

Canon
Green Procurement Standards



Green

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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		7
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	25
- Attachment 2	List of Product Environmental Impact Substances	45

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. Chemical substance

A chemical element or compound that either exists in nature or is obtained through a manufacturing process..

Examples: lead oxide, nickel chloride, benzene, etc.

7. Mixture

A mixture intentionally comprising two or more chemical substances.

Examples: paints, inks, alloy ingot, solder, resin pellets , etc.

Note: The term “preparation” was used in Guidelines for the Management of Chemical Substances in Products, Ver. 2.(Issued by the former JGPSSI.) It is revised to “mixture”.

8. Article

An item of specific shape, appearance or design created during manufacture which substantially determines functions in final use rather than functions provided by its chemical composition.

Examples: metal plates, gears, integrated circuits, electric appliances, transport equipment, etc.

9. Chemical product

Chemical substance and mixture.

10. JGP file

Refers to the JGP file format established by the former JGPSSI, for electronic files used in standardized green procurement survey responses.

(Definitions of No. 6, 7, 8, 9 and 10 are quoted from the “Guidelines for the Management of Chemical Substances in Products.”)

11. 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.

12. 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.

13. 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
- PCB that is generated non-intentionally in the manufacturing process

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

- Arsenic and antimononic substances used as dopant in silicon substrates

14. 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.

15. IEC62474

One of the international standards published by the International Electrotechnical Commission (IEC). A document that specifies material declarations related to products and the electricity/electronic industry, as a successor to the JIG-101 (Material Composition Declaration Guide for Electrotechnical Products)

16. 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.

17. JIG-201

JIG-201 refers to the “Joint Industry Guide—Material Composition Declaration for Packaging of Electrotechnical Products”, which is an industry guideline for material composition declaration.

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” and “Packaging” parts of the “List of Product Environmental Impact Substances” contains chemical substances selected as follows:–

- Products

Substances contained in IEC62474 “Declarable substance groups and declarable substances” substances added by Canon according to social trends and changes in laws and regulations.

- Packaging

Substances contained in JIG-201 “JIG Declarable Substance List” and added after June 2013 (after D4.00) to IEC62474 “Declarable substance groups and declarable substances” (excluding substances judged by Canon to have low risk of inclusion in packaging), as well as 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 and items outside the applicable range must be controlled in the same manner as the controlled substances.

However, in case that chemical substances and mixtures (6. and 7. in ‘3. Definition of Terms’ above) delivered to Canon contain the prohibited substance(s), if Canon judges that such substance does not remain in Canon products or OEM products despite that the delivered chemical substances and mixtures would be used in Canon manufacturing processes, there are cases where they may be delivered to Canon.

(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 and items outside the applicable range 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.

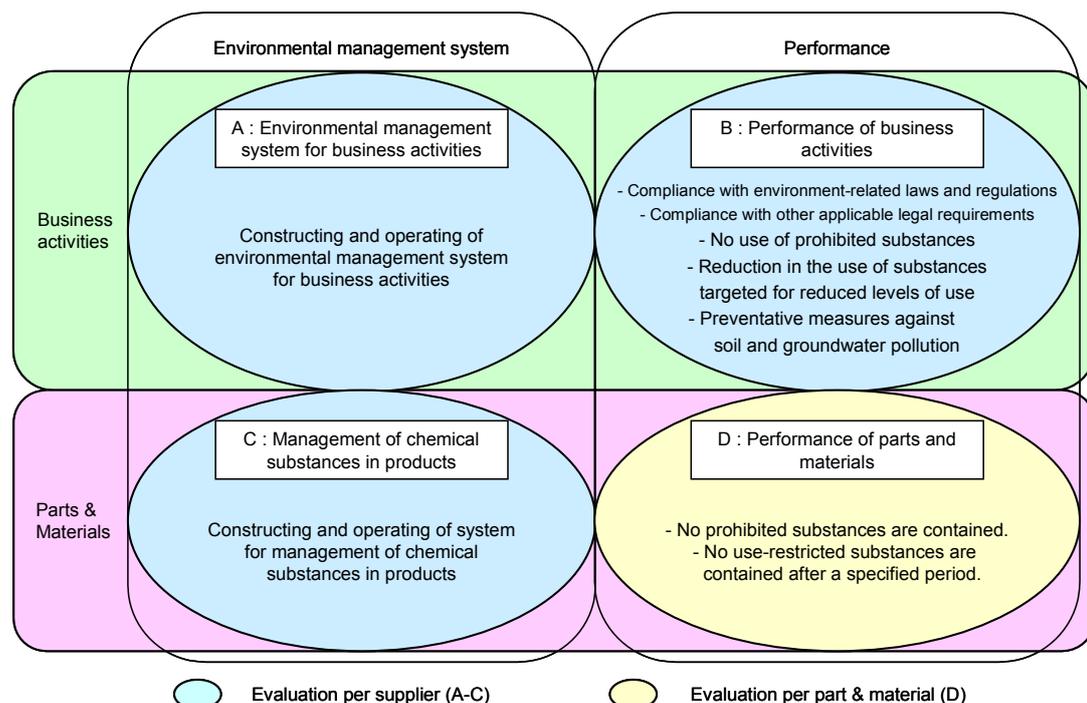


Figure 1 Four frameworks

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 7 to 11) 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 for Management of Chemical Substances in Products and action details in the “Guidelines for the Management of Chemical Substances in Products” issued by the JAMP (Joint Article Management Promotion-consortium). 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.3.0)”]

1. Management of Chemical Substances in Products in General

- The management system of chemical substances in products shall be established, documented, implemented, sustained and continuously improved in accordance with the action items stated in the Guidelines.

2. Representation of the Management Policy of Chemical Substances in Products

- Top managers shall determine the management policy of chemical substances in products and shall announce the effectual management of chemical substances in products.

3. Planning

3.1 Defining the management criteria of chemical substances in products

- The management criteria of chemical substances in products shall be determined and documented.

3.2 Target and Implementation Plan

- The target for management of chemical substances in products shall be set up. The implementation plan to achieve the target shall be established, implemented and sustained. The target and the implementation plan shall be reviewed if necessary.

3.3 Defining Responsibility and Authority

- For effective management of chemical substances in products, responsibilities and authorities shall be determined.

3.4 Internal Communication

- A procedure for the internal communication shall be established and the policy, the management criteria of chemical substances in products, the target, the implementation plan, responsibilities and authorities shall be notified to all related departments.

4. Operation and Management

4.1 Operation and Management in General

- For the purpose of producing products which can fulfill the management criteria of chemical substances in products, management of chemical substances in products shall be implemented at the respective stage of design and development, purchasing, manufacturing and delivery.

4.2 Management of Chemical Substances in Products at Design and Development

- For the purpose of producing products which can fulfill the management criteria of chemical substances in products in the stage of design and development, the management criteria of chemical substances in products shall be defined clearly and documented at the respective stage of purchasing, manufacturing and delivery in accordance with products and the type of business operation.

4.3 Management of Chemical Substances in Products at Purchasing

4.3.1 Collection and Verification of Information of Chemical Substances in Products

- The management criteria of chemical substances in products for purchasing (hereinafter referred to as “the purchase management criteria”) shall be presented for suppliers, and information of chemical substances in products shall be collect necessary. Information of chemical substances in the purchased products shall be verified if it satisfies the purchase management criteria and the result shall be recorded accordingly. Collection and verification of the information of chemical substances in products shall be completed in accordance with the purchase management criteria before start of manufacturing.

- 4.3.2 Verification of the State of managing Chemical Substances in Products at Supplier
- The state of managing chemical substances in products at the supplier shall be verified and recorded when supplier will be selected.
- In case that continuing business with the supplier, for the purpose of fulfilling the management criteria of chemical substances in products, the supplier's state of managing chemical substances in products shall be verified and recorded again if necessary.
- The actions against the outcome of the supplier's state of managing prior to verification shall be defined.
- 4.3.3 Management of Chemical Substances in Products at Receiving
- When receiving purchased products, they shall be verified if they fulfill the purchase management criteria of the organization and record accordingly.
- 4.4 Management of Chemical Substances in Products for the Manufacturing Process
- 4.4.1 Management of Chemical Substances in Products for the Manufacturing Process in General
- The manufacturing processes shall be managed in accordance with the management criteria of chemical substances in products for manufacturing processes and the result shall be recorded accordingly.
- 4.4.2 Prevention of Contamination by Incorrect Use or Admixture
- The preventive measures against contamination by incorrect use or admixture of declarable chemical substances under the management criteria of chemical substances in products shall be implemented.
- 4.5 Management at Delivery
- Before delivery products shall be verified if they satisfy the management criteria of chemical substances in products and the result shall be recorded accordingly. At receiving or at the manufacturing process, products shall be verified again to ensure that all predetermined check items are completely confirmed. In the warehouse also products shall be managed to prevent contamination by any incorrect shipment or mixed-up.
- 4.6 Verification of the State of managing Chemical Substances in Products at Outsourcing
- In the case some processes such as product design and development or manufacturing are outsourced to another organization, the state of managing chemical substances in products at the outsourcing organization shall be verified to ensure that the management criteria of chemical substances in products can be complied and the result shall be recorded accordingly.
- 4.7 Traceability
- Traceability of the information of chemical substances in products shall be assured by appropriate manners in order to obtain, utilize, disclose and transfer the information of chemical substances in products promptly.
- 4.8 Exchange of Information with the Customer
- The effective method of exchanging information with the customer for the following matters shall be clearly defined and implemented, and details of such information exchanged shall be recorded.
 - a) Laws, regulations and the industry criteria that are required by the customer to comply
 - b) Information of chemical substances in products
 - c) Information on the management of chemical substances in products
- In case that any change is happened to the information of chemical substances in products, such a change shall be notified to the customer in advance.
- 4.9 Change Management
- Elements of change which may affect objective chemical substances under the management criteria of chemical substances in products shall be extracted.
- When any change arises, before the actual change is taken place, the information of chemical substances in products shall be effectually confirmed and verified if the management criteria of chemical substances in products can still be fulfilled. The procedures of change management shall be documented and the result of change shall be recorded.

4.10 Response to Occurrence of Nonconformity

- The method of in-house contacts, the method of contacting suppliers, outsourcing organizations and customers as well as the temporary corrective actions, in order to correspond to any arising nonconformity relating to chemical substances in products shall be developed and documented. After the temporary measure is taken, the cause shall be investigated and identified, and the necessary countermeasures to prevent recurrence of nonconformity shall be determined and implemented. The preventive measures to avoid any occurrence of nonconformity shall be taken. The responses taken at nonconformity shall be recorded.

5. Management of Human Resources, Documentation and Information

5.1 Education and Training

- The contents of each management and operation module that are necessary to train and educate for management of chemical substances in products shall be developed. The works and personnel to be engaged in management of chemical substances in products shall be identified, and the necessary training and education shall be conducted and recorded accordingly.

5.2 Management of Document and Record

- The documents including “the procedures of documentation” and the records as required in the action items of the Guidelines as well as the procedures and the records which are determined as necessary shall be managed.

6. Evaluation and Improvement of State of Implementation

- The state of managing chemical substances in products periodically shall be evaluated. The corrective actions shall be implemented. The result of evaluation and the corrective actions shall be recorded and reported to top managers. The top management shall review the result of evaluation and the corrective actions.

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

<http://www.jamp-info.com/dl>

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:

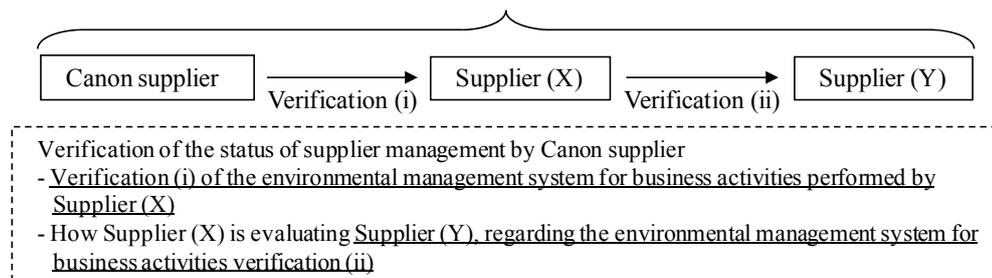
- Environmental label substances (Attachment 2 “2D Environmental label substances in plastic exterior enclosure members/cabinets for business machine products”)
- Chemical substances for which Canon must comply with customer requirements (Example :Attachment 2 “2E Prohibited substances in LBP (Laser Printer) parts”)
- 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 toward ISO14001 reduction of environmental burdens, 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

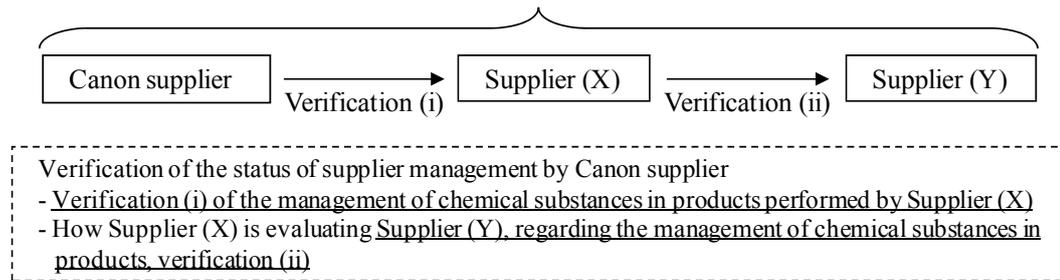


2. Requirements related to the Management of Chemical Substances in Products

- (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. 3)” 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 “Sample Answer, note & point of management” and their own situation.

- (3) 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



- (4) 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.
- (5) 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 (Laser Printer) parts”)

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 17).

- (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 perform a self-evaluation on the status of their activities with respect to the “Requirements” and submit the results using the format designated by Canon. Said format may be downloaded from Canon’s website (see page 24).

In addition to the results of self-evaluation explained, 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.

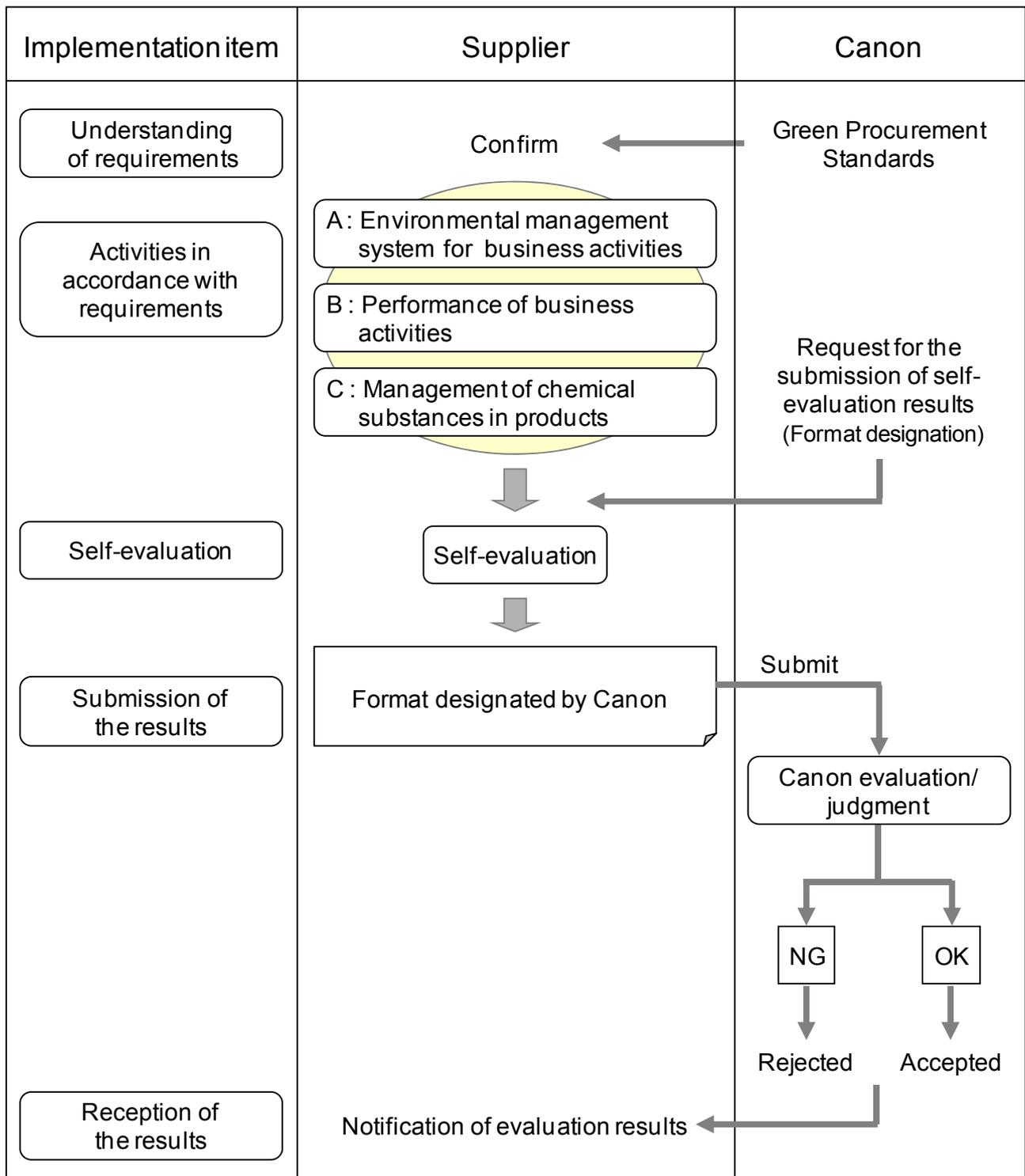


Figure 2 Supplier Environmental Evaluation Flow

(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)

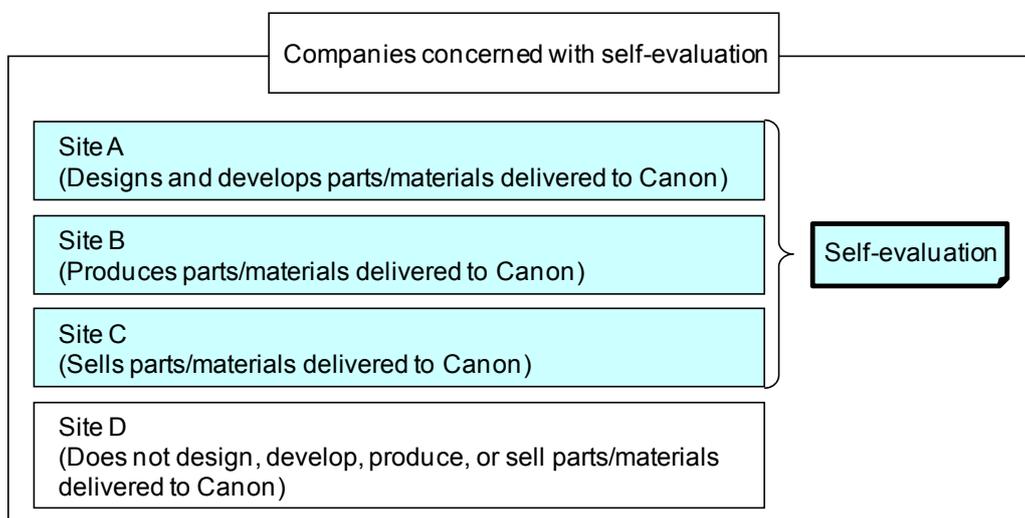
If the supplier is a trading company and currently unable to perform purchasing management in accordance with these Standards, the supplier takes the responsibility for checking the status of supplier management by manufacturers or subcontractor sites/plants that produce parts and materials delivered 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 the former JGPSSI. Suppliers are recommended to use for data entry survey tools (software) provided by the IEC/TC 111 Validation Team VT62474 Japanese mirror committee. In addition, even if the values are less than the specified reportable values, please write down the content information.

(2) “Canon Survey sheet for packaging” and “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 the subject of 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.

- (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.

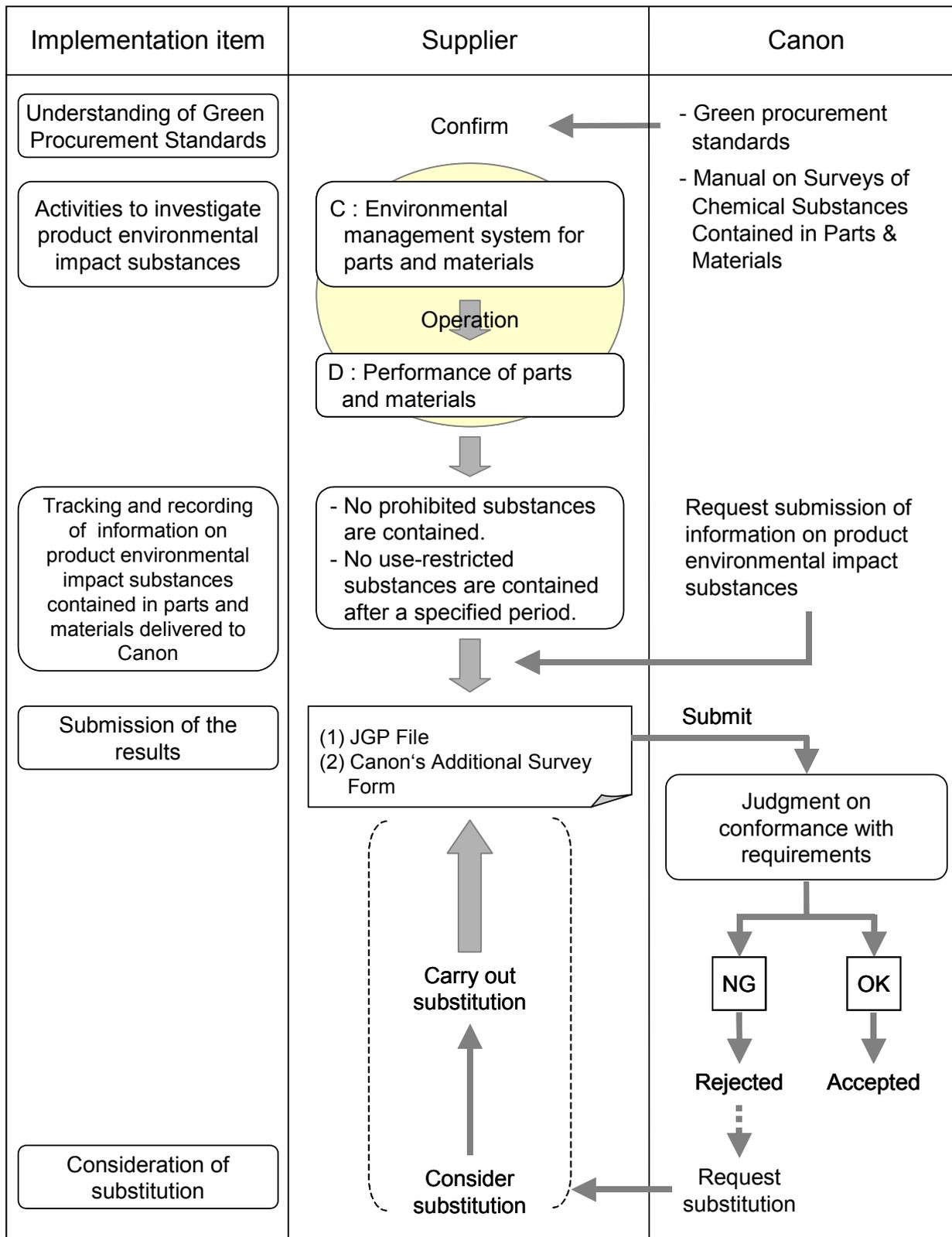


Figure 3 Parts and Materials Evaluation Flow

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.

Stipulations on the disclosure of information provided by suppliers to third parties outside of the Canon group are as follows. Suppliers who are inconvenienced by the disclosure of this information are asked to contact Canon.

Information provided by suppliers in “Supplier Environmental Evaluations” and/or “Article Evaluations” may be furnished to a third party as it was originally provided or in a processed state in the following cases.

- (1) To disclose or provide supplier information to government judicial agencies or administrative agencies based on directives from those agencies.
- (2) To disclose or provide supplier information to an audit corporation who performs an audit based on relevant laws.
- (3) To disclose or provide supplier information to obtain or maintain certifications from a certification authority.
- (4) To disclose or provide supplier information based on a request for disclosure from important customers, corporate investors and citizen groups.

Note that in the case of (4) above, suppliers will be notified in advance if Canon is to disclose or furnish information as it was originally provided by suppliers to a third party. “In a processed state” means that Canon may edit and furnish information provided by suppliers to a third party as part of Canon product-related information.

11. Acknowledgement of revisions

The handling of the “Canon Green Procurement Standards—Acknowledgement of Revision*” which Canon requests suppliers to submit each time the Standards are revised is as follows.

1. When revisions (1) and/or (2) are made, suppliers having direct dealings with Canon are to submit the “Canon Green Procurement Standards—Acknowledgement of Revision*”.
 - (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).
2. When revisions (1), (2), and/or (3) 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 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”
 - (2) Revision of supplements for the requirements
 - (3) Corrections of typos

* Suppliers are asked to submit this document to acknowledge 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 September 1, 2015

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
Ver.8.1	Mar. 2012	<ul style="list-style-type: none"> - Revision to Attachment 2 “List of Product Environmental Impact Substances” <p>[Products]</p> <ul style="list-style-type: none"> Addition to examples (typical examples of target chemical substances) in 2A Prohibited substances Revision to Annex 2A-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives Revision to Annex 2A-2 Items for Prohibition of the Use of Heavy Metals in Batteries Addition to 2C Controlled substances and revision to its contents <p>[Packaging]</p> <ul style="list-style-type: none"> Addition to examples (typical examples of target chemical substances) in 3A Prohibited substances in packaging materials <p>[Reference] Revision to List of Product Environmental Impact Substances</p>
Ver.9.0	Jun. 2013	<ul style="list-style-type: none"> - Additions and revision to definition of terms - Revision to Attachment 2 “List of Product Environmental Impact Substances” <p>[Products]</p> <ul style="list-style-type: none"> Addition to examples (typical examples of target chemical substances) in 2A Prohibited substances and change to scope of applicability Revision to Annex 2A-1-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives (common) Addition to Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only) Addition to 2B Use-restricted substances Addition to, deletion of, and addition of example substances to 2C Controlled substances, and deletion of controlled substances in accordance with integration with IEC62474 “Declarable substance groups and declarable substances” Environmental label substances in plastic exterior enclosure members/cabinets for Addition to 2D business machine products(Eco Mark, Blue Angel) Addition to and Correction of 2E Prohibited substances in LBP (Laser Printer) parts <p>[Packaging]</p> <ul style="list-style-type: none"> Addition to examples (typical examples of target chemical substances) in 3A Addition to, deletion of, and addition of example substances for 3C Controlled substances in packaging materials <p>[Reference] Revision to List of Product Environmental Impact Substances</p> <ul style="list-style-type: none"> - Revision to Format 2 “Survey on Current State” in accordance with strengthening of environmental risk management in the supply chain
Ver.9.01	Jul. 2013	<ul style="list-style-type: none"> - Correction of errors in writing <p>Diarsenic pentoxide (CAS No. 1303-28-2) have been corrected as Diarsenic trioxide (CAS No. 1327-53-3) on Page 63.</p>

Ver.10.0	Jun. 2014	<ul style="list-style-type: none"> - Definitions of terms have been corrected. - The requirements for the management of chemical substances in products C have been changed to those specified in the “Guidelines for the Management of Chemical Substances in Products (Ver.3).” - Attachment 1 “List of Production Environmental Impact Substances” has been revised <ul style="list-style-type: none"> Addition to 1A Prohibited substances - Attachment 2 “List of Product Environmental Impact Substances” has been revised <ul style="list-style-type: none"> [Products] <ul style="list-style-type: none"> Addition to, correction of, and changes to scope of 2A Prohibited substances. Addition to and correction of exempted applications and exemption expirations in Annex 2A-1-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives (common) Revision to Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only) Deletion from and correction of Annex 2A-2 Items for Prohibition of the Use of Heavy Metals in Batteries Deletion from and correction of 2B Use-restricted substances Addition to and deletion from 2C Controlled substances Correction of exceptions in 2E Prohibited substances in LBP (Laser Printer) parts [Packaging] <ul style="list-style-type: none"> Addition to and changes to scope of 3A Prohibited substances in packaging materials Addition to and deletion from 3B Use-restricted substances in packaging materials Addition to, deletion from, and changes to scope of 3C Controlled substances in packaging materials [Reference] Changes in List of Product Environmental Impact Substances - Format 3 “Action Item List & Check Sheet (Canon version)” has been revised to Ver. 3.0
Ver.10.01	Sep. 2014	<ul style="list-style-type: none"> - Correction of errors in writing
Ver.11.0	Jun. 2015	<ul style="list-style-type: none"> - Change to format for self-evaluation by suppliers for supplier environmental evaluation - Revision to stipulations on disclosure of information to third parties - Attachment 2 “List of Product Environmental Impact Substances” has been revised <ul style="list-style-type: none"> [Products] <ul style="list-style-type: none"> Addition to, correction of, and changes to scope of 2A Prohibited substances. Addition to and correction of exempted applications and exemption expirations and abolition of exemption expirations at Canon in Annex 2A-1-1 Exempted Applications of Heavy Metals Restricted by RoHS Directives (common) and Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only) Changes to scope of 2B Use-restricted substances Addition to and deletion from 2C Controlled substances 2D Revision to Environmental label substances used in plastic enclosure members/cabinets for business machine products 2E Revision to Prohibited substances in LBP (Laser Printer) parts [Packaging] <ul style="list-style-type: none"> Changes to scope of 3A Prohibited substances in packaging materials Addition to, deletion of 3C Controlled substances in packaging materials 3E Addition to Prohibited substances in LBP (Laser Printer) parts [Reference] Changes in List of Product Environmental Impact Substances

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.....	26
1B	Substances Targeted for Reduced Levels of Use.....	28
1C	Controlled Substances.....	29

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

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
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)
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
47	115-29-7	Endosulfan
	959-98-8	
	33213-65-9	

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
48	25637-99-4	Hexabromocyclododecane
	3194-55-6	
	4736-49-6	
	65701-47-5	
	134237-50-6	
	134237-51-7	
	134237-52-8	
	138257-17-7	
	138257-18-8	
	138257-19-9	
	169102-57-2	
	678970-15-5	
	678970-16-6	
678970-17-7		
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
49	-	Tetraphosphorus
50	-	Benzidine and its salts
51	-	4-Aminobiphenyl and its salts
(18)	-	Asbestos
52	-	4-Nitrobiphenyl and its salts
53	-	Bis(chloromethyl) ether
54	-	β -Naphthylamine and its salts
55	-	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 June 2015, 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
56	-	Zinc compounds (water soluble)
57	79-06-1	Acrylamide
58	140-88-5	ethyl acrylate
59	-	Acrylic acid and its water-soluble salts
60	2439-35-2	2-(Dimethylamino) ethyl acrylate
61	818-61-1	2-hydroxyethyl acrylate
62	141-32-2	n-butyl acrylate
63	96-33-3	Methyl acrylate
64	107-13-1	Acrylonitrile
65	107-02-8	Acrolein
66	26628-22-8	sodium azide
67	75-07-0	Acetaldehyde
68	75-05-8	Acetonitrile
69	75-86-5	acetone cyanohydrin
70	83-32-9	acenaphthene
71	78-67-1	2,2'-Azobisisobutyronitrile
72	90-04-0	<i>o</i> -anisidine
73	62-53-3	aniline
74	82-45-1	1-amino-9,10-anthraquinone
75	141-43-5	2-aminoethanol
76	1698-60-8	5-amino-4-chloro-2-phenylpyridazin-3(2H)-one (chloridazon)
77	120068-37-3	5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-3-cyano-4-[(trifluoromethyl) sulfinyl]pyrazole
78	123-30-8	<i>p</i> -aminophenol
79	591-27-5	<i>m</i> -aminophenol
80	21087-64-9	4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one (metribuzin)
81	107-11-9	3-amino-1-propene
82	41394-05-2	4-amino-3-methyl-6-phenyl-1,2,4-triazin-5(4H)-one (metamitron)
83	107-18-6	Allyl alcohol
84	106-92-3	1-allyloxy-2,3-epoxypropane
85	-	n-alkylbenzenesulfonic acid and its salts (alkyl C=10-14)
86	-	Antimony and its compounds
87	120-12-7	Anthracene
88	4098-71-9	3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
89	78-84-2	isobutyraldehyde
90	78-79-5	Isoprene

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
91	80-05-7	4,4'-isopropylidenediphenol (Bisphenol A)
92	4162-45-2	2,2'-{Isopropylidenebis[(2,6-dibromo-4,1-phenylene)oxy]} diethanol
93	22224-92-6	O-ethyl-O-(3-methyl-4-methylthiophenyl) N-isopropylaminophosphonate (fenamiphos)
94	149877-41-8	isopropyl 2-(4-methoxybiphenyl-3-yl)hydrazinofornate (bifenazate)
95	66332-96-5	3'-isopropoxy-2-trifluoromethylbenzanilide (flutolanil)
96	96-45-7	2-imidazolidinethione
97	13516-27-3	1,1'-[iminodi(octamethylene)]diguandine (Iminoctadine)
98	-	indium and its compounds
99	75-08-1	Ethanethiol
100	76578-14-8	Ethyl 2-[4-(6-chloro-2-quinoxanyloxy)phenoxy]propionate
101	36335-67-8	O-ethylO-(6-nitro-m-tolyl)sec-butylphosphoramidothioate (Butamifos)
102	2104-64-5	O-ethylO-4-nitrophenylphosphonothioate (EPN)
103	40487-42-1	Pendimethalin
104	2212-67-1	Molinate
105	149-57-5	2-ethylhexanoic acid
106	83130-01-2	Ethyl (Z)-3-[N-benzyl-N-[[methyl(1-methylthioethylideneamino)oxycarbonyl]amino]thio]amino]propionate (alanycarb)
107	100-41-4	Ethylbenzene
108	98886-44-3	O-ethyl S-1-methylpropyl (2-oxo-3-thiazolidinyl)phosphonothioate (fosthiazate)
109	151-56-4	ethyleneimine
110	75-21-8	Ethylene oxide
111	110-80-5	Ethylene glycol monoethyl ether
112	109-86-4	Ethylene glycol monomethyl ether
113	107-15-3	Ethylenediamine
114	60-00-4	Ethylenediaminetetraacetic acid
115	12427-38-2	Maneb

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
116	8018-01-7	mancozeb
117	85-00-7	1,1'-ethylene-2,2'-bipyridinium dibromide
118	80844-07-1	2-(4-ethoxyphenyl)-2-methylpropyl 3-phenoxybenzyl ether (etofenprox)
119	106-89-8	Epichlorohydrin
120	106-88-7	1,2-epoxybutane
121	556-52-5	2,3-Epoxy-1-propanol
122	75-56-9	Propylene oxide
123	122-60-1	2,3-Epoxypropyl phenyl ether
124	155569-91-8	emamectin benzoate (mixture of emamectinB1a benzoate and emamectinB1b benzoate)
125	7705-08-0	ferric chloride
126	85535-84-8	chlorinated paraffin (C=10-13)
127	111-87-5	1-Octanol
128	1806-26-4	<i>p</i> -Octylphenol
129	-	Cadmium and its compounds
130	105-60-2	ϵ -Caprolactam
131	156-62-7	calcium cyanamide
132	105-67-9	2,4-xylenol
133	576-26-1	2,6-Xylenol
134	1330-20-7	Xylene
135	91-22-5	quinoline
136	-	Silver and its compounds (water soluble)
137	98-82-8	cumene
138	107-22-2	Glyoxal
139	111-30-8	Glutaraldehyde
140	1319-77-3	Cresol
141	-	Chromium and chromium (III) compounds
142	-	Chromium(VI) compounds
143	-	Chloroaniline
144	1912-24-9	Atrazine
145	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
146	129558-76-5	4-chloro-3-ethyl-1-methyl-N-[4-(p-tolyloxy)benzyl]pyrazole-5-carboxamide (tolfenpyrad)
147	51218-45-2	2-Chloro-2'-ethyl-N-(2-methoxy-1-methylethyl)-6'-methylacetanilide
148	75-01-4	Vinyl chloride [monomer only]
149	79622-59-6	3-Chloro-N-(3-chloro-5-trifluoromethyl-2-pyridyl)- α,α,α -trifluoro-2,6-dinitro-p-toluidine
150	119446-68-3	1-[[2-[2-Chloro(4-chlorophenoxy)phenyl]-4-methyl-1,3-dioxolan-2-yl]methyl]-1H-1,2,4-triazol
151	611-19-8	1-chloro-2-(chloromethyl)benzene
152	79-11-8	Chloroacetic acid
153	105-39-5	ethyl chloroacetate
154	51218-49-6	Pretilachlor
155	15972-60-8	Alachlor
156	97-00-7	1-Chloro-2,4-dinitrobenzene
157	7085-19-0	(RS)-2-(4-chloro-o-tolyloxy)propionic acid (mecoprop)
158	95-49-8	<i>o</i> -Chlorotoluene
159	106-43-4	<i>p</i> -chlorotoluene
160	121-87-9	2-chloro-4-nitroaniline
161	88-73-3	2-chloronitrobenzene
162	122-34-9	Simazine
163	133220-30-1	(RS)-2-[2-(3-chlorophenyl)-2,3-epoxypropyl]-2-ethylindane-1,3-dione (indanofan)
164	158237-07-1	4-(2-chlorophenyl)-N-cyclohexyl-N-ethyl-4,5-dihydro-5-oxo-1H-tetrazole-1-carboxamide (fentrazamide)
165	78587-05-0	(4RS,5RS)-5-(4-chlorophenyl)-N-cyclohexyl-4-methyl-2-oxo-1,3-thiazolidine-3-carboxamide (hexythiazox)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
166	107534-96-3	(RS)- 1-p-chlorophenyl-4,4-dimethyl-3--(1H-1,2,4-triazol-1-ylmethyl)pentan-3-ol (tebuconazole)
167	88671-89-0	2-(4-chlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)hexanenitrile (myclobutanil)
168	114369-43-6	(RS)-4-(4-chlorophenyl)-2-phenyl-2-(1H-1,2,4-triazol-1-ylmethyl)butyronitrile (fenbuconazole)
169	95-57-8	o-chlorophenol
170	106-48-9	p-chlorophenol
171	598-78-7	2-chloropropionic acid
172	107-05-1	Allyl chloride
173	99485-76-4	1-(2-chlorobenzyl)-3-(1-methyl-1-phenylethyl)urea (cumyluron)
174	108-90-7	Chlorobenzene
175	67-66-3	Chloroform
176	74-87-3	Methyl chloride
177	59-50-7	4-chloro-3-methylphenol
178	94-74-6	(4-Chloro-2-methylphenoxy) acetic acid
179	563-47-3	3-chloro-2-methyl-1-propene
180	-	Cobalt and its compounds
181	111-15-9	Ethylene glycol monoethyl ether acetate
182	108-05-4	Vinyl acetate
183	110-49-6	Ethylene glycol monomethyl ether acetate
184	90-02-8	Salicylaldehyde
185	420-04-2	cyanamide
186	139920-32-4	(RS)-2-cyano-N-[(R)-1-(2,4-dichlorophenyl)ethyl]-3,3-dimethylbutyramide (diclocymet)
187	66841-25-6	(S)-alpha-cyano-3-phenoxybenzyl (1R,3S)-2,2-dimethyl-3-(1,2,2,2-tetrabromoethyl)cyclopropanecarboxylate (tralomethrin)
188	39515-41-8	(RS)-alpha-cyano-3-phenoxybenzyl 2,2,3,3-tetramethylcyclopropanecarboxylate (fenpropathrin)
189	57966-95-7	trans-1-(2-cyano-2-methoxyiminoacetyl)-3-ethylurea (cymoxanil)
190	615-05-4	2,4-diaminoanisole

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
191	101-80-4	4,4'-diaminodiphenyl ether
192	-	Inorganic cyanogen compounds(except complex salts and cyanate)
193	100-37-8	2-(Diethylamino) ethanol
194	29232-93-7	O-2-diethylamino-6-methylpyrimidin-4-yl O,O-dimethyl phosphorothioate (pirimiphos-methyl)
195	28249-77-6	S-4-chlorobenzylN,N-diethylthiocarbamate (Thiobencarb)
196	125306-83-4	N, N-Diethyl-3-(2,4,6-trimethylphenylsulfonyl)-1H-1,2,4-triazol-1-carboxamide (cafenstrole)
197	123-91-1	1,4-Dioxane
198	646-06-0	1,3-dioxolane
199	15263-53-3	1,3-dicarbamoylthio-2-(N,N-dimethylamino)-propane (cartap)
200	7696-12-0	cyclohex-1-ene-1,2-dicarboximidomethyl (1RS)-cis-trans-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate (tetramethrin)
201	108-91-8	Cyclohexylamine
202	17796-82-6	N-(cyclohexylthio)phthalimide
203	-	Dichloroaniline
204	101-14-4	3,3'-dichloro-4,4'-diaminodiphenylmethane
205	23950-58-5	Propyzamide
206	95-73-8	2,4-dichlorotoluene
207	99-54-7	1,2-dichloro-4-nitrobenzene
208	89-61-2	1,4-Dichloro-2-nitrobenzene
209	36734-19-7	3-(3,5-dichlorophenyl)-N-isopropyl-2,4-dioximidazolidine-1-carboxamide (iprodione)
210	330-54-1	3-(3,4-Dichlorophenyl)-1,1-dimethylurea
211	112281-77-3	(RS)-2-(2,4-dichlorophenyl)-3-(1H-1,2,4-triazol-1-yl)propyl 1,1,2,2-tetrafluoroethyl ether (tetraconazole)
212	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)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
213	153197-14-9	3-[1-(3,5-dichlorophenyl)-1-methylethyl]-3,4-dihydro-6-methyl-5-phenyl-2H-1,3-oxazin-4-one (oxaziclomefone)
214	50471-44-8	(RS)-3-(3,5-dichlorophenyl)-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione (vinclozolin)
215	330-55-2	3-(3,4-Dichlorophenyl)-1-methoxy-1-methylurea
216	94-75-7	2,4-Dichlorophenoxyacetic acid
217	78-87-5	1,2-Dichloropropane
218	91-94-1	3,3'-Dichlorobenzidine
219	-	Dichlorobenzene
220	71561-11-0	2-[4-(2,4-Dichlorobenzoyl)-1,3-dimethyl-5-pyrazolyloxy] acetophenone
221	1194-65-6	4-(2,4-Dichlorobenzoyl)-1,3-dimethyl-5-pyrazolyl 4-toluenesulfonate
222	58011-68-0	2,6-Dichlorobenzonitrile
223	3347-22-6	2,3-Dicyano-1,4-dithiaanthraquinone
224	101-83-7	N,N-dicyclohexylamine
225	4979-32-2	N,N-dicyclohexyl-2-benzothiazolesulfenamide
226	77-73-6	dicyclopentadiene
227	50512-35-1	Isoprothiolane
228	17109-49-8	O-ethyl S,S-dyphenyl phosphorodithioate
229	298-04-4	O,O-diethyl-S-2-(ethylthio)ethyl phosphorodithioate
230	2310-17-0	O,O-diethyl-S-(6-chloro-2,3-dihydro-2-oxobenzoxazoliny)methyl (phosphorodithioate)
231	34643-46-4	O-2,4-Dichlorophenyl-O-ethyl-S-propyl dithiophosphate
232	950-37-8	S-(2,3-dihydro-5-methoxy-2-oxo-1,3,4-thiadiazolin-3-yl)methyl O,O-dimethylphosphorodithioate
233	121-75-5	Malathon
234	60-51-5	Dimethoate

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
235	16090-02-1	disodium 2,2'-vinylenebis[5-(4-morpholino-6-anilino-1,3,5-triazin-2-ylamino) benzenesulfonate] (C.I. Fluorescent 260)
236	25321-14-6	Dinitrotoluene
237	51-28-5	2,4-Dinitrophenol
238	1321-74-0	divinylbenzene
239	122-39-4	Diphenylamine
240	101-84-8	diphenyl ether
241	102-06-7	1,3-diphenylguanidine
242	55285-14-8	Carbosulfan
243	128-37-0	2,6-di-tert-butyl-4-cresol
244	96-76-4	2,4-di-tert-butylphenol
245	124-48-1	dibromochloromethane
246	10222-01-2	2,2-dibromo-2-cyanoacetamide
247	30560-19-1	(RS)-O,S-dimethyl acetylphosphoramidothioate (acephate)
248	127-19-5	N,N-dimethylacetamide
249	95-68-1	2,4-dimethylaniline
250	87-62-7	2,6-Dimethylaniline
251	121-69-7	N,N-dimethylaniline
252	31895-21-3	5-dimethylamino-1,2,3-trithiane (thiocyclam)
253	124-40-3	dimethylamine
254	624-92-0	dimethyl disulfide
255	-	water-soluble salts of dimethyldithiocarbamic acid
256	82560-54-1	2,2-dimethyl-2,3-dihydro-1-benzofuran-7-yl N-[N-(2-ethoxycarbonyl-ethyl)-N-isopropylsulfenamoyl]-N-methylcarbamate (benfuracarb)
257	62850-32-2	S-4-Phenoxybutyl N,N-dimethylthiocarbamate (phenothiocab)
258	112-18-5	N,N-dimethyldodecylamine
259	1643-20-5	N,N-Dimethyldodecylamine-N-oxide
260	52-68-6	dimethyl 2,2,2-trichloro-1-hydroxyethyl phosphonate
261	57-14-7	1,1-dimethylhydrazine
262	1910-42-5	1,1'-Dimethyl-4,4'-dipyridinium dichloride
263	91-97-4	3,3'-dimethylbiphenyl-4,4'-diyl diisocyanate
264	23564-05-8	dimethyl 4,4'-(o-phenylene)bis(3-thioallophanate) (thiophanate-methyl)
265	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
266	119-93-7	<i>o</i> -Tolidine
267	68-12-2	N,N-dimethylformamide
268	2597-03-7	ethyl 2-[(dimethoxyphosphinothioyl)thio]-2-phenylacetate (phenthoate;PAP)
269	7726-95-6	bromine
270	-	water-soluble salts of bromic acid
271	3861-47-0	3,5-Diiodo-4-octanoyloxybenzotrile
272	-	Mercury and its compounds
273	61788-32-7	hydrogenated terphenyl
274	-	Organic tin compounds
275	100-42-5	Styrene [monomer only]
276	4016-24-4	sodium salt of 2-sulfohexadecanoic acid 1-methyl ester
277	-	Selenium and its compounds
278	-	dioxins
279	533-74-4	2-Thio-3,5-dimethyltetrahydro-1,3,5-thiadiazine (dazomet)
280	62-56-6	Thiourea
281	108-98-5	Thiophenol
282	77458-01-6 (89784-60-1)	Pyraclofos (including both optical isomers)
283	333-41-5	Diazinon
284	2921-88-2	Chlorpyrifos
285	18854-01-8	Isoxathone
286	122-14-5	Fenitrothion
287	55-38-9	O,O-dimethyl O -3-methyl-4-(methylthio)phenyl phosphorothioate (fenthion;MPP)
288	41198-08-7	O-4-Bromo-2-chlorophenyl-O-ethyl-S-propylphosphorothioate (profenofos)
289	26087-47-8	Iprobenphos
290	1163-19-5	Decabromodiphenyl ether
291	334-48-5	decanoic acid
292	112-30-1	decyl alcohol (decanol)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
293	100-97-0	1,3,5,7-Tetrazatricyclo[3.3.1.1 ^{3,7}]decane
294	97-77-8	tetraethylthiuram disulfide (disulfiram)
295	1897-45-6	Chlorothalonil
296	27355-22-2	4,5,6,7-tetrachloroisobenzofuran-1(3H)-one (phthalide)
297	118-75-2	2,3,5,6-tetrachloro-p-benzoquinone
298	11070-44-3	Tetrahydromethylphthalic anhydride
299	79538-32-2	2,3,5,6-tetrafluoro-4-methylbenzyl (Z)-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate (tefluthrin)
300	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)
301	137-26-8	Tetramethylthiuram disulfide (thiram)
302	505-32-8	3,7,11,15-tetramethylhexadec-1-en-3-ol (isophytol)
303	100-21-0	Terephthalic acid
304	120-61-6	dimethyl terephthalate
305	-	copper salts (water-soluble, except complex salts)
306	112-53-8	1-dodecanol (n-dodecyl alcohol)
307	25103-58-6	tert-dodecanethiol
308	151-21-3	sodium dodecyl sulfate
309	112-57-2	3,6,9-triazaundecane-1,11-diamine (tetraethylenepentamine)
310	121-44-8	triethylamine
311	112-24-3	triethylenetetramine
312	76-03-9	trichloroacetic acid
313	108-77-0	2,4,6-trichloro-1,3,5-triazine
314	76-06-2	Trichloronitromethane (chloropicrin)
315	55335-06-3	(3,5,6-Trichloro-2-pyridyl)oxyacetic acid (triclopyr)
316	88-06-2	2,4,6-trichlorophenol
317	96-18-4	1,2,3-trichloropropane
318	-	trichlorobenzene
319	2451-62-9	1,3,5-Tris(2,3-epoxypropyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione
320	102-82-9	tributylamine

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
321	1582-09-8	Trifluralin
322	118-79-6	2,4,6-Tribromophenol
323	3452-97-9	3,5,5-Trimethyl-1-hexanol
324	95-63-6	1,2,4-trimethylbenzene
325	108-67-8	1,3,5-Trimethylbenzene
326	26471-62-5	Tolylene diisocyanate
327	-	Toluidine
328	108-88-3	Toluene
329	25376-45-8	toluenediamine
330	91-20-3	naphthalene
331	3173-72-6	1,5-naphthalenediyl diisocyanate
332	7439-92-1	Lead
333	-	lead compounds
334	13048-33-4	hexamethylene diacrylate
335	7699-43-6	zirconium dichloride oxide
336	7440-02-0	Nickel
337	-	Nickel compounds
338	139-13-9	Nitrilotriacetic acid (NTA)
339	91-23-6	o-nitroanisole
340	88-74-4	o-nitroaniline
341	55-63-0	Nitroglycerine
342	100-00-5	p-nitrochlorobenzene
343	88-72-2	o-nitrotoluene
344	98-95-3	Nitrobenzenes
345	75-52-5	nitromethane
346	75-15-0	Carbon disulfide
347	143-08-8	1-nonanol (n-nonyl alcohol)
348	25154-52-3	Nonylphenol
349	-	vanadium compounds
350	3618-72-2	5'-[N,N-bis(2-acetyloxyethyl)amino]-2'-(2-bromo-4,6-dinitrophenylazo)-4'-methoxyacetanilide
351	1014-70-6	Simetryn
352	101-90-6	1,3-bis[(2,3-epoxypropyl)oxy]benzene
353	10380-28-6	Oxine copper
354	74115-24-5	3,6-Bis(2-chlorophenyl)-1,2,4,5-tetrazine
355	782-74-1	1,2-bis(2-chlorophenyl)hydrazine
356	137-30-4	Ziram
357	64440-88-6	N,N-Ethylenebis(thiocarbamoylthiozinc) bis(N,N-dimethyldithiocarbamate)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
358	80-43-3	bis(1-methyl-1-phenylethyl) peroxide
359	95465-99-9	S,S-bis(1-methylpropyl) O-ethyl phosphorodithioate (cadusafos)
360	-	Arsenic and its inorganic compounds
361	302-01-2	Hydrazine
362	99-76-3	methyl 4-hydroxybenzoate
363	103-90-2	N-(4-hydroxyphenyl)acetamide
364	123-31-9	Hydroquinone
365	100-40-3	4-Vinyl-1-cyclohexene
366	100-69-6	2-Vinylpyridine
367	88-12-0	N-vinyl-2-pyrrolidone
368	92-52-4	biphenyl
369	110-85-0	Piperazine
370	110-86-1	Pyridine
371	120-80-9	Pyrocatechol
372	96-09-3	phenyloxirane
373	100-63-0	phenylhydrazine
374	90-43-7	2-phenylphenol
375	941-69-5	N-phenylmaleimide
376	-	Phenylenediamine
377	108-95-2	Phenol
378	52645-53-1	Permethrin
379	106-99-0	1,3-butadiene
380	131-17-9	diallyl phthalate
381	84-66-2	diethyl phthalate
382	84-74-2	Di-n-butyl phthalate
383	117-81-7	Bis(2-ethylhexyl) phthalate
384	85-68-7	n-butyl benzyl phthalate
385	69327-76-0	2-tert-Butylimino-3-isopropyl-5-phenyltetrahydro-4H-1,3,5-thiadiazin-4-one (buprofezin)
386	112410-23-8	N-tert-Butyl-N'-(4-ethylbenzoyl)-3,5-dimethylbenzohydrazide (tebufenozide)
387	2426-08-6	n-butyl-2,3-epoxypropyl ether
388	17804-35-2	Benomyl
389	122008-85-9	Butyl (R)-2-[4-(4-cyano-2-fluorophenoxy)phenoxy]propionate (cyhalofop-butyl)
390	80060-09-9	1-tert-Butyl-3-(2,6-diisopropyl-4-phenoxyphenyl)thiourea (diafenthuron)

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
391	19666-30-9	5-tert-butyl-3-(2,4-dichloro-5-isopropoxyphenyl)-1,3,4-oxadiazol-2(3H)-one (oxadiazon)
392	134098-61-6	Tert-butyl 4-([1,3-dimethyl-5-phenoxy-4-pyrazolyl)methylene]aminoxymethyl)benzoate
393	25013-16-5	Butylhydroxyanisole (BHA)
394	75-91-2	tert-butyl hydroperoxide
395	89-72-5	o-sec-butylphenol
396	98-54-4	4-tert-butylphenol
397	2312-35-8	2-(4-tert-Butylphenoxy) cyclohexyl2-propynyl sulfite (propargite;BPPS)
398	96489-71-3	2-tert-butyl-5-(4-tert-butylbenzylthio)-4-chloro-3(2H)-pyridazinone
399	119168-77-3	Tebufenpyrad
400	95-31-8	N-(tert-Butyl)-2-benzothiazolesulfenamide
401	88-60-8	2-tert-butyl-5-methylphenol
402	-	Hydrogen fluoride and its salts (water-soluble)
403	4170-30-3	2-butenal
404	23184-66-9	N-butoxymethyl-2-chloro-2',6'-diethylacetanilide (butachlor)
405	110-00-9	furan
406	12071-83-9	Polymer of N,N'-propylenebis (dithiocarbamate) and zinc
407	107-19-7	2-propyn-1-ol
408	75-27-4	Bromodichloromethane
409	314-40-9	5-bromo-3-sec-butyl-6-methyl-1,2,3,4-tetrahydropyrimidine-2,4-dione (bromacil)
410	106-94-5	1-bromopropane
411	75-26-3	2-Bromopropane
412	13356-08-6	Fenbutatin oxide
413	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
414	112-02-7	hexadecyltrimethylammonium chloride
415	124-09-4	Hexamethylenediamine
416	822-06-0	Hexamethylene diisocyanate
417	110-54-3	n-hexane
418	135-19-3	betanaphthol
419	-	Beryllium and its compounds

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
420	-	water-soluble salts of peroxodisulfuric acid
(35)	1763-23-1	perfluoro(octane-1-sulfonic acid) (PFOS) (Only when it is a prohibited substance and its use is exempted)
421	98-07-7	Benzylidene trichloride
422	100-44-7	Benzyl chloride
423	100-52-7	Benzaldehyde
424	552-30-7	1,2,4-Benzenetricarboxylic acid 1,2-anhydride
425	73250-68-7	2-(2-Benzothiazolyloxy)-N-methylacetanilide
426	119-61-9	benzophenone
427	87-86-5	Pentachlorophenol
428	-	Boron compounds
429	-	Poly(oxyethylene) alkyl ether (C=12-15)
431	9004-82-4	sodium poly(oxyethylene) dodecyl ether sulfate
432	9016-45-9	Poly(oxyethylene) nonylphenyl ether
433	50-00-0	Formaldehyde
434	-	Manganese and its compounds
435	85-44-9	Phthalic anhydride
436	108-31-6	Maleic anhydride
437	79-41-4	Methacrylic acid
438	688-84-6	2-Ethylhexyl methacrylate
439	106-91-2	2,3-epoxypropyl methacrylate
440	2867-47-2	2-(Dimethylamino) ethyl methacrylate
441	97-88-1	n-Butyl methacrylate
442	80-62-6	Methyl methacrylate
443	674-82-8	4-methylideneoxetan-2-one
444	89269-64-7	(z)-2'-Methylacetophenone 4,6-dimethyl-2-pyrimidinylhydrazone
445	74-89-5	methylamine
446	556-61-6	Methyl isocyanate
447	2631-40-5	2-Isopropylphenyl N-methylcarbamate
448	1563-66-2	Carbofuran
449	63-25-2	1-naphthyl N-methylcarbamate
450	3766-81-2	2-sec-butylphenyl N-methylcarbamate

Attachment 1 List of Production Environmental Impact Substances

1C Controlled Substances (continued)

No.	CAS.No.	Substance
451	100784-20-1	Methyl 3-chloro-5-(4,6-dimethoxy-2-pyrimidinylcarbamoylsulfamoyl)-1-methylpyrazole-4-carboxylate
452	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)
453	131860-33-8	Methyl (E)-2-[2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl]-3-methoxyacrylate (azoxystrobin)
454	33089-61-1	3-Methyl-1,5-di(2,4-xylyl)-1,3,5-triazapenta-1,4-diene (amitraz)
455	144-54-7	N-Methyldithiocarbamic acid (carbam)
456	23135-22-0	methyl-N',N'-dimethyl-N-[(methylcarbamoyl)oxy]-1-thiooxamimidate (oxamyl)
457	136191-64-5	methyl 2-(4,6-dimethoxy-2-pyrimizinyloxy)-6-[1-(methoxyimino)ethyl]benzoate (pyriminobac-methyl)
458	98-83-9	α -Methylstyrene
459	3268-49-3	3-methylthiopropenal
460	-	methylnaphthalene
461	108-99-6	3-Methylpyridine
462	80-15-9	1-methyl-1-phenylethyl hydroperoxide
463	88-85-7	2-(1-methylethoxy)-4,6-dinitrophenol
464	55814-41-0	2-methyl-N-[3-(1-methylethoxy)phenyl]benzamide (mepronil)
465	16752-77-5	S-methyl-N-(methylcarbamoyloxy)thioacetimidate (methomyl)
466	141517-21-7	Methyl (E)-methoxyimino-[2-[[[(E)-1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]phenyl]acetate (trifloxystrobin)
467	143390-89-0	methyl (E)-methoxyimino[2-(o-tolyloxymethyl)phenyl]acetate (kresoxim-methyl)
468	101-77-9	4,4'-Methylenedianiline
469	5124-30-1	Methylenebis(4,1-cyclohexylene) diisocyanate

1C Controlled Substances (continued)

No.	CAS.No.	Substance
470	101-68-8	Methylenebis(4,1-phenylene) diisocyanate
471	13684-63-4	3-methoxycarbonylaminophenyl 3'-methylcarbanilate (phenmedipham)
472	88678-67-5	Pyributicarb
473	120-71-8	2-methoxy-5-methylaniline
474	149-30-4	2-mercaptobenzothiazole
475	-	Molybdenum and its compounds
476	95-32-9	2-(morpholinodithio)benzothiazole
477	110-91-8	morpholine
478	20859-73-8	aluminium phosphide
479	62-73-7	dimethyl2,2-dichlorovinylphosphate (dichlorvos)
480	78-42-2	tris(2-ethylhexyl) phosphate
481	115-96-8	tris(2-chloroethyl) phosphate
482	1330-78-5	tritoyl phosphate
483	115-86-6	triphenyl phosphate
484	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 safety data sheet (SDS) 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	46
Annex 2A-1-1	Exempted Applications of Heavy Metals Restricted by RoHS Directives (common)	60
Annex 2A-1-2	Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only)	67
Annex 2A-2	Items for Prohibition of the Use of Heavy Metals in Batteries	72
Annex 2A-3	Ozone-depleting Substances defined by the Montreal Protocol	74
Annex 2A-4	Some aromatic amines generated in the decomposition of one or more azo groups.....	76
2B	Use-restricted substances.....	77
2C	Controlled substances.....	78
2D	Environmental label substances in plastic exterior enclosure members/cabinets for business machine products (Eco Mark, Blue Angel)	89
2E	Prohibited substances in LBP (Laser Printer) parts.....	90

Packaging

3A	Prohibited substances in packaging materials.....	92
Annex 3A-1	Some aromatic amines generated in the decomposition of one or more azo groups in packaging materials.....	102
3B	Use-restricted substances in packaging materials.....	103
3C	Controlled substances in packaging materials.....	103
3D	No stipulations.....	112
3E	Prohibited substances in packaging LBP (Laser Printer) parts.....	112
Reference	List of Product Environmental Impact Substances.....	113

Products

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

1. 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	
	31119-53-6	
Cadmium fluoride (*)	7790-79-6	
<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) 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-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive (common)” and “Annex 2A-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only)” for (1) listed above.</p> <p>The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above or its application is exempted as in “Exemption” above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p>		
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (ANNEX XVII , Article 7-2, Article 33), EU RoHS Directive (Recast) 2011/65/EC, Refer to battery-related laws and regulations in Annex 2A-2.</p>		

2A Prohibited substances (continued)

2. 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 (II) 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	
Strontium chromate (*)	7789-06-2	
Pentazinc chromate octahydroxide (*)	49663-84-5	
Potassium hydroxyoctaoxodizincate dichromate (*)	11103-86-9	
<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) In leather products and products with leather parts, inclusion of more than 3ppm for total dry weight of leather.</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-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive (common)” and “Annex 2A-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only)” for (1) listed above.</p> <p>The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above or its application is exempted as in “Exemption” above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p> <p>Reference laws and regulations:</p> <p>EU RoHS Directive (Recast) 2011/65/EC, REACH Regulation (EC) No1907/2006 (ANNEX XVII , Article 7-2, Article 33)</p>		

2A Prohibited substances (continued)

3. 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 (IV) oxide	1309-60-0	
Lead (II) sulfide	1314-87-0	
Lead (II) sulfate	7446-14-2	
Lead carbonate	598-63-0	
Lead stearate	1072-35-1	
Dibasic lead stearate	56189-09-4	
Lead (II, IV) oxide	1314-41-6	
Lead oxide sulfate (*)	12036-76-9	
Sulfurous acid, lead salt, dibasic (*)	62229-08-7	
Tetralead trioxide sulfate (Lead sulfate tribasic) (*)	12202-17-4	
Pentalead tetraoxide sulphate (*)	12065-90-6	
Lead dinitrate (*)	10099-74-8	
Lead chromate (*)	7758-97-6	
Lead (II) titanium (*)	12060-00-3	
Lead titanium zirconium oxide (*)	12626-81-2	
Trilead dioxide phosphonate (*)	12141-20-7	
Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped (*)	68784-75-8	
Fatty acids, C16-18, lead salts (*)	91031-62-8	
Dioxobis(stearato)trilead (*)	12578-12-0	
Lead cyanamidate (*)	20837-86-9	
[Phthalato(2-)]dioxotrilead (*)	69011-06-9	
Lead chromate molybdate sulphate red (C.I. Pigment Red 104) (*)	12656-85-8	
Lead sulfochromate yellow (C.I. Pigment Yellow 34) (*)	1344-37-2	
Pyrochlore, antimony lead yellow (C.I. Pigment yellow 41) (*)	8012-00-8	
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <ol style="list-style-type: none"> (1) Inclusion of more than 1,000 ppm in homogeneous materials (2) Inclusion of more than 300 ppm in the polyvinyl chloride resin covering of polyvinyl chloride cable. (3) Inclusion of more than 100 ppm 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 (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>Note1: Canon will inform separately if any of its products is concerned with (3) above. Note2: A metal converted value applies to the concentration for the target range.</p> <p><Exemption></p> <ol style="list-style-type: none"> (i) Applications that meet the condition indicated in “Annex 2A-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive (common)” and “Annex 2A-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only)” for (1) listed above. <p>The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above or its application is exempted as in “Exemption” above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight-in unit of delivered part/material.</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII), EU RoHS Directive (Recast) 2011/65/EC, Denmark Lead Ban, Proposition 65 of California, 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)

4. 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-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directive (common)” and “Annex 2A-1-1: Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only)” for (1) and (2) listed above.</p>		
<p>Reference laws and regulations:</p> <p>REACH Regulation (EC) No1907/2006 (ANNEX XVII), EU RoHS Directive (Recast) 2011/65/EC, Louisiana Mercury Risk Reduction Act, Refer to battery-related laws and regulations in Annex 2A-2.</p>		
5. 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 (Grunerite)	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)

6. Bis(tributyltin)oxide (TBTO)		
Target chemical substances	CAS No.	Application
Bis(tributyltin)oxide (TBTO) (*)	56-35-9	Paints, pigments, antiseptic agents, refrigerants, digestives, foaming agents
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p> <p>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)</p>		
7. 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	
Dibutyltin dichloride (DBTC) (*)	683-18-1	
<p>If 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>The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, Article 7-2, Article 33, added based on the Commission Regulation (EU) No 276/2010)</p>		
8. 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	
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 1,000 ppm in homogeneous materials in the following items:</p> <p>(i) Textile and (natural and/or man-made) leather articles intended to come into contact with the skin</p> <p>(ii) Childcare articles</p> <p>(iii) Two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)</p> <p>Note: 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)</p>		

2A Prohibited substances (continued)

9. 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	
<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>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>		
10. 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	
<p>If 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>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII), EU RoHS Directive (Recast) 2011/65/EC</p>		
11. 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	
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	
<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>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 (Recast) 2011/65/EC</p>		

2A Prohibited substances (continued)

12. Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane, Beta-hexabromocyclododecane, Gamma-hexabromocyclododecane		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Hexabromocyclododecane (HBCDD) (*)	1336-36-3	Flame retardant mainly used for expanded polystyrene (PS), polyurethane (PU) and some types of fiber
	76253-60-6	
	81161-70-8	
	99688-47-8	
	138257-18-8,	
	138257-19-9,	
	169102-57-2,	
	678970-15-5,	
678970-16-6,		
678970-17-7		
1,2,5,6,9,10-hexabromocyclododecane (*)	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 prohibited. (1) When used intentionally		
The Chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of "Prohibited substances,"(even when the substance is used outside the "applicable range" described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.		
Reference laws and regulations: Stockholm Convention on Persistent Organic Pollutants (POPs Convention), Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.) Class 1 Specified Chemical Substances (JPN), Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
13. 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) (*)	76253-60-6	
Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21) (*)	81161-70-8	
monomethyl-dibromo-diphenyl methane (DBBT) (*)	99688-47-8	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Note: The substances listed above that are suffixed with (*) 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)		

2A Prohibited substances (continued)

14. 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)		
15. 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)		
16.-Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)		
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: (EC) No.850/2004 (POPs regulation), 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)		

2A Prohibited substances (continued)

17. 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	
<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-parts</p> <p>(3) Textiles or other coated materials : When more than 1 µg/m² is contained in the coated material</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>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), (EC) No.850/2004 (POPs regulation)</p>		

2A Prohibited substances (continued)

18. Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA		
Target chemical substances	CAS No.	Application
Pentadecafluorooctanoic acid (PFOA) (*)	335-67-1	Photolithography, photo-coating materials, hydraulic fluid, metal plating, cleaning materials, fire-fighting foams, coating materials for paper, and plastic stabilizers.
Ammonium pentadecafluorooctanoate (APFO) (*)	3825-26-1	
Sodium salt of Perfluorooctanoic acid	335-95-5	
Potassium salt of Perfluorooctanoic acid	2395-00-8	
Silver(1+) salt of Perfluorooctanoic acid	335-93-3	
Perfluorooctanoyl fluoride	335-66-0	
Methyl perfluorooctanoate	376-27-2	
Ethyl perfluorooctanoate	3108-24-5	
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <p>(1) About product which have possibility of use in home, use is prohibited at the following thresholds. (Prohibition date of import, export, and sale in Norway: June 1, 2014)</p> <ol style="list-style-type: none"> 1) When more than 1,000 ppm is contained in parts 2) When more than 10ppm is contained in chemicals 3) When more than 1µg/m² is contained in fibers, carpets and other coated products <p>Note: "Medical devices" are excluded (corresponds to under (2)).</p> <p>(2) Regardless of the applicability of (1), the deadline for the inclusion of this substance, for all products delivered to Canon, is December 31, 2015, in the case of the following.</p> <ol style="list-style-type: none"> 1) Intentional use <p>Note: Should a product contain an applicable substance, please contact the product delivery site; Canon will confirm whether or not the product falls under (1) above.</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of "Prohibited substances," (even when the substance is used outside the "applicable range" described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p>		
<p>Reference laws and regulations:</p> <p>Regulations relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products hazardous to health and the environment (Norwegian Product Regulations), U.S. PFOA Self-Elimination Program, REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		

2A Prohibited substances (continued)

19. Fluorinated greenhouse gases (PFC, SF₆, HFC)		
Target chemical substances	CAS No.	Application
Tetrafluoromethane (Carbon tetrafluoride ,PFC-14)	75-73-0	Cooling medium, blowing agents, digestive, cleaning agents, insulating materials, caustic gas
Hhexafluoroethane (PFC-116)	76-16-4	
Octafluoropropane (PFC-218)	76-19-7	
Decafluorobutane (PFC-31-10)	355-25-9	
Dodecafluorobutane (PFC-41-12)	678-26-2	
Tetradecafluorohexane (PFC-51-14)	355-42-0	
Octafluorocyclobutane (PFC-c318)	115-25-3	
Sulfur hexafluoride (SF ₆)	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	
1,2-difluoroethane (HFC-152)	624-72-6	
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	
Fluoroethane (HFC-161)	353-36-6	
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) When the substances are intentionally added for the respective below purposes		
(i) PFCs, HFCs, SF ₆		
- Non-refillable containers		
- Windows		
- Footwear		
- Tyres		
- One component foams, except when required to meet national safety standards		
(ii) HFCs and PFCs: Non-confined direct - evaporation systems containing refrigerants		
(iii) PFCs :Fire protection systems		

2A Prohibited substances (continued)

19. Fluorinated greenhouse gases (PFC, SF₆, HFC) (continued)		
(iv) HFCs (GWP ^{a)} 150 or more) <ul style="list-style-type: none"> - Novelty aerosols - Domestic refrigerators and freezers - Technical aerosols (Legal application start day: 2018/1/1) - Stationary refrigeration equipment (GWP2500 or more), Refrigerators and freezers for commercial use (GWP2500 or more), Movable room air-conditioning equipment, Foams (Extruded polystyrene (XPS) (Legal application start day: 2020/1/1) - Refrigerators and freezers for commercial use (less than GWP2500), Multipack centralised refrigeration systems for commercial use with a rated capacity of 40 kW or more (Legal application start day: 2022/1/1) - Foams (except extruded polystyrene(Legal application start day: 2023/1/1) - 3 Single split air-conditioning systems containing less than 3 kg of fluorinated greenhouse gases (GWP750 or more) (Legal application start day: 2025/1/1) Note ^{a)} : GWP(Global Warming Potential)		
Reference laws and regulations: (EU) No 517/2014		
20. 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.		
21. 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) Azocolourants and azodyes 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)		

2A Prohibited substances (continued)

22. 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)		
Target chemical substances	CAS No.	Application
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (*)	3846-71-7	Adhesive agents, paints, printing ink, plastics, ink ribbons, putties, caulking, filling materials (ultraviolet light absorbers)
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material</p>		
<p>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), Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
23. Dimethyl fumarate		
Target chemical substances	CAS No.	Application
Dimethyl fumarate	624-49-7	Moisture prevention agents, mildew-proofing agents
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 0.1 ppm in homogeneous materials</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 412/2012)</p>		
24. Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)		
Target chemical substances	CAS No.	Application
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	68921-45-9	Additive in rubber, lubricants (antioxidants)
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p><Exemption> Additive in rubber, except in tires</p>		
<p>Reference laws and regulations: Prohibition of Certain Toxic Substances Regulations 2012, Canada (SOR/212-282)</p>		

2A Prohibited substances (continued)

25. Polycyclic aromatic hydrocarbons (PAHs)		
Target chemical substances	CAS No.	Application
Benzo[a]pyrene (BaP)	50-32-8	Pigments in rubber or plastic components (as impurity)
Benzo[e]pyrene (BeP)	192-97-2	
Benzo[a]anthracene (BaA)	56-55-3	
Chrycene (CHR)	218-01-9	
Benzo[b]fluoranthene (BbFA)	205-99-2	
Benzo[j]fluoranthene (BjFA)	205-82-3	
Benzo[k]fluoranthene (BkFA)	207-08-9	
Dibenzo[a,h]anthracene (DBAhA)	53-70-3	
<p>If the following case applies, the use of chemical substances is to be use-restricted.</p> <p>(1) When any of the above PAH are included at more than 1ppm in rubber or plastic components which come in contact with human skin or the oral cavity directly, either for a long time or short period of time.</p> <p>The deadline for the inclusion of this substance in parts and materials delivered to Canon is June 26, 2015. (The deadline for import and sales in Denmark is December 26, 2015)</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)</p>		

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

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

The expiry of exemptions at Canon had been stipulated in the versions of the Green Procurement Standards leading up to Ver. 10 (as one year prior to the legally-required limit as a general rule). Starting with Ver. 11 of the Green Procurement Standards, the legally-required limit for removal from exemption is stated as the legal expiration date.

1. Cadmium and its compounds			
Exempted Applications		Legal expiration dates	
		Category1-7,10	Category8,9 *1
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 Jan. 2012	Expired on 1 Jan. 2012
8(b)	Cadmium and its compounds in electrical contacts	*2	Expired on 21 Jul. 2021
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	*2	Expired on 21 Jul. 2021
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	*2	Expired on 21 Jul. 2021
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	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
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	*3	*3
40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	Expired on 31 December 2013	Expired on 31 Dec. 2013
2. Hexavalent chromium compounds			
Exempted Application		Legal expiration dates	
		Category1-7,10	Category8,9 *1
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	*2	Expired on 21 Jul. 2021

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

Exempted Application		Legal expiration dates	
		Category1-7,10	Category8,9 *1
5(a)	Lead in glass of cathode ray tubes	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
5(b)	Lead in glass of fluorescent tubes not exceeding 0.2 % by weight	*2	Expired on 21 Jul. 2021
6(a)	Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35 % lead by weight	*2	Expired on 21 Jul. 2021
6(b)	Lead as an alloying element in aluminium containing up to 0.4 % lead by weight	*2	Expired on 21 Jul. 2021
6(c)	Copper alloy containing up to 4 % lead by weight	*2	Expired on 21 Jul. 2021
7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	*2	Expired on 21 Jul. 2021
7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	*2	Expired on 21 Jul. 2021
7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	*2	Expired on 21 Jul. 2021
7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Expired on 1 Jan. 2013	1-Jan-2013 (for only industrial instruments in Category 9, see No.40 of Attached Table2A-1-2)
7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors	*2	Expired on 21 Jul. 2021
9(b)	Lead in bearing shells and bushes for refrigerantcontaining compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	*2	Expired on 21 Jul. 2021
11(a)	Lead used in C-press compliant pin connector systems	Expired on 24 Sep. 2010	Expired on 24 Sep. 2010
11(b)	Lead used in other than C-press compliant pin connector systems	Expired on 1 Jan. 2013	1-Jan-2013 (for only industrial instruments in Category 9, see No.36 of Attached Table2A-1-2)

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

Exempted Application		Legal expiration dates	
		Category1-7,10	Category8,9 *1
12	Lead as a coating material for the thermal conduction module C-ring	Expired on 24 Sep. 2010	Expired on 24 Sep. 2010
13(a)	Lead in white glasses used for optical applications	*2	Expired on 21 Jul. 2021
13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	*2	Expired on 21 Jul. 2021
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 21 Jan. 2011	Expired on 21 Jul. 2011
15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	*2	Expired on 21 Jul. 2021
16	Lead in linear incandescent lamps with silicate coated tubes	Expired on 1 Sep. 2013 *1	Expired on 21 Sep. 2013
17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
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)2MgSi2O7:Pb)	Expired on 21 Jan. 2011	Expired on 21 Jan. 2011
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 (BaSi2O5:Pb)	*2	Expired on 21 Jul. 2021
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 1 June 2011	Expired on 1 June 2011
20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	Expired on 1 June 2011	Expired on 1 June 2011
21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	*2	Expired on 21 Jul. 2021
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	Expired on 24 Sep. 2010	Expired on 24 Sep. 2010
24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	*2	Expired on 21 Jul. 2021
25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
26	Lead oxide in the glass envelope of black light blue (BLB) lamps	Expired on 1 June 2011	Expired on 1 June 2011
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 Sep. 2010	Expired on 24 Sep. 2010

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

3. Lead and its compounds (continued)			
Exempted Application		Legal expiration dates	
		Category1-7,10	Category8,9 *1
29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	*2	Expired on 21 Jul. 2021
31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	*2	Expired on 21 Jul. 2021
33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	Expired on 21 Jul. 2016	Expired on 21 Jul. 2021
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")	*2	Expired on 21 Jul. 2021
37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	*2	Expired on 21 Jul. 2021
41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council	Expires on 31 Dec. 2018 *4	Expires on 31 Dec. 2018
4. Mercury and its compounds			
Exempted Application		Legal expiration dates	
		Category1-7,10	Category8,9 *1
1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):		
1(a)	For general lighting purposes < 30 W : 5 mg	Expires on 31 Dec. 2011	Expires on 31 Dec. 2011
	For general lighting purposes < 30 W : 3.5 mg	Expires on 31 Dec. 2012	Expires on 31 Dec. 2011
	For general lighting purposes < 30 W: 2.5 mg	*2	Expired on 21 Jul. 2021
1(b)	For general lighting purposes > 30 W and < 50 W: 5 mg	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	For general lighting purposes > 30 W and < 50 W : 3.5 mg	*2	Expired on 21 Jul. 2021
1(c)	For general lighting purposes > 50 W and < 150 W: 5 mg	*2	Expired on 21 Jul. 2021
1(d)	For general lighting purposes ≥ 150 W : 15 mg	*2	Expired on 21 Jul. 2021
1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm	Expired on 31 Decembe2011	Expired on 31 Dec. 2011
	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm : 7 mg	*2	Expired on 21 Jul. 2021

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

Exempted Application		Legal expiration dates	
		Category1-7,10	Category8,9 *1
1(f)	For special purposes : 5 mg	*2	Expired on 21 Jul. 2021
1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20,000h : 3.5mg	Expired on 31 Dec. 2017 *4	Expired on 31 Dec. 2017
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 Dec. 2011	Expired on 31 Dec. 2011
	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) : 4 mg	*2	Expired on 21 Jul. 2021
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 Dec. 2011	Expired on 31 Dec. 2011
	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5) : 3 mg	*2	Expired on 21 Jul. 2021
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 Dec. 2011	Expired on 31 Dec. 2011
	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) : 3.5 mg	*2	Expired on 21 Jul. 2021
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 5 mg	*2	Expired on 31 Dec. 2012
	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 3.5 mg	*2	Expired on 21 Jul. 2021
2(a)(5)	Tri-band phosphor with long lifetime (≥ 25,000 h) : 8 mg	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	Tri-band phosphor with long lifetime (≥ 25,000 h) : 5 mg	*2	Expired on 21 Jul. 2021
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 2012	Expired on 13 April 2012
2(b)(2)	Non-linear halophosphate lamps (all diameters) : 15 mg or less (≤ 15 mg)	Expires on 13 April 2016	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 Dec. 2011	Expired on 31 Dec. 2011
	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : 15 mg or less (≤ 15 mg)	*2	Expired on 21 Jul. 2021
2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps) : more than 15 mg (> 15 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	Lamps for other general lighting and special purposes (e.g. induction lamps) : 15 mg or less (≤ 15 mg)	*2	Expired on 21 Jul. 2021

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

Exempted Application		Legal expiration dates	
		Category 1-7,10	Category 8,9 *1
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 Dec. 2011	Expired on 31 Dec. 2011 (Extended to 21 Jul. 2024 for only industrial instruments in Category 9, see No. 35 of Attached Table 2A-1-2)
	Short length (≤ 500 mm) : 3.5 mg or less (≤ 3.5 mg)	*2	Expired on 21 Jul. 2021
3(b)	Medium length (> 500 mm and $\leq 1,500$ mm) : more than 5 mg (> 5 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	Medium length (> 500 mm and $\leq 1,500$ mm) : 5 mg or less (≤ 5 mg)	*2	Expired on 21 Jul. 2021
3(c)	Long length ($> 1,500$ mm) : more than 13 mg (> 13 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	Long length ($> 1,500$ mm) : 13 mg or less (≤ 13 mg)	*2	Expired on 21 Jul. 2021
4(a)	Mercury more than 15 mg (> 15 mg) in other low pressure discharge lamps (per lamp)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	Mercury of 15 mg or less (≤ 15 mg) in other low pressure discharge lamps (per lamp)	*2	Expired on 21 Jul. 2021
4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes (per burner) in lamps with improved colour rendering index $R_a > 60$:		
4(b)-I	$P \leq 155$ W : more than 30 mg (> 30 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	$P \leq 155$ W : 30 mg or less (≤ 30 mg)	*2	Expired on 21 Jul. 2021
4(b)-II	155 W $< P \leq 405$ W : more than 40 mg (> 40 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	155 W $< P \leq 405$ W : 40 mg or less (≤ 40 mg)	*2	Expired on 21 Jul. 2021
4(b)-III	$P > 405$ W : more than 40 mg (> 40 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	$P > 405$ W : 40 mg or less (≤ 40 mg)	*2	Expired on 21 Jul. 2021
4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes (per burner):		
4(c)-I	$P \leq 155$ W : more than 25 mg (> 25 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	$P \leq 155$ W : 25 mg or less (≤ 25 mg)	*2	Expired on 31 Dec. 2011

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

Exempted Application		Legal expiration dates	
		Category 1-7,10	Category 8,9 *1
4(c)-II	155 W < P ≤ 405 W : more than 30 mg (> 30 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	155 W < P ≤ 405 W : 30 mg or less (≤ 30 mg)	*2	Expired on 21 Jul. 2021
4(c)-III	P > 405 W : more than 40 mg (> 40 mg)	Expired on 31 Dec. 2011	Expired on 31 Dec. 2011
	P > 405 W : 40 mg or less (≤ 40 mg)	*2	Expired on 21 Jul. 2021
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Expires on 13 April 2015	Expires on 13 April 2015
4(e)	Mercury in metal halide lamps (MH)	*2	Expired on 21 Jul. 2021
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	- *2	Expired on 21 Jul. 2021
4(g)	Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury (a) 20 mg per electrode pair + 0,3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 °C; (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.	Expired on 31 Dec. 2018 *4	Expired on 31 Dec. 2018
36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Expired on 1 June 2010	Expired on 1 June 2010

Note: Information about the items exempted from the RoHS Directives indicated in this list is valid as of April 20, 2014, and it does not assure the provisions stipulated in the law. Please see the original provisions of the law for the latest information.

*1 As for the exempted items in Categories 8 and 9 where the expiration date is specified as "July 21, 2021", the legal expiration date is precisely as follows unless any request is submitted regarding withdrawal of exemption or reduction of the applicable range.

(a) Other than (b) and (c) below : July 21, 2021

(b) For in-vitro diagnosis items in Category 8 : July 21, 2023

(c) For industrial instruments in Category 9 : July 21, 2024

An application may be filed to extend the expiry of exemption for all of the above. For the purposes of this list, the expiration date for (a), the item with the earliest limit, has been indicated.

Note that for exemptions whose legal expiration date has been stated as something other than "July 21, 2021," provided that nothing has been indicated separate of this list, the limit stated shall be the expiration date that applies to all items under Categories 8 and 9.

*2 An application to extend the exemption has been filed, and a grace period (limit extension) of at least 1 year from the legal expiration date (July 21, 2016) has been granted. The new expiration date will be determined during or after January 2016.

*3 An application to extend the exemption has been filed, and the new expiration date will be determined during the first half of 2015.

*4 An application may be filed to extend the expiry of exemption.

Attachment 2 List of Product Environmental Impact Substances

< Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives (to medical devices and monitoring and control instruments only) >

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

The expiry of exemptions at Canon had been stipulated in the versions of the Green Procurement Standards leading up to Ver. 10 (as one year prior to the legally-required limit as a general rule). Starting with Ver. 11 of the Green Procurement Standards, the legally-required limit for removal from exemption is stated as the legal expiration date.

1. Cadmium and its compounds (to medical devices and monitoring and control instruments only)		
Exempted Applications		Legal expiration dates *1
Equipment utilising or detecting ionising radiation		
1	Lead, cadmium and mercury in detectors for ionising radiation.	Expired on 21 Jul. 2021
8	Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers.	Expired on 21 Jul. 2021
Sensors, detectors and electrodes		
1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	Expired on 21 Jul. 2021
1c	Lead, cadmium and mercury in infra-red light detectors.	Expired on 21 Jul. 2021
Others		
9	Cadmium in helium-cadmium lasers.	Expired on 21 Jul. 2021
10	Lead and cadmium in atomic absorption spectroscopy lamps.	Expired on 21 Jul. 2021
12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (Nuclear Magnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	Expired on 30 June 2021
20	Cadmium in X-ray measurement filters.	Expired on 21 Jul. 2021
21	Cadmium in phosphor coatings in image intensifiers for X-ray images until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	Expired on 31 Dec. 2019
31	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	Expired on 21 Jul. 2021
2. Hexavalent chromium compounds (to medical devices and monitoring and control instruments only)		
Exempted Applications		Legal expiration dates *1
Others		
30	Hexavalent chromium in alkali dispensers used to create photocathodes in X-ray image intensifiers until 31 December 2019 and in spare parts for X-ray systems placed on the EU market before 1 January 2020.	Expired on 31 Dec. 2019
31	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer.	Expired on 21 Jul. 2021

**< Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives
(to medical devices and monitoring and control instruments only) >** (continued)

3. Lead and its compounds (to medical devices and monitoring and control instruments only)		Legal expiration dates *1
Exempted Applications		
Equipment utilising or detecting ionising radiation		
1	Lead, cadmium and mercury in detectors for ionising radiation.	Expired on 21 Jul. 2021
2	Lead bearings in X-ray tubes.	Expired on 21 Jul. 2021
3	Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate.	Expired on 21 Jul. 2021
4	Lead in glass frit of X-ray tubes and image intensifiers and lead in glass frit binder for assembly of gas lasers and for vacuum tubes that convert electromagnetic radiation into electrons.	Expired on 21 Jul. 2021
5	Lead in shielding for ionising radiation.	Expired on 21 Jul. 2021
6	Lead in X-ray test objects.	Expired on 21 Jul. 2021
7	Lead stearate X-ray diffraction crystals.	Expired on 21 Jul. 2021
Sensors, detectors and electrodes		
1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	Expired on 21 Jul. 2021
1b	Lead anodes in electrochemical oxygen sensors.	Expired on 21 Jul. 2021
1c	Lead, cadmium and mercury in infra-red light detectors.	Expired on 21 Jul. 2021
Others		
10	Lead and cadmium in atomic absorption spectroscopy lamps.	Expired on 21 Jul. 2021
11	Lead in alloys as a superconductor and thermal conductor in MRI.	Expired on 21 Jul. 2021
12	Lead and cadmium in metallic bonds to superconducting materials in MRI and SQUID detectors.	Expired on 30 June 2021
13	Lead in counterweights.	Expired on 21 Jul. 2021
14	Lead in single crystal piezoelectric materials for ultrasonic transducers.	Expired on 21 Jul. 2021
15	Lead in solders for bonding to ultrasonic transducers.	Expired on 21 Jul. 2021
17	Lead in solders in portable emergency defibrillators.	Expired on 21 Jul. 2021
18	Lead in solders of high performance infrared imaging modules to detect in the range 8-14 μm .	Expired on 21 Jul. 2021
19	Lead in Liquid crystal on silicon (LCoS) displays.	Expired on 21 Jul. 2021
22	Lead acetate marker for use in stereotactic head frames for use with CT and MRI and in positioning systems for gamma beam and particle therapy equipment.	Expired on 30 June 2021
23	Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation.	Expired on 30 June 2021
24	Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers	Expired on 31 Dec. 2019

**< Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives
(to medical devices and monitoring and control instruments only) >** (continued)

3. Lead and its compounds (to medical devices and monitoring and control instruments only) (continued)		Legal expiration dates *1
Exempted Applications		
Others (continued)		
25	Lead in the surface coatings of pin connector systems requiring nonmagnetic connectors which are used durably at a temperature below – 20 °C under normal operating and storage conditions	Expired on 30 June 2021
26	Lead in - solders on printed circuit boards, - termination coatings of electrical and electronic components and coatings of printed circuit boards, - solders for connecting wires and cables, - solders connecting transducers and sensors, that are used durably at a temperature below – 20 °C under normal operating and storage conditions.	Expired on 30 June 2021
27	Lead in - solders, - termination coatings of electrical and electronic components and printed circuit boards, - connections of electrical wires, shields and enclosed connectors, which are used in (a) magnetic fields within the sphere of 1 m radius around the isocentre of the magnet in medical magnetic resonance imaging equipment, including patient monitors designed to be used within this sphere, or (b) magnetic fields within 1 m distance from the external surfaces of cyclotron magnets, magnets for beam transport and beam direction control applied for particle therapy.	Expired on 30 June 2020
28	Lead in solders for mounting cadmium telluride and cadmium zinc telluride digital array detectors to printed circuit boards.	Expired on 31 Dec. 2017
29	Lead in alloys, as a superconductor or thermal conductor, used in cryo-cooler cold heads and/or in cryo-cooled cold probes and/or in cryo-cooled equipotential bonding systems, in medical devices (category 8) and/or in industrial monitoring and control instruments.	Expired on 30 June 2021
31	Lead, cadmium and hexavalent chromium in reused spare parts, recovered from medical devices placed on the market before 22 July 2014 and used in category 8 equipment placed on the market before 22 July 2021, provided that reuse takes place in auditable closed-loop business-to-business return systems, and that the reuse of parts is notified to the consumer	Expired on 30 June 2021
32	Lead in solders on printed circuit boards of detectors and data acquisition units for Positron Emission Tomographs which are integrated into Magnetic Resonance Imaging equipment	Expired on 31 Dec. 2019
33	Lead in solders on populated printed circuit boards used in Directive 93/42/EEC class IIa and IIb mobile medical devices other than portable emergency defibrillators.	Class IIa: Expired on 30 June 2016 Class IIb: Expired on 31 Dec. 2020
34	Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP (BaSi2O5:Pb) phosphors.	Expired on 22 Jul. 2021
36	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments	Expired on 31 Dec. 2020

**< Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives
(to medical devices and monitoring and control instruments only) > (continued)**

3. Lead and its compounds (to medical devices and monitoring and control instruments only) (continued)		Legal expiration dates *1
Exempted Applications		
Others (continued)		
37	Lead in platinized platinum electrodes used for conductivity measurements where at least one of the following conditions applies: (a) wide-range measurements with a conductivity range covering more than 1 order of magnitude (e.g. range between 0,1 mS/m and 5 mS/m) in laboratory applications for unknown concentrations; (b) measurements of solutions where an accuracy of +/- 1 % of the sample range and where high corrosion resistance of the electrode are required for any of the following: (i) solutions with an acidity < pH 1; (ii) solutions with an alkalinity > pH 13; (iii) corrosive solutions containing halogen gas; (c) measurements of conductivities above 100 mS/m that must be performed with portable instruments.	Expired on 31 Dec. 2018
38	Lead in solder in one interface of large area stacked die elements with more than 500 interconnects per interface which are used in X-ray detectors of computed tomography and X-ray systems.	Expired on 31 Dec. 2019
39	Lead in micro-channel plates (MCPs) used in equipment where at least one of the following properties is present: (a) a compact size of the detector for electrons or ions, where the space for the detector is limited to a maximum of 3 mm/MCP (detector thickness + space for installation of the MCP), a maximum of 6 mm in total, and an alternative design yielding more space for the detector is scientifically and technically impracticable; (b) a two-dimensional spatial resolution for detecting electrons or ions, where at least one of the following applies: (i) a response time shorter than 25 ns; (ii) a sample detection area larger than 149 mm ² ; (iii) a multiplication factor larger than $1,3 \times 10^3$. (c) a response time shorter than 5 ns for detecting electrons or ions; (d) a sample detection area larger than 314 mm ² for detecting electrons or ions; (e) a multiplication factor larger than $4,0 \times 10^7$.	Expired on 21 Jul. 2021
40	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC for industrial monitoring and control instruments.	Expired on 31 Dec. 2020
41	Lead as a thermal stabiliser in polyvinyl chloride (PVC) used as base material in amperometric, potentiometric and conductometric electrochemical sensors which are used in in-vitro diagnostic medical devices for the analysis of blood and other body fluids and body gases.	Expired on 31 Dec. 2018

**< Annex 2A-1-2 Exempted Applications of Heavy Metals Restricted by RoHS Directives
(to medical devices and monitoring and control instruments only) > (continued)**

4. Mercury and its compounds(to medical devices and monitoring and control instruments only)		Legal expiration dates *1
Exempted Applications		
Equipment utilising or detecting ionising radiation		
1	Lead, cadmium and mercury in detectors for ionising radiation.	Expired on 21 Jul. 2021
Sensors, detectors and electrodes		
1c	Lead, cadmium and mercury in infra-red light detectors.	Expired on 21 Jul. 2021
1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	Expired on 21 Jul. 2021
Others		
16	Mercury in very high accuracy capacitance and loss measurement bridges and in high frequency RF switches and relays in monitoring and control instruments not exceeding 20 mg of mercury per switch or relay.	Expired on 21 Jul. 2021
35	Mercury in cold cathode fluorescent lamps for back-lighting liquid crystal displays, not exceeding 5 mg per lamp, used in industrial monitoring and control instruments placed on the market before 22 July 2017	Expired on 21 Jul. 2024
42	Mercury in electric rotating connectors used in intravascular ultrasound imaging systems capable of high operating frequency (> 50 MHz) modes of operation.	Expired on 30 Jun. 2019

Note1: Information about the items exempted from the RoHS Directives indicated in this list is valid as of April 20, 20145, and it does not assure the provisions stipulated in the law. Please see the original provisions of the law for the latest information.

*1: As for the exempted items in Categories 8 and 9 where the expiration date is specified as "July 21, 2021", the legal expiration date is precisely as follows unless any request is submitted regarding withdrawal of exemption or reduction of the applicable range

- (a) Other than (b) and (c) below : July 21, 2021
- (b) For in-vitro diagnosis items in Category 8 : July 21, 2023
- (c) For industrial instruments in Category 9 : July 21, 2024

An application may be filed to extend the expiry of exemption for all of the above. For the purposes of this list, the expiration date for (a), the item with the earliest limit, has been indicated.

Note that for exemptions whose legal expiration date has been stated as something other than "July 21, 2021," provided that nothing has been indicated separate of this list, the limit stated shall be the expiration date that applies to all items under Categories 8 and 9.

Canon will contact you if the products you deliver are spare parts and fall under an exemption.

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

1. Cadmium and its compounds	
Classification of batteries	
A. All batteries except those indicated in B and C	
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, until 31 December 2015. (Expiry date for placed on the EU market: 31 December 2016)
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 spare 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)}	
Application range	Batteries containing cadmium of which concentration if more than 0.001 % by mass
Exemption	Button batteries (A is applied.)
Reference laws and regulations: EU Battery Directive 2006/66/EC(amended by 2013/56/EU), Revision of the Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries, Korean Quality Management and Manufactured Product Safety Management Law (Battery Regulation)	
3. 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)	
Application range	Batteries containing lead of which concentration is more than 0.4 % by mass
Exemption	Button batteries
No batteries other than those listed above in A through C are subject to lead content regulations.	
Reference laws and regulations: Brazil Battery Regulation (Resolution No.401), China's limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries (GB24427-2009), Korean Quality Management and Manufactured Product Safety Management Law (Battery Regulation)	
4. 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

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

4. Mercury and its compounds (continued)	
Classification of batteries	
B. Alkaline battery, manganese dioxide battery (excluding button battery)	
Application range	If any of the following (1) and (2) applies, the use of chemical substances is prohibited. (1) Use is intentional (2) Batteries containing mercury as an impurity, at a concentration that is 0.0001 % or more by mass
Exemption	None
C. Alkaline button battery, manganese button battery	
Application range	Intentional use. When the substance is contained as impurity, item A above shall apply.
Exemption	None
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 A above shall apply.
Exemption	None
F. Button-type air-zinc battery	
Application range	Intentional use. When the substance is contained as impurity, item A above shall apply.
Exemption	None
G. Button-type silver oxide battery	
Application range	Intentional use. When the substance is contained as impurity, item A above shall apply.
Exemption	None
H. All button batteries used in consumer products	
Application range	Intentional use. When the substance is contained as impurity, item A above shall apply.
Exemption	None
Reference laws and regulations: EU Battery Directive 2006/66/EC(amended by 2013/56/EU), Federal Mercury-Containing and Rechargeable Battery Management Act (104-142) of the United State, Mercury Cell Regulations in Iowa, Mercury Cell Regulations in Minnesota, Battery Reduction Rules in the State of New York, Chinese regulations on the mercury content of battery products, Revision of the Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries, Regulation concerning mercury added button-type cell in Maine(LD 1026), Korea: Law on quality management and control of safety of industrial products Battery regulation, Rhode Island Mercury Reduction and Education Act SECTION 23-24.9-6	
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. Specific phthalates Group I (Bis (2-ethylhexyl) phthalate (DEHP), Dibutyl phthalate (DBP), Benzyl butyl phthalate (BBP), Diisobutyl phthalate (DIBP))		
Target chemical substances	CAS No.	Application
Bis (2-ethylhexyl) phthalate (DEHP) (*)	117-81-7	Plasticizers, dyes, pigments, paints, ink, adhesive
Dibutyl phthalate (DBP) (*)	84-74-2	
Benzyl butyl phthalate (BBP) (*)	85-68-7	
Diisobutyl phthalate (DIBP) (*)	84-69-5	
<p>If the following case applies, the use of chemical substances is to be use-restricted.</p> <p>(1) Inclusion of more than 1,000 ppm in homogeneous material Products in Scope of EU RoHS Directive except the following categories: used until July 21, 2018 (Expiry date for export and sales to EU: July 21, 2019) Products in Category 8 (medical devices) and Category 9 (monitoring and control instruments) of EU RoHS Directive : used until July 21, 2020 (Expiry date for export and sales to EU: July 21, 2021)</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material</p>		
<p>Reference laws and regulations: Commission Delegated Directive (EU) 2015/863, 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</p>		

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. 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)		
2. 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)	14596-10-2	
Thorium (Th-232)	7440-29-1	
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		
3. Beryllium oxide (BeO)		
Target chemical substances	CAS No.	Application
Beryllium oxide (BeO)	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		
4. Aluminosilicate Refractory Ceramic Fibres		
Target chemical substances	CAS No.	Application
Aluminosilicate Refractory Ceramic Fibres	-	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 three following conditions: (a) Oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges (b) Fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (µm) (c) Alkaline oxide and alkali earth oxide (Na ₂ O+K ₂ O+CaO+MgO+BaO) content less or equal to 18% by weight		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		

2C Controlled substances (continued)

5. Zirconia Aluminosilicate Refractory Ceramic Fibres		
Target chemical substances	CAS No.	Application
Zirconia Aluminosilicate Refractory Ceramic Fibres	-	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 three following conditions:</p> <p>(a) Oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges</p> <p>(b) Fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm)</p> <p>(c) Alkaline oxide and alkali earth oxide ($\text{Na}_2\text{O}+\text{K}_2\text{O}+\text{CaO}+\text{MgO}+\text{BaO}$) content less or equal to 18% by weight</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
6. Diarsenic pentoxide		
Target chemical substances	CAS No.	Application
Diarsenic pentoxide	1303-28-2	Semiconductor substrate, glass antifoaming agent, pigments, paints, flame retardants
<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>		
7. Diarsenic trioxide		
Target chemical substances	CAS No.	Application
Diarsenic trioxide	1327-53-3	Semiconductor substrate, glass antifoaming agent, pigments, paints, flame retardants
<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>		
8. Boric acid		
Target chemical substances	CAS No.	Application
Boric acid	10043-35-3	Flame retardant in wood, cotton and other plant derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
	11113-50-1	
<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)

9. Disodium tetraborates		
Target chemical substances	CAS No.	Application
Disodium tetraborate, anhydrous	1330-43-4	Flame retardant in wood, cotton and other plan derived material, cross-linking agent, pH-adjusting agent, antiseptic agents
Disodium tetraborate, pentahydrate	12179-04-3	
Disodium tetraborate, decahydrate	1303-96-4	
Tetraboron disodium heptaoxide, hydrate	12267-73-1	
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. Diboron trioxide		
Target chemical substances	CAS No.	Application
Diboron trioxide	1303-86-2	Flame retardant in wood, cotton and other plan derived material, glass/optical fiber
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. 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)		
12. 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 - Perchlorate Contamination Prevention Act of 2003		

2C Controlled substances (continued)

13. 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	
TBBA-(2,3-dibromo-propyl-ether)	21850-44-2	
TBBA bis-(2-hydroxy-ethyl-ether)	4162-45-2	
Hexabromobenzene	87-82-1	
2,3-dibromo-propanol	96-13-9	
If any of the following cases applies, the use of chemical substances is controlled. (1) Inclusion of 1,000 ppm or more of total content of bromine in plastic material. (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: JS709, IPC-04101 and IEC61249-2-21		
14. Chlorinated flame retardants		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Tetrakis(2-chloroethyl)dichloroisopentyldiphosphate	38051-10-4	Frame retardants
Tris(1-chloro-2-propyl)phosphate	13674-84-5	
Tris(2,3-dichloro-1-propyl)phosphate	66108-37-0	
Middle/long chain chlorinated paraffins (C14-C30)	-	
If any of the following cases applies, the use of chemical substances is controlled. (1) Inclusion of 1,000 ppm or more of total content of chlorine in plastic material. (2) Inclusion of more than 900 ppm of chlorine in a laminated printed wiring board (total content in the laminated board)		
Reference laws and regulations: JS709, IPC-04101 and IEC61249-2-21		
15. 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)		
16. Polyvinyl chloride (PVC) and PVC Copolymers		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Polyvinyl chloride (PVC)	9002-86-2	Resin materials, insulators, chemical resistance, transparency, sheath materials
PVC Copolymers	-	
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of 1,000 ppm or more of total content of chlorine in plastic material. For printed wiring board laminates, see applicable range (2) of 14. Chlorinated flame retardants.		
Reference laws and regulations: JS709		

2C Controlled substances (continued)

17. 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 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)		
18. Specific phthalates Group II (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		
19. Diisononyl phthalate (DINP)		
Target chemical substances	CAS No.	Application
Diisononyl phthalate (DINP)	28553-12-0	Plasticizers
	68515-48-0	
If the following case applies, the use of chemical substances is controlled. (1) Intentional use		
Reference laws and regulations: Proposition 65 of California		
20. Diisodecyl phthalate (DIDP)		
Target chemical substances	CAS No.	Application
Diisodecyl phthalate (DIDP)	26761-40-0	Plasticizers, dyes, pigments, paints, ink, adhesive
	68515-49-1	
If the following case applies, the use of chemical substances is controlled. (1) Intentional use		
Reference laws and regulations: Proposition 65 of California		

2C Controlled substances (continued)

21. Dipentyl phthalate (DPP)		
Target chemical substances	CAS No.	Application
Dipentyl phthalate (DPP)	131-18-0	Plasticizer
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)		
22. Bis(2-methoxyethyl) phthalate		
Target chemical substances	CAS No.	Application
Bis(2-methoxyethyl) phthalate	117-82-8	Plasticizer
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)		
23. Diisopentyl phthalate (DIPP)		
Target chemical substances	CAS No.	Application
Diisopentyl phthalate (DIPP)	605-50-5	Plasticizers
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. N-pentyl-isopentyl phthalate		
Target chemical substances	CAS No.	Application
N-pentyl-isopentyl phthalate	776297-69-9	Plasticizers
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. Di-n-hexyl phthalate (DnHP)		
Target chemical substances	CAS No.	Application
Di-n-hexyl phthalate (DnHP)	84-75-3	Plasticizers
If the following case applies, the use of chemical substances is controlled. (1) Intentional use		
Reference laws and regulations: Proposition 65 of California, REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
26. Hexahydromethylphthalic anhydride		
Target chemical substances	CAS No.	Application
Hexahydromethylphthalic anhydride	25550-51-0	Hardener for epoxy resins
Hexahydro-4-methylphthalic anhydride	19438-60-9	
Hexahydro-1-methylphthalic anhydride	48122-14-1	
Hexahydro-3-methylphthalic anhydride	57110-29-9	
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)		

2C Controlled substances (continued)

27. 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear		
Target chemical substances	CAS No.	Application
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Plasticizers
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)		
28. 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)		
29. 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)		
30. 1,2- Benzenedicarboxylic acid, dihexyl ester, branched and linear (DiHP)		
Target chemical substances	CAS No.	Application
1,2- Benzenedicarboxylic acid, dihexyl ester, branched and linear (DiHP)	68515-50-4	Plasticizer for certain plastics and rubbers
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)		
31. Trixylyl Phosphate		
Target chemical substances	CAS No.	Application
Trixylyl Phosphate	25155-23-1	Plasticizer and flame retardant for a variety of polymeric resins, plastics and rubbers
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)		

2C Controlled substances (continued)

32. Imidazolidine-2-thione, (2-imidazoline-2-thiol)		
Target chemical substances	CAS No.	Application
Imidazolidine-2-thione, (2-imidazoline-2-thiol)	96-45-7	adhesive tapes (for example, double sided adhesive tapes), imidazoline vulcanizing accelerator (use in chloroprene rubber, epichlorohydrin rubber, chlorinated polyethylene)
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)		
33. Bis(2-methoxyethyl) ether		
Target chemical substances	CAS No.	Application
Bis(2-methoxyethyl) ether	111-96-6	Electrolyte in batteries
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)		
34. 1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)		
Target chemical substances	CAS No.	Application
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	Electrolyte solution in lithium batteries, ink for inkjet cartridges
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)		
35. 1,2-dimethoxyethane (Other name: ethylene glycol dimethyl ether (EGDME))		
Target chemical substances	CAS No.	Application
1,2-dimethoxyethane (Other name: ethylene glycol dimethyl ether (EGDME))	110-71-4	Electrolyte solution in lithium batteries, ink for inkjet cartridges
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)		
36. 1,2-Diethoxyethane		
Target chemical substances	CAS No.	Application
1,2-Diethoxyethane	629-14-1	Electrolytic solution for lithium-ion batteries
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)		

2C Controlled substances (continued)

37. N,N-dimethylformamide		
Target chemical substances	CAS No.	Application
N,N-dimethylformamide	68-12-2	Electrolyte solution for electrolytic condenser for low-temperature environment (until 55 degrees)
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)		
38. 4-Aminoazobenzene		
Target chemical substances	CAS No.	Application
4-Aminoazobenzene	60-09-3	Pigment in ink (yellow)
If the following case applies, the use of chemical substances is controlled. (1) Inclusion of more than 1,000 ppm in parts (However, azo dyes and pigments where the generation/content of 4-Aminoazobenzene exceeds 30ppm in textile products and leather products correspond to prohibited substances)		
Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)		
39. Disodium 4-amino-3-[[4'-(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (Other name: C.I. Direct Black 38)		
Target chemical substances	CAS No.	Application
Disodium 4-amino-3-[[4'-(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	Dyes, Ink
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)		
40. Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (Other name: C.I. Direct Red 28)		
Target chemical substances	CAS No.	Application
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (Other name: C.I. Direct Red 28)	573-58-0	Dye for textiles and paper, vital stain, straight dyeing for yeast, pH indicator
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)		
41. 4-(1,1,3,3-tetramethylbutyl)phenol(Other name: 4-tert-Octylphenol)		
Target chemical substances	CAS No.	Application
4-(1,1,3,3-tetramethylbutyl)phenol(Other name: 4-tert-Octylphenol)	140-66-9	Surfactant, synthetic raw material of lipophilic phenolic resin
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)		

2C Controlled substances (continued)

42. 4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]		
Target chemical substances	CAS No.	Application
Ethanol, 2	26027-38-3	Paint, lacquers, varnish
Ethanol, 2	7311-27-5	
3,6,9,12,15	20427-84-3	
3,6,9,12,15,18	34166-38-6	
3,6,9,12,15,18,21,24	27942-27-4	
Ethanol, 2	14409-72-4	
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)		
43. 2- (2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)		
Target chemical substances	CAS No.	Application
2- (2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	UV stabilizer
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)		
44. 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)		
Target chemical substances	CAS No.	Application
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetra decanoate (DOTE)	15571-58-1	Stabilizer for PVC
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)		

2C Controlled substances (continued)

45. Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)		
Target chemical substances	CAS No.	Application
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	Stabilizer for PVC
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)		

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	1272/2008/EC ^{a)} , Appendix VI Table3.1	Category 1A Category 1B
5	Reproductive toxic substances	1272/2008/EC, Appendix VI Table3.1	Category 1A Category 1B
6	Mutagenic substances	1272/2008/EC, Appendix VI Table3.1	Category 1A Category 1B
7	persistent, bioaccumulative and toxic (PBT) substances, and very persistent and very bioaccumulative (vPvB) substances	REACH Regulation Annex XIII	-
8	Substances listed on the candidate list of SVHC (as of June.18.2012)	Candidate List of Substances of Very High Concern for Authorisation disclosed by ECHA	-
Notes: ^{a)} 1272/2008/EC: 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 [CLP Regulation] (EU) Annex VI of this EU Regulation was transferred from the old 67/548/EEC Annex I.			

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	Conditions, etc.
1	Halogen Compounds	Brominated chemical Compounds 100 ppm (in homogeneous materials)	Resin parts are concerned Exemptions are indicated in Supplements 1.
		Halogen compounds excluding bromine compounds 1,000 ppm (in homogeneous materials)	
2	Latex element included in natural rubber	Intentional use	Excluding use inside components
3	Arsenic and its compounds	1,000 ppm (in homogeneous materials)	Excluding use in semiconductor chips (dye only) and copper foil of printed circuit boards
4	Beryllium and its Compounds	1,000 ppm (in homogeneous materials)	Exemptions are made for the following: - Ceramic in electronic components - Electrical coupling use of beryllium copper(connectors, springs, EMI gaskets, etc.)
5	Polycyclic Aromatic Hydrocarbons (PAH)	- Benzo[a]pyrene: 20 mg/kg - Total of the 18 types of PAH(EPA) in Supplement 2: 200 mg/kg	Applies to exterior components for LBP
6	Red phosphorus	Intentional use	Applies to resin in contact with conductors in electrical parts (power cords, cables, switches, inlets, connectors, printed-circuit boards, etc.)

Supplement 1 Halogen Compounds

- When the corresponding substances are contained in the grade of the primary material itself, and when the content material grade of the corresponding substance is indicated in drawings, etc., they are exempted even if they are “resin parts.”

- “Electrical parts and rubber parts” are exempted.

(Exemption examples) Tapes, sponges, sheet, film, spacers, wire saddles, tie wraps, switches, fans, motors, photo sensors, inlets, power supply, connectors, printed-circuit boards, power cords, cables, etc

2E Prohibited substances in LBP (Laser Printer) parts (continued)

Supplement 2 Polycyclic Aromatic Hydrocarbons (PAH)
Acenaphthene, acenaphthylene, anthracene, benz[a]anthracene, benzo[b]fluoranthene,
benzo[j]fluoranthene, benzo[k]fluoranthene, benzo[ghi] perylene, benzo[a]pyrene,
benzo[e]pyrene, chrysene, dibenz[a,h] anthracene, fluoranthene, fluorine,
indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, pyrene

Note: 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. 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 (II) oxide	1317-36-8	
	Lead (IV) oxide	1309-60-0	
	Lead (II) sulfide	1314-87-0	
	Lead (II) sulfate	7446-14-2	
	Lead (II) carbonate	598-63-0	
	Lead (II) carbonate basic	1319-46-6	
	Lead stearate	1072-35-1	
	Dibasic lead stearate	56189-09-4	
	Lead (II,IV) oxide	1314-41-6	
	Lead (II) chromate	7758-97-6	
	Lead (II) titanium	12060-00-3	
	Lead hydrogen 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		

3A Prohibited substances in packaging materials (continued)

1. Cadmium and its compounds / Hexavalent chromium compounds / Lead and its compounds / Mercury and its compounds (continued)		
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		
2. 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	
Trilead diarsenate	3687-31-8	
Calcium arsenate	7778-44-1	
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)		
3. 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 (Grunerite)	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)		

3A Prohibited substances in packaging materials (continued)

4. 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	
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) The substance is contained as an indicator in a drying agent.</p> <p>The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33, ANNEX XVII)</p>		
5. Bis(tributyltin)oxide (TBTO)		
Target chemical substances	CAS No.	Application
Bis(tributyltin)oxide (TBTO) (*)	56-35-9	Stabilizer for PVC, curing catalyst for silicone resin and urethane resin
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material</p> <p>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)</p>		

3A Prohibited substances in packaging materials (continued)

6. 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	
Dibutyltin maleate	78-04-6	
Dibutyltin dichloride (DBTC) (*)	683-18-1	
<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>Note: A metal converted value applies to the concentration for the target range.</p> <p>The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p> <p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, Article 7-2, Article 33, added based on the Commission Regulation (EU) No 276/2010)</p>		
7. Dioctyltin (DOT) compounds		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Dioctyltin oxide	870-08-6	Textiles
Dioctyltin dilaurate	3648-18-8	
<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 in the following items:</p> <p>(i) Textile and (natural and/or man-made) leather articles intended to come into contact with the skin</p> <p>(ii) Two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)</p> <p>Note: 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)</p>		

3A Prohibited substances in packaging materials (continued)

8. 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>		
9. 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	
<p>If 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>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII)</p>		
10. 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	
Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	
<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>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)</p>		

3A Prohibited substances in packaging materials (continued)

11. Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane, Beta-hexabromocyclododecane, Gamma-hexabromocyclododecane		
Examples (Typical examples of target chemical substances)	CAS No.	Application
Hexabromocyclododecane (HBCDD) (*)	25637-99-4	Flame retardant mainly used for expanded polystyrene (PS), polyurethane (PU) and some types of fiber
	4736-49-6	
	65701-47-5	
	138257-17-7	
	138257-18-8	
	138257-19-9	
	169102-57-2	
	678970-15-5	
678970-16-6		
678970-17-7		
1,2,5,6,9,10-hexabromocyclododecane (*)	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 prohibited. (1) Intentional use		
The example substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of "Prohibited substances,"(even when the substance is used outside the "applicable range" described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.		
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) , Stockholm Convention on Persistent Organic Pollutants (POPs Convention), REACH Regulation (EC) No1907/2006(Article 7-2, Article 33)		
12. 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) (*)	76253-60-6	
Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21) (*)	81161-70-8	
monomethyl-dibromo-diphenyl methane (DBBT) (*)	99688-47-8	
If the following case applies, the use of chemical substances is prohibited. (1) Intentional use		
Note: The substances listed above that are suffixed with (*) 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)

13. 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)		
14. 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)		
15. Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)		
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	
If the following case applies, the use of chemical substances is prohibited. (1) Inclusion of more than 1,000 ppm in packaging items		
Reference laws and regulations: Stockholm Convention on Persistent Organic Pollutants (POPs Convention), 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)		
16. 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	
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 (3) Textiles or other coated materials : When more than 1 µg/m ² is contained in the coated material		
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), (EC) No.850/2004 (POPs regulation)		

3A Prohibited substances in packaging materials (continued)

17. Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA		
Target chemical substances	CAS No.	Application
Pentadecafluorooctanoic acid (PFOA) (*)	335-67-1	Coating materials for paper, and plastic stabilizers.
Ammonium pentadecafluorooctanoate (APFO) (*)	3825-26-1	
Sodium salt of Perfluorooctanoic acid	335-95-5	
Potassium salt of Perfluorooctanoic acid	2395-00-8	
Silver(1+) salt of Perfluorooctanoic acid	335-93-3	
Perfluorooctanoyl fluoride	335-66-0	
Methyl perfluorooctanoate	376-27-2	
Ethyl perfluorooctanoate	3108-24-5	
<p>If any of the following cases applies, the use of chemical substances is prohibited.</p> <p>(1) About packaging for-products which the possibility of being used at home, inclusion is prohibited at the following thresholds.</p> <ol style="list-style-type: none"> 1) When more than 1,000 ppm is contained in packaging items 2) When more than 10ppm is contained in chemicals 3) When more than 1µg/m² is contained in fibers, carpets and other coated packaging items <p>Note: "Medical devices" are excluded (corresponds to under (2)).</p> <p>(2) Regardless of the applicability of (1), the deadline for the inclusion of this substance in all products delivered to Canon is December 31, 2015, in the case of the following.</p> <ol style="list-style-type: none"> 1) Intentional use <p>Note: above deadlines have possibility</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of "Prohibited substances,"(even when the substance is used outside the "applicable range" described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p> <p>Reference laws and regulations: Regulations relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products hazardous to health and the environment (Norwegian Product Regulations), U.S. PFOA Self-Elimination Program, REACH Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
18. Methyl bromide		
Target chemical substances	CAS No.	Application
Methyl bromide	74-83-9	Wood pallets
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>Reference laws and regulations: ISPM-15</p>		

3A Prohibited substances in packaging materials (continued)

19. 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
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) When added intentionally to plastic materials or used in these materials</p> <p><Exemption></p> <p>When the following case applies:</p> <p>(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</p> <p>(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.</p> <p>Note: “19. 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.</p>		
<p>Reference laws and regulations: Blue Angel, Eco Mark</p>		
20. 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>		

3A Prohibited substances in packaging materials (continued)

21. 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)		
Target chemical substances	CAS No.	Application
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (*)	3846-71-7	Adhesive agents, paints, printing ink, plastics, ink ribbons, putties, caulking, filling materials (ultraviolet light absorbers)
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Intentional use</p> <p>The chemical substances above that are suffixed with (*) are subject to the REACH Regulation (EC) No1907/2006 candidate list of SVHC for authorization (Article 7-2, Article 33), and regardless of the applicable range of “Prohibited substances,”(even when the substance is used outside the “applicable range” described above) they must be controlled in the same manner as the controlled substances if their component density as a compound exceeds 0.1% by weight in unit of delivered part/material.</p>		
<p>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), Regulation (EC) No1907/2006 (Article 7-2, Article 33)</p>		
22. Dimethyl fumarate		
Target chemical substances	CAS No.	Application
Dimethyl fumarate	624-49-7	Moisture prevention agents, mildew-proofing agents
<p>If the following case applies, the use of chemical substances is prohibited.</p> <p>(1) Inclusion of more than 0.1 ppm in packaging items</p>		
<p>Reference laws and regulations: REACH Regulation (EC) No1907/2006 (ANNEX XVII, added based on the Commission Regulation (EU) No 412/2012)</p>		

< 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)

No relevant substances (No substances are designated as of June 2014, but substances may be designated according to social trends in future.)		
Target chemical substances	CAS No.	Application
-	-	-

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. 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)		
2. 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)		
3. 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)		
4. Disodium tetraborates		
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	
Tetraboron disodium heptaoxide, hydrate	12267-73-1	
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)

5. Diboron trioxide		
Target chemical substances	CAS No.	Application
Diboron trioxide	1303-86-2	Flame retardants
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)		
6. Calcium arsenate		
Target chemical substances	CAS No.	Application
Calcium arsenate	7778-44-1	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)		
7. 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)		
8. 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)		
9. 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 75ppm by mass		
Reference laws and regulations: Australia-BGB I 1990/194: Formaldehyde Restriction §2, 12/2/1990 (Textile Products)		
10. 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)		

3C Controlled substances in packaging materials (continued)

11. 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)		
12. 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)		
13. 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)		
14. Diisononyl phthalate (DINP)		
Target chemical substances	CAS No.	Application
Diisononyl phthalate (DINP)	28553-12-0	Plasticizer
	68515-48-0	
If the following case applies, the use of chemical substances is controlled. (1) Intentional use		
Reference laws and regulations: Proposition 65 of California		
15. Diisodecyl phthalate (DIDP)		
Target chemical substances	CAS No.	Application
Diisodecyl phthalate (DIDP)	26761-40-0	Plasticizers, dyes, pigments, paints, ink, adhesive
	68515-49-1	
If the following case applies, the use of chemical substances is controlled. (1) Intentional use		
Reference laws and regulations: Proposition 65 of California		
16. Dipentyl phthalate (DPP)		
Target chemical substances	CAS No.	Application
Dipentyl phthalate (DPP)	131-18-0	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)

17. Bis(2-methoxyethyl) phthalate		
Target chemical substances	CAS No.	Application
Bis(2-methoxyethyl) phthalate	117-82-8	Plasticizers
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)		
18. Diisopentyl phthalate (DIPP)		
Target chemical substances	CAS No.	Application
Diisopentyl phthalate (DIPP)	605-50-5	Plasticizers
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)		
19. N-pentyl-isopentyl phthalate		
Target chemical substances	CAS No.	Application
N-pentyl-isopentyl phthalate	776297-69-9	Plasticizers
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)		
20. Di-n-hexyl phthalate (DnHP)		
Target chemical substances	CAS No.	Application
Di-n-hexyl phthalate (DnHP)	84-75-3	Plasticizers
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)		
21. Hexahydromethylphthalic anhydride		
Target chemical substances	CAS No.	Application
Hexahydromethylphthalic anhydride	25550-51-0	Hardener for epoxy resins
Hexahydro-4-methylphthalic anhydride	19438-60-9	
Hexahydro-1-methylphthalic anhydride	48122-14-1	
Hexahydro-3-methylphthalic anhydride	57110-29-9	
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)

22. 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear		
Target chemical substances	CAS No.	Application
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	Plasticizers
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)		
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
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)		
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	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)		
25. 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DiHP)		
Target chemical substances	CAS No.	Application
1,2,1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DiHP)	68515-50-4	Plasticizer for certain plastics and rubbers
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)		
26. Trixylyl Phosphate		
Target chemical substances	CAS No.	Application
Trixylyl Phosphate	25155-23-1	Plasticizer and flame retardant for a variety of polymeric resins, plastics and rubbers
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)

27. Imidazolidine-2-thione, (2-imidazoline-2-thiol)		
Target chemical substances	CAS No.	Application
Imidazolidine-2-thione, (2-imidazoline-2-thiol)	96-45-7	adhesive tapes (for example, double sided adhesive tapes), imidazoline vulcanizing accelerator (use in chloroprene rubber, epichlorohydrin rubber, chlorinated polyethylene)
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)		
28. 1-methyl-2-pyrrolidone, N-methyl-2-pyrrolidone (NMP)		
Target chemical substances	CAS No.	Application
1-methyl-2-pyrrolidone, N-methyl-2-pyrrolidone (NMP)	872-50-4	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)		
29. 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol		
Target chemical substances	CAS No.	Application
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	Pigment in ink
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)		
30. 4-Aminoazobenzene		
Target chemical substances	CAS No.	Application
4-Aminoazobenzene	60-09-3	Pigment in ink (yellow)
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)		
31. α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (Other name: C.I. Solvent Blue 4)		
Target chemical substances	CAS No.	Application
α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (Other name: C.I. Solvent Blue 4)	6786-83-0	Pigment in ink
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)

32. [4-[[4-anilino-1-naphthyl]][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (Other name: C.I. Basic Blue 26)		
Target chemical substances	CAS No.	Application
[4-[[4-anilino-1-naphthyl]][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (Other name: C.I. Basic Blue 26)	2580-56-5	Pigment in ink
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)		
33. Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (Other name: C.I. Direct Black 38)		
Target chemical substances	CAS No.	Application
Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	Dyes, Ink
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)		
34. Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (Other name: C.I. Direct Red 28)		
Target chemical substances	CAS No.	Application
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (Other name: C.I. Direct Red 28)	573-58-0	Dye for textiles and paper, vital stain, straight dyeing for yeast, pH indicator
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)		
35. 4-(1,1,3,3-tetramethylbutyl)phenol, (Other name:4-tert-Octylphenol)		
Target chemical substances	CAS No.	Application
4-(1,1,3,3-tetramethylbutyl)phenol, (Other name: 4-tert-Octylphenol)	140-66-9	Surfactant, synthetic raw material of lipophilic phenolic resin
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)

36. 4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]		
Target chemical substances	CAS No.	Application
Ethanol, 2	26027-38-3	Paint, lacquers, varnish
Ethanol, 2	7311-27-5	
3,6,9,12,15	20427-84-3	
3,6,9,12,15,18	34166-38-6	
3,6,9,12,15,18,21,24	27942-27-4	
Ethanol, 2	14409-72-4	
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)		
37. 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)		
Target chemical substances	CAS No.	Application
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	UV stabilizer
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)		
38.2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)		
Target chemical substances	CAS No.	Application
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetra decanoate (DOTE)	15571-58-1	Stabilizer for PVC
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)

39. Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)		
Target chemical substances	CAS No.	Application
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	Stabilizer for PVC
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)		

3D No stipulations**3E Prohibited substances in packaging LBP (Laser Printer) parts**

Prohibition of these substances applies to parts & materials used in packaging 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 packaging LBP (OEM specifications) products to be delivered to Canon.

	Target chemical substances	CAS No	Application
1	Latex element included in natural rubber	Intentional use	-
2	Elemental chlorine	Intentional use	Use as bleaching agent to whiten fibers contained in packaging made of paper (virgin or recycled materials) is prohibited

Note: Contact for inquiries about whether or not each substance is concerned with 3E:
 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

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 2011/65/EC	3A Prohibited substances in packaging materials	3B Use-restricted substances in packaging materials	3C Controlled substances in packaging materials	
Cadmium and its compounds	1			X	1			X*iii
Hexavalent chromium compounds	2			X				X*iii
Lead and its compounds	3			X				X*iii
Mercury and its compounds	4			X				
Arsenic Compounds					2			
Asbestos	5				3			
Cobalt dichloride (CoCl ₂)			11		4			X*iii
Bis(tributyltin)oxide (TBTO)	6				5			X
Dibutyltin (DBT) compounds	7				6			X*iii
Diocetyl tin (DOT) compounds	8				7			
Tri-substituted organostannic compounds	9				8			
Polybrominated biphenyls (PBBs)	10			X	9*ii			
Polybrominated diphenyl ethers (PBDEs)	11			X	10*ii			
Hexabromocyclododecane (HBCDD) and all major diastereoisomers	12				11			X
Polychlorinated biphenyls (PCBs) and specific substitutes	13				12			
Polychlorinated terphenyls (PCTs)	14				13			
Polychlorinated naphthalenes (more than 3 chlorine atoms)	15				14			
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	16				15			
Perfluorooctane sulfonate (PFOS)	17				16*ii			
Perfluorooctanoic acid (PFOA) and individual salts and esters of PFOA	18				17			X*iii
Fluorinated greenhouse gases (PFC, SF ₆ , HFC)	19							
Ozone-depleting substances	20							
Methyl bromide					18			
Halogen compounds and halogen resins					19*ii			
Azocolourants and azodyes which form certain aromatic amines	21				20			
2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	22				21			X
Dimethyl fumarate	23				22			
Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (BNST)	24							
Polycyclic Aromatic Hydrocarbons (PAHs)	25							
Bis (2-ethylhexyl) phthalate (DEHP)		1					10	X
Dibutyl phthalate (DBP)							11	X
Benzyl butyl phthalate (BBP)							12	X
Diisobutyl phthalate (DIBP)							13	X

Attachment 2 List of Product Environmental Impact Substances

< Reference List of Product Environmental Impact Substances > (continued)

	Product			Packaging			REACH Regulation *1 Candidate list of SVHC for authorisation
	2A Prohibited substances	2B Use-restricted substances	2C Controlled substances	EU RoHS Directive 2011/65/EC	3A Prohibited substances in packaging materials	3B Use-restricted substances in packaging materials	
Nickel			1				
Radioactive substances			2				
Beryllium oxide (BeO)			3				
Aluminosilicate Refractory Ceramic Fibres			4				X
Zirconia Aluminosilicate Refractory Ceramic Fibres			5				X
Diarsenic pentoxide			6			1	X
Diarsenic trioxide			7			2	X
Boric acid			8			3	X
Disodium tetraborates			9			4	X
Diboron trioxide			10			5	X
Calcium arsenate						6	X
Perchlorates			12				
Triethyl arsenate						7	X
Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)			13				
Chlorinated flame retardants			14				
Tris(2-chloroethyl) phosphate (TCEP)			15			8	X
Polyvinyl chloride (PVC) and PVC Copolymers			16				
Formaldehyde			17			9	
Specific phthalates Group II (Diisononyl phthalate (DINP), Diisodecyl phthalate (DIDP), Di-n-octyl phthalate (DNOP))			18				
Diisononyl phthalate (DINP)			19			14	
Diisodecyl phthalate (DIDP)			20			15	
Dipentyl phthalate (DPP)			21			16	X
Bis(2-methoxyethyl) phthalate			22			17	X
Diisopentyl phthalate (DIPP)			23			18	X
N-pentyl-isopentyl phthalate			24			19	X
Di-n-hexyl phthalate (DnHP)			25			20	X
Hexahydromethylphthalic anhydride			26			21	X
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear			27			22	X
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)			28			23	X
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)			29			24	X
1,2- Benzenedicarboxylic acid, dihexyl ester, branched and linear (DiHP)			30			25	X

Attachment 2 List of Product Environmental Impact Substances

< Reference List of Product Environmental Impact Substances > (continued)

	Product			Packaging			REACH Regulation *1 Candidate list of SVHC for authorisation	
	2A Prohibited substances	2B Use-restricted substances	2C Controlled substances	EU RoHS Directive 2011/65/EC	3A Prohibited substances in packaging materials	3B Use-restricted substances in packaging materials		3C Controlled substances in packaging materials
Trixylyl Phosphate			31				26	X
Imidazolidine-2-thione, (2-imidazoline-2-thiol)			32				27	X
1-methyl-2-pyrrolidone, N-methyl-2-pyrrolidone (NMP)							28	X
Bis(2-methoxyethyl) ether			33					X
1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)			34					X
1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)			35					X
1,2-Diethoxyethane			36					X
N,N-dimethylformamide			37					X
4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol							29	X
4-Aminoazobenzene			38				30	X
α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol							31	X
[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride							32	X
Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate			39				33	X
Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate)			40				34	X
4-(1,1,3,3-tetramethylbutyl)phenol			41				35	X
4-Nonylphenol, branched and linear, ethoxylated			42				36	X
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)			43				37	X
2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)			44				38	X
Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)			45				39	X

< Reference List of Product Environmental Impact Substances > (continued)

- *i The chemical substances mentioned are substances listed in the “Declarable substance groups and declarable substances” of IEC62474 and JIG-201, and also substances added uniquely by Canon due to regulatory and social trends. The above list does not cover all the candidate substances for authorization under REACH.
- *ii These chemical substances are not included in the “Declarable substance groups and declarable substances” of IEC62474 and JIG-201, but are added uniquely by Canon due to regulatory and social trends.
- *iii Some chemical substances correspond to candidate substances for authorization under REACH.