethyl) phosphate (TCEP)		
Target chemical substances	CAS No.	Application
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	Flame retardants
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
17. Cobalt dichloride (CoCl₂)		
Target chemical substances	CAS No.	Application
Cobalt dichloride (CoCl ₂)	7646-79-9	Pneumatic panels to indicate water contamination
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
18. Refractory Ceramic Fibres, Aluminosilicate		
Target chemical substances	CAS No.	Application
Refractory Ceramic Fibres, Aluminosilicate	-	Insulation in high-temp test equipment
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts Note: The above mentioned “aluminosilicate, refractory ceramic fibres” are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.2 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfill the two following conditions: (a) Al ₂ O ₃ and SiO ₂ are present within the following concentration ranges: - Al ₂ O ₃ : 43.5 - 47 % w/w, and SiO ₂ : 49.5 – 53.5 % w/w, or - Al ₂ O ₃ : 45.5 – 50.5 % w/w, and SiO ₂ : 48.5 – 54 % w/w (b) Fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm)		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		

2C Controlled substances (continued)

19. Refractory Ceramic Fibres, Zirconia Aluminosilicate		
Target chemical substances	CAS No.	Application
Refractory Ceramic Fibres, Zirconia Aluminosilicate	-	Insulation in high-temp test equipment
<p>If the following case applies, the use of chemical substances is controlled.</p> <p>(1) Inclusion of more than 1,000 ppm in parts</p> <p>Note: The above mentioned “zirconia aluminosilicate, refractory ceramic fibres” are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.2 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, and fulfill the two following conditions:</p> <p>(a) Al₂O₃, SiO₂ and ZrO₂ are present within the following concentration ranges: - Al₂O₃: 35 - 36 % w/w, SiO₂: 47.5 – 50 % w/w, and ZrO₂: 15 – 17 % w/w</p> <p>(b) Fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm)</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
20. Boric acid		
Target chemical substances	CAS No.	Application
Boric acid	10043-35-3 11113-50-1	Flame retardant in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
<p>If the following case applies, the use of chemical substances is controlled.</p> <p>(1) Inclusion of more than 1,000 ppm in parts</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
21. Disodium tetraborate, anhydrous		
Target chemical substances	CAS No.	Application
Disodium tetraborate, anhydrous	1330-43-4	Flame retardant in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
Disodium tetraborate, pentahydrate	12179-04-3	
Disodium tetraborate, decahydrate	1303-96-4	
<p>If the following case applies, the use of chemical substances is controlled.</p> <p>(1) Inclusion of more than 1,000 ppm in parts</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
22. Tetraboron disodium heptaoxide, hydrate		
Target chemical substances	CAS No.	Application
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Flame retardant in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
<p>If the following case applies, the use of chemical substances is controlled.</p> <p>(1) Inclusion of more than 1,000 ppm in parts</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		

2C Controlled substances (continued)

23. 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)		
Target chemical substances	CAS No.	Application
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	Plasticizers, dyes, pigments, paints, ink, adhesive, lubricant
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
24. 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)		
Target chemical substances	CAS No.	Application
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	Plasticizers, dyes, pigments, paints, ink, adhesive, lubricant
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
25. 4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa- 2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)		
Target chemical substances	CAS No.	Application
4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	Colorant in plastics or paints
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts		
Reference laws and regulations: Those related to REACH Regulation (EC) No1907/2006 (ECHA Registry of Intentions October 25,2010)		

Remarks

1. Immediately notify Canon when inclusion of a prohibited substance in the applicable range is found.
2. As a general rule, the applicable range is defined based on laws and regulations. When no range is defined in laws and regulations, the applicable range is defined, in principle, as "intentional use".
3. The CAS No. is assigned to a specific chemical substance by the Chemical Abstracts Service (CAS) of the American Chemical Society. It is an abbreviation of CAS Registry Number and used in chemical documents.

2D Environmental label substances in plastic exterior enclosure members/cabinets for business machine products (Eco Mark, Blue Angel)

Chemical substances for which surveys on inclusion information are required for parts and materials used for specific purposes and in specific portions in products in the category of specific business machine products related to Eco-label certification. Here, chemical substances classified as “2A Prohibited Substances” are excluded. Canon will individually contact suppliers to make a survey request. These substances are prohibited from use in parts & materials to be delivered to Canon, when no inclusion of these substances is indicated in reply to parts & materials surveys or when no inclusion is instructed by means of specifications (e.g., drawings, delivery specifications).

	Chemical substance and chemical substance group	Organization, law or list specified in eco-label standards	
		Organization, law, or list regulating chemical substance	Classification in the organization, law, or list on the left
1	Chlorinated Paraffin	-	-
2	Polymers containing halogen	-	-
3	Organohalogen compounds (in particular, flame retardants)	-	-
4	Carcinogenic substances	67/548/EEC ^{a)} , Annex I	Category 1 (Carc.Cat. 1)
			Category 2 (Carc.Cat.2)
			Category 3 (Carc.Cat.3)
		TRGS905 ^{b)}	Category 1
			Category 2
			Category 3
5	Reproductive toxic substances	67/548/EEC, Annex I	Category 1 (Repr.Cat.1)
			Category 2 (Repr.Cat.2)
			Category 3 (Repr.Cat.3)
		TRGS905 E:Fetus damage (toxicity generated) F:Reproductive disorder	Category R _{E/F} 1
			Category R _{E/F} 2
			Category R _{E/F} 3
6	Mutagenic substances	67/548/EEC, Annex I	Category 1 (Mut.Cat.1)
			Category 2 (Mut.Cat.2)
			Category 3 (Mut.Cat.3)
		TRGS905	Category 1 (M1)
			Category 2 (M 2)
			Category 3 (M 3)
Notes: ^{a)} 67/548/EEC: Council Directive 67/548/EEC of 27 June 1967 on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (EU) Annex I of 67/548/EEC has been moved to EU Regulations (EC) No. 1272/2008, Annex VI. However, because the original 67/548/EEC Annex I is quoted in the above environmental label standards, it is listed here for consistency with the environmental label standards. ^{b)} TRGS905: Technische Regeln für Gefahrstoffe (Technical regulations on dangerous substances) (Germany)			

2E Prohibited substances in LBP (Laser Printer) parts

Prohibition of these substances applies to parts & materials used in LBP (OEM specifications) products, and parts & materials surveys will be conducted using the “Canon's Additional Survey Form (peripherals version)”. When suppliers indicate no inclusion of these substances in reply to parts & materials surveys or no inclusion is instructed by means of specifications (e.g., drawings, delivery specifications), these substances are prohibited from use in parts & materials that are employed in LBP (OEM specifications) products to be delivered to Canon.

	Chemical substance	Threshold level	Remarks
1	Brominated chemical Compounds	100 ppm	Resin parts are concerned, except for the following: - Brominated compounds (e.g. brominated flame retardants) included in material grade specifications - Electric parts, rubber parts, etc.
2	Halogen Compounds (other than brominated chemical compound)	1,000 ppm	Excluding cases in which halogen compounds are included in material grade specifications
3	Chlorinated Hydrocarbons	1,000ppm	
4	Latex element included in natural rubber	Intentional use	
5	Arsenic and its compounds	1,000 ppm	Excluding copper foil and semiconductors on printed circuit boards
6	Radioactive Substances	Inclusion prohibited	
7	EU Risk phrase: R45/46/48/50/51/52/53/60/61 (67/548/EEC)	1,000 ppm	Resin parts are concerned (excluding parts less than 25 g in weight)
8	2,4,6-Tri-tert-butylphenol (CAS No.732-26-3)	Intentional use	Lube oil are concerned

Notes: Contact for inquiries about whether or not each substance is concerned with 2E:

Peripheral Products Environment/Quality Planning Div., Peripheral Products Quality Assurance Center, Peripheral Products Operations, Canon Inc
sup-green-procurement-lbp-oem@list.canon.co.jp

Packaging

3A Prohibited substances in packaging materials (Chemical substances prohibited to be included in packaging delivered to Canon.)

They are also applied when specified in the specifications, etc., by Canon regarding chemical substances related to environmental labels.

However, such cases as each Canon group's delivery site agrees that the material is discarded at a Canon site at the present moment, the rules on use of prohibited substances do not apply to package materials classified under 3A for the time being.

1. Polybrominated biphenyls (PBBs)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Decabromobiphenyl	13654-09-6	Flame retardants
3,3',4,4'-bromobiphenyl	77102-82-0	
2,2',4,5'-bromobiphenyl	67888-96-4	
If the following case applies, the use of chemical substances is prohibited.		
(1) Inclusion of more than 1,000 ppm in homogeneous materials		
Reference laws and regulations:		
REACH Regulation (EC) No1907/2006 (ANNEX XVII)		
2. Polybrominated diphenyl ethers (PBDEs)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Pentabromodiphenyl ether	32534-81-9	Flame retardants
Octabromodiphenyl ether	32536-52-0	
Decabromodiphenyl ether	1163-19-5	
If any of the following cases applies, the use of chemical substances is prohibited.		
(1) Intentional use		
(2) Inclusion of more than 1,000 ppm as impurity in homogeneous materials		
Reference laws and regulations:		
Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN), REACH Regulation (EC) No1907/2006 (ANNEX XVII)		
3. Polychlorinated biphenyls (PCBs) and specific substitutes		
Target chemical substances	CAS No.	Application
Polychlorinated biphenyls (All isomers and homologs)	1336-36-3	Plasticizers, adhesives, putty, caulking, sealing, fillers, paints (excluding waterbased paint), printing ink, and carbonless copying paper
Monomethyl-tetrachloro-diphenyl methane (Ugilec 141) ^{a)}	76253-60-6	
Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21) ^{b)}	81161-70-8	
monomethyl-dibromo-diphenyl methane (DBBT) ^{c)}	99688-47-8	
If the following case applies, the use of chemical substances is prohibited.		
(1) Intentional use		
Note: Three substances of a), b) and c) listed above are specified alternatives of PCB defined in REACH Regulation Restriction List.		
Reference laws and regulations:		
Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN), REACH Regulation (EC) No.1907/2006 (ANNEX XVII)		

3A Prohibited substances in packaging materials (continued)

4. Polychlorinated terphenyls (PCTs)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Polychlorinated terphenyls (PCTs) (All isomers and homologs)	61788-33-8	Plasticizers, adhesives, putty, caulking, sealing fillers, paints (excluding water-based paint), printing ink, and carbonless copying paper
If the following case applies, the use of chemical substances is prohibited: (1) Inclusion of more than 50 ppm in homogeneous materials		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)		
5. Polychlorinated naphthalenes (more than 3 chlorine atoms)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Polychlorinated naphthalene (more than 3 chlorine atoms)	70776-03-3	Antiseptics for wood, insecticide, mildew repellent, paints
Pentachloronaphthalene	1321-64-8	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN)		
6. Tributyl tin oxide (TBTO)		
Target chemical substances	CAS No.	Application
Tributyl tin oxide (TBTO)	56-35-9	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
If any of the following cases applies, the use of chemical substances is prohibited. (1) Intentional use (2) Inclusion of more than 1,000 ppm as impurity in packaging items		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN) , REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		

3A Prohibited substances in packaging materials (continued)

7. Tri-substituted organostannic compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Triphenyltin fluoride	379-52-2	Antibacterial and antifungal agents, paint, pigment
Triphenyltin chloride	639-58-7	
Tributyltin acetate	56-36-0	
Tributyltin laurate	3090-36-6	
Trioctyltin chloride	2587-76-0	
Trimethyltin hydroxide	994-32-1	
Trimethyltin chloride	994-31-0	
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>(2) Inclusion of more than 1,000 ppm as impurity in packaging items</p> <p>Note1: A tri-substituted organostannic compound refers to a tin compound that has three organic substituents, such as tributyltin (TBT) compounds and triphenyltin (TPT) compounds.</p> <p>Note2: A metal converted value applies to the concentration for the target range.</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 276/2010), Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 2 Specified Chemical Substances (JPN)</p>		
8. Azocolourants and azodyes which form certain aromatic amines		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Pigment Red 8	6410-30-6	Textile, pigment, dye, colorants
Pigment Red 22	6448-95-9	
Pigment Red 38	6358-87-8	
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Azo dyes/pigments that are in finished textile/leather packaging items and generate more than 30 ppm of some aromatic amines listed in Annex 3A-1</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)</p>		
9. Shortchain chlorinated paraffins (C10-C13)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Alkanes, C10-13, chloro	85535-84-8	Plasticizer for PVC, flame retardant
Alkanes, C10-12, chloro	108171-26-2	
Alkanes, C12-13, chloro	71011-12-6	
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 1,000 ppm in packaging items</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), Regulations relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products hazardous to health and the environment (Product Regulations)</p>		

3A Prohibited substances in packaging materials (continued)

10. Cadmium and its compounds / Hexavalent chromium compounds / Lead and its compounds / Mercury and its compounds			
	Examples (Typical examples of target chemical substances)	CAS No.	Application
Cadmium	Cadmium	7440-43-9	Pigment, paint, stabilizer for PVC
	Cadmium oxide	1306-19-0	
	Cadmium sulfide	1306-23-6	
	Cadmium chloride	10108-64-2	
	Cadmium sulfate	10124-36-4	
Hexavalent chromium	Sodium dichromate	10588-01-9	
	Chromium trioxide	1333-82-0	
	Calcium chromate	13765-19-0	
	Lead chromate	7758-97-6	
	Potassium dichromate	7778-50-9	
	Potassium chromate	7789-00-6	
	Sodium bichromate dihydrate	7789-12-0	
	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	
	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	
Lead	Lead	7439-92-1	
	Lead carbonate	598-63-0	
	Lead (IV) oxide	1309-60-0	
	Plumbo-plumbic oxide	1314-41-6	
	Lead (II) sulfide	1314-87-0	
	Lead (II) oxide	1317-36-8	
	Basic lead (II) carbonate	1319-46-6	
	Lead (II) sulfate	7446-14-2	
	Lead chromate	7758-97-6	
	Lead titanium oxide	12060-00-3	
	Lead stearate	1072-35-1	
	Dibasic lead stearate	56189-09-4	
	Lead arsenate	7784-40-9	
	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	
	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	
Mercury	Mercury	7439-97-6	
	Mercuric chloride	7487-94-7	
	Mercury (II) oxide	21908-53-2	
	(2-ethylhexanoato)phenylmercury	13302-00-6	
	Phenylmercuric octanoate	13864-38-5	
	Phenylmercury acetate	62-38-4	
	(neodecanoato-O)phenylmercury	26545-49-3	
	Phenylmercury propionate	103-27-5	
If any of the following cases applies, the use of chemical substances is prohibited.			
(1) Intentional use			
(2) Sum of cadmium, hexavalent chromium, lead and mercury included in excess of 100 ppm by weight as impurity in homogeneous material			
Note: A metal converted value applies to the concentration for the target range.			
Reference laws and regulations:			
Preventing Toxic Substances in Packaging (State of California) , EU Package Directive 94/62/EEC			

3A Prohibited substances in packaging materials (continued)

11. Asbestos		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Asbestos	1332-21-4	Insulators, fillers, pigment, paint, talc
Actinoit	77536-66-4	
Amosite	12172-73-5	
Ansophylite	77536-67-5	
Chrysotile	12001-29-5	
Crocidolite	12001-28-4	
Tremolite	77536-68-6	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII), TSCA (Toxic Substances Control Act) in U.S., RS814.81 Act of Reduction of Risks in Treatment of Specified Hazardous Substances, Preparations, and Articles in Switzerland (ChemRRV) (Appendix 1.6)		
12. Perfluorooctane sulfonate (PFOS)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Heptadecafluorooctane-1-sulphonic acid	1763-23-1	Coating materials for packaging
Perfluorooctane sulfonate fluoride	307-35-7	
Lithium heptadecafluorooctanesulphonate	29457-72-5	
Potassium heptadecafluorooctane-1-sulphonate	2795-39-3	
Ammonium nonadecafluoronanesulphonate	17202-41-4	
If any following cases applies, the use of chemical substances is prohibited. (1) Intentional use (2) Inclusion of more than 1,000 ppm as impurity in homogeneous materials		
Reference laws and regulations: Stockholm Convention on Persistent Organic Pollutants (POPs Convention), Canadian Environmental Protection Act in 1999; Regulation of perfluorooctane sulfonate and its salt and other specified compounds SOR/2008-974, Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN)		
13. Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl) (Other name: 2-(2H-1,2,3-benzotriazol-2-yl)-4,6-di-tert-butylphenyl)		
Target chemical substances	CAS No.	Application
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7	Adhesive agents, paints, printing ink, plastics, ink ribbons, putties, caulking, filling materials (ultraviolet light absorbers)
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN)		

3A Prohibited substances in packaging materials (continued)

14. Dimethyl fumarate		
Target chemical substances	CAS No.	Application
Dimethyl fumarate	624-49-7	Moisture prevention agents, mildew-proofing agents
If the following case applies, the use of chemical substances is prohibited. (1) Inclusion of more than 0.1 ppm in packaging items		
Reference laws and regulations: 2009/251/EC concerning prohibition of launching products containing the biocide DMF according to the General Product Safety Directive (2001/95/EC)		
15. Halogen compounds and halogen resins		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Brominated compounds, chlorinated compounds, Poly vinyl chloride (PVC), fluorine contained resin, fluorine compounds, etc.	-	Flame retardants, adhesive
If the following case applies, the use of chemical substances is prohibited. (1) When added intentionally to plastic materials or used in these materials		
<Exemption> When the following case applies: (i) Poly vinyl chloride (PVC) articles used as packing repeatedly between suppliers and Canon. The exemption however is not applicable to articles designed anew on October 1, 2011 and after. Example: returnable container (ii) Parts and materials not primarily for performing packaging functions are used as packaging materials. The phrase “not primarily for performing packaging functions” refers to applications other than those for product protection or wrapping (case, cushioning materials, etc.). Example: hologram label, halogen compounds and fluorine additives used in printing inks as coloring agents. This exemption is not applicable when the contained halogen compound is specified as a prohibited substance in 3A. Note: “1. Halogenated compounds and halogenated plastics” are plastic materials including “polymers including halogen” defined in the Blue Angel Eco Mark Standard. Use of these materials in packaging materials is completely prohibited regardless of whether the packaged product is subject to compliance with environmental labels or not.		
Reference laws and regulations: Blue Angel, Eco Mark		
16. Cobalt dichloride (CoCl₂)		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Cobalt chloride or Cobalt(II) dichloride	7646-79-9	Humidity Indicator Cards (HIC), moisture indicator in silica gel
Cobalt(II) chloride hexahydrate	7791-13-1	
Cobalt(III) chloride	10241-04-0	
Cobalt chloride	34240-80-7	
If the following case applies, the use of chemical substances is prohibited. (1) The substance is contained as an indicator in a drying agent.		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII)		

3A Prohibited substances in packaging materials (continued)

17. Arsenic Compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Arsenic	7440-38-2	Wood preservative
Chromated copper arsenate (CCA)	37337-13-6	
Diarsenic pentoxide	1303-28-2	
Diarsenic trioxide	1327-53-3	
Triethyl arsenate	15606-95-8	
If the following case applies, the use of chemical substances is prohibited. (1) When used in timber as antiseptic agent		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)		
18. Methyl bromide		
Target chemical substances	CAS No.	Application
Methyl bromide	74-83-9	Wood pallets
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Reference laws and regulations: ISPM-15		
19. Dibutyltin (DBT) compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Dibutyltin oxide	818-08-6	Plasticizers, paper coatings, inks, stabilizer for PVC, curing catalyst for silicone resin and urethane resin,
Dibutyltin diacetate	1067-33-0	
Dibutyltin dilaurate	77-58-7	
If the following case applies, the use of chemical substances is prohibited. Inclusion exceeding the threshold given below is prohibited starting from July 1, 2011. (1) Inclusion of more than 1,000 ppm in packaging items <Exemption> The above compounds may be included up to June 30, 2014 if any of the following cases applies (deadline for placing on the EU market: December 31, 2014): (i) One-component and two-component room temperature vulcanisation sealants (RTV-1 and RTV-2 sealants) and adhesives (ii) Paints and coatings containing DBT compounds as catalysts when applied on articles Note: A metal converted value applies to the concentration for the target range.		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 276/2010)		
20. Dioctyltin (DOT) compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Dioctyltin oxide	870-08-6	Textiles
Dioctyltin dilaurate	3648-18-8	
If the following case applies, the use of chemical substances is prohibited. Inclusion exceeding the threshold given below is prohibited starting from July 1, 2011. (1) Inclusion of more than 1,000 ppm in packaging items in the following items: (i) Textile and (natural and/or man-made) leather articles intended to come into contact with the skin (ii) Two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits) Note: A metal converted value applies to the concentration for the target range.		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 276/2010)		

< Annex 3A-1 Some aromatic amines generated in the decomposition of one or more azo groups in packaging materials >

Some aromatic amines generated in the decomposition of one or more azo groups	
Name of aromatic amines	CAS No.
4-Aminoazobenzene	60-09-3
<i>o</i> -anisidine	90-04-0
2-naphthylamine	91-59-8
3,3'-dichlorobenzidine	91-94-1
biphenyl-4-ylamine	92-67-1
Benzidine	92-87-5
<i>o</i> -toluidine	95-53-4
4-chloro- <i>o</i> -toluidine	95-69-2
2,4-toluenediamine	95-80-7
<i>o</i> -aminoazotoluene	97-56-3
5-nitro- <i>o</i> -toluidine	99-55-8
3,3'-dichloro-4,4'-diaminodiphenylmethane	101-14-4
4,4'-methylenedianiline	101-77-9
4,4'-diaminodiphenylether	101-80-4
<i>p</i> -chloroaniline	106-47-8
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
2-methoxy-5-methylaniline	120-71-8
2,4,5-trimethylaniline	137-17-7
4,4'-thiodianiline	139-65-1
4-methoxy- <i>m</i> -phenylenediamine	615-05-4
4,4'-methylenedi- <i>o</i> -toluidine	838-88-0
<p>Note: The object of control under the these Standards is “azo dye/pigment that generates some aromatic amines.” This refers to azo compounds that generate any of the amines listed in Annex 3A-1 during the reductive decomposition of azo groups. The threshold level of 30 ppm specified in the applicable range applies not to the azo dyes/pigments but to the amines listed in Annex 3A-1.</p>	

3B Use-restricted substances in packaging materials (Chemical substances of which the deadline for allowing the inclusion in packaging delivered to Canon is set by Canon and of which the inclusion is prohibited after the deadline)

1. Perfluorooctanoate (PFOA)		
Target chemical substances	CAS No.	Application
Pentadecafluorooctanoic acid	335-67-1	Coating materials for packaging materials
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use The deadline for the inclusion of this substance in parts and materials delivered to Canon is December 31, 2015.</p> <p>Note: The deadline for the use is the one defined by the U.S. PFOA Self-Elimination Program. It may, however, become earlier according to laws and regulations or social trend, so please strive to eliminate PFOA.</p>		
<p>Reference laws and regulations: U.S. PFOA Self-Elimination Program</p>		

3C Controlled substances in packaging materials (Chemical substances requiring tracking of their absence/presence, content, purpose of use, and where they are used in packaging delivered to Canon.)

1. Formaldehyde		
Target chemical substances	CAS No.	Application
Formaldehyde	50-00-0	Textiles
If the following case applies, the use of chemical substances is controlled. (1) Textile products containing formaldehyde of which concentration is more than 0.0075 % (75ppm) by mass		
Reference laws and regulations: Australia-BGB I 1990/194: Formaldehyde Restriction §2, 12/2/1990 (Textile Products)		
2. Diarsenic pentoxide		
Target chemical substances	CAS No.	Application
Diarsenic pentoxide	1303-28-2	Biocide, metal refining
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items (However, use of the substance in timber as antiseptic agent is prohibited.)		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
3. Diarsenic trioxide		
Target chemical substances	CAS No.	Application
Diarsenic trioxide	1327-53-3	Biocide, metal refining
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items (However, use of the substance in timber as antiseptic agent is prohibited.)		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
4. Triethyl arsenate		
Target chemical substances	CAS No.	Application
Triethyl arsenate	15606-95-8	Flame retardant, biocide
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items (However, use of the substance in timber as antiseptic agent is prohibited.)		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
5. Hexabromocyclododecane (HBCDD) and all major diastereoisomers		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Hexabromocyclododecane	25637-99-4	Flame retardants (mainly used in expanded polystyrenes and certain kinds of fibers)
1,2,5,6,9,10-hexabromocyclododecane	3194-55-6	
α -hexabromocyclododecane	134237-50-6	
β -hexabromocyclododecane	134237-51-7	
γ -hexabromocyclododecane	134237-52-8	
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		

3C Controlled substances in packaging materials (continued)

6. Bis (2-ethylhexyl) phthalate (DEHP)		
Target chemical substances	CAS No.	Application
Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
7. Dibutyl phthalate (DBP)		
Target chemical substances	CAS No.	Application
Dibutyl phthalate (DBP)	84-74-2	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
8. Benzyl butyl phthalate (BBP)		
Target chemical substances	CAS No.	Application
Benzyl butyl phthalate (BBP)	85-68-7	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
9. Diisobutyl phthalate (DIBP)		
Target chemical substances	CAS No.	Application
Diisobutyl phthalate (DIBP)	84-69-5	Plasticizers, dyes, pigments, paints, ink, adhesive
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
10. Tris(2-chloroethyl) phosphate (TCEP)		
Target chemical substances	CAS No.	Application
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	Flame retardants, biocid
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		

3C Controlled substances in packaging materials (continued)

11. Boric acid		
Target chemical substances	CAS No.	Application
Boric acid	10043-35-3 11113-50-1	In wood veneers/ pressed wooden panels as starch additive, flame retardant and stabilizer in aminoplastic resin, wood preservative, as flame retardant in wood, cotton and other plant derived material
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
12. Disodium tetraborate, anhydrous		
Target chemical substances	CAS No.	Application
Disodium tetraborate, anhydrous	1330-43-4	In wood veneers/ pressed wooden panels as starch additive, flame retardant and stabilizer in aminoplastic resin, wood preservative
Disodium tetraborate, pentahydrate	12179-04-3	
Disodium tetraborate, decahydrate	1303-96-4	
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
13. Tetraboron disodium heptaoxide, hydrate		
Target chemical substances	CAS No.	Application
Tetraboron disodium heptaoxide, hydrate	12267-73-1	In wood veneers/ pressed wooden panels as starch additive, flame retardant and stabilizer in aminoplastic resin, wood preservative
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
14. 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)		
Target chemical substances	CAS No.	Application
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	Plasticizer
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
15. 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)		
Target chemical substances	CAS No.	Application
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	Plasticizer
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		

3C Controlled substances in packaging materials (continued)

16. 4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa- 2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)		
Target chemical substances	CAS No.	Application
4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	Colorant in plastics or paints
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: Those related to REACH Regulation (EC) No1907/2006 (ECHA Registry of Intentions October 25,2010)		

Attachment 2 List of Product Environmental Impact Substances

< Reference List of Product Environmental Impact Substances >

	Product			Packaging			REACH Regulation *1 Candidate list of SVHC for authorisation
	2A Prohibited substances	2B Use-restricted substances	2C Controlled substances	EU RoHS Directive 2002/95/EC	3A Prohibited substances in packaging materials	3B Use-restricted substances in packaging materials	
Polybrominated biphenyls (PBBs)	1			X	1*ii		
Polybrominated diphenyl ethers (PBDEs)	2			X	2*ii		
Polychlorinated biphenyls (PCBs) and specific substitutes	3				3		
Polychlorinated terphenyls (PCTs)	4				4		
Polychlorinated naphthalenes (more than 3 chlorine atoms)	5				5		
Tributyl tin oxide (TBTO)	6				6		X
Tri-substituted organostannic compounds	7				7		
Azocolourants and azodyes which form certain aromatic amines	8				8		
Shortchain chlorinated paraffins (C10-C13)	9				9		X
Ozone-depleting substances	10						
Cadmium and its compounds	11			X	10		
Hexavalent chromium compounds	12			X			
Lead and its compounds	13			X			
Mercury and its compounds	14			X			
Asbestos	15				11		
Perfluorooctane sulfonate (PFOS)	16				12*ii		
Fluorinated greenhouse gases (PFC, SF6, HFC)	17						
Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	18				13		
Dimethyl fumarate	19				14		
Halogen compounds and halogen resins					15*ii		
Polyvinyl chloride (PVC)			3		15		
Cobalt dichloride (CoCl ₂)			17		16		X
Arsenic Compounds					17		
Dibutyltin (DBT) compounds	20				18		
Diocetyl tin (DOT) compounds	21				19		
Methyl bromide					20		
Perfluorooctanoate (PFOA)		1*ii				1*ii	
Beryllium oxide (BeO)			1				
Nickel			2				
Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)			4				
Diisononyl phthalate (DINP), Diisodecyl phthalate (DIDP), Di-n-octyl phthalate (DNOP)			5				
Radioactive substances			6				
Formaldehyde			7			1	
Perchlorates			8				
Diarsenic pentoxide			9			2	X
Diarsenic trioxide			10			3	X

< Reference List of Product Environmental Impact Substances >

	Product			Packaging			REACH Regulation *i Candidate list of SVHC for authorisation
	2A Prohibited substances	2B Use-restricted substances	2C Controlled substances	EU RoHS Directive 2002/95/EC	3A Prohibited substances in packaging materials	3B Use-restricted substances in packaging materials	
Triethyl arsenate						4	X
Hexabromocyclododecane (HBCDD) and all major diastereoisomers			11			5	X
Bis (2-ethylhexyl) phthalate (DEHP)			12			6	X
Dibutyl phthalate (DBP)			13			7	X
Benzyl butyl phthalate (BBP)			14			8	X
Diisobutyl phthalate (DIBP)			15			9	X
Tris(2-chloroethyl) phosphate (TCEP)			16			10	X
Refractory Ceramic Fibres, Aluminosilicate			18				X
Refractory Ceramic Fibres, Zirconia Aluminosilicate			19				X
Boric acid			20			11	X
Disodium tetraborate, anhydrous			21			12	X
Tetraboron disodium heptaoxide, hydrate			22			13	X
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)			23			14	X
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)			24			15	X
4-[4,4'-bis(dimethylamino) benzhydrylidene] cyclohexa- 2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Violet 3)			25			16	*iii

*i These chemical substances are included in the “JIG Declarable Substance List” of JIG-101 and JIG-201(Not yet published at the time of issue of this Standard). The above list does not cover all the candidate substances for authorization under REACH.

*ii These chemical substances are not included in the “JIG Declarable Substance List” of JIG-101 and JIG-201(Not yet published at the time of issue of this Standard), but are originally added by Canon.

*iii ECHA Registry of Intentions October 25,2010