Canon
Green Procurement Standards

GreeN

Ver. 12.0

June 1, 2019

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Contents

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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 each 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 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 two categories.
   (1) Prohibited substances: Chemical substances whose use is prohibited or strictly limited according to international treaties, etc.
   (2) Substances targeted for reduced levels of use: Chemical substances that are believed to have a high possibility of being subject to limits on their use according to international treaties, etc.

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, wiping 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.
7. Mixture
   A mixture intentionally comprising two or more chemical substances.
   Examples : Paints, inks, alloy ingot, solder, resin pellets containing additive , etc.
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 or mixture.
10. Contain
    It means that a particular chemical substance is originally present in a part or a material that constitutes a product. This term also refers to cases in which a substance exists as a result of addition, filling, mixing, or deposition, as well as results from a manufacturing process.
11. Intentional use
    It means to use chemical substances intentionally in parts/materials constituting a product, for the purpose of realizing performance related to specific functions/appearance or to the maintenance/ improvement of quality.
12. Impurities
    Impurities means 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.

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.

13. Applicable Scope (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:

(Concentration) = (content by mass of a specified chemical substance) / (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 , etc., is indicated in “Applicable range”. So, please use an appropriate denominator for calculation of the concentration.

Note 2: Homogeneous materials

“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: “Elements converted value”

When the applicable range is stipulated according to specific elements, the content and concentration of that element must be calculated with element equivalents. Element equivalents are calculated by multiplying the content or concentration of the compound containing the element in question by the conversion coefficient.

Note that the conversion coefficient is calculated by dividing the total atomic weight of the element in question by the molecular weight of the compound containing said element.

Ex.: Conversion coefficient for tin in dibutyltin dichloride ($C_8H_{18}C_{l2}Sn$)

$$\text{Conversion coefficient (0.39)} = \frac{\text{Atomic weight of tin (118.7)}}{\text{Total molecular weight of dibutyltin dichloride (303.85)}}$$

14. 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.
For related lists, etc., please refer to the below URL.
http://std.iec.ch/iec62474/iec62474.nsf/welcome?openpage

Appendix 2 List of Product Environmental Impact Substances

15. 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 this Standards.
16. chemSHERPA
    Generic name given to the new scheme for communicating information on chemical substances in products. This scheme was developed under the leadership of the Ministry of Economy, Trade and Industry of Japan. The details are referred to the below URL.
    https://chemsherpa.net/english
17. Canon supplier
    In this standard, “Canon supplier” means Canon Group’s tier 1 supplier.
18. Supplier
    In this standard, “supplier” means supplier who delivers parts/materials to “Canon supplier”.

Appendix 2 List of Product Environmental Impact Substances

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 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 production, and sales of parts and materials delivered to Canon.

2. Product environmental impact substances
   The "List of Product Environmental Impact Substances" contains chemical substances selected as follows:–
   Substances contained in IEC62474 "Declarable Substance List (DSL)" , substances for packing or 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/packings delivered to Canon, except for the exempted items, if any, specified in the lists.
   The inclusion of "3A Prohibited substances only for 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 adding to 2A prohibited substances.
   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/packings 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/packings 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.
   The inclusion of controlled substances in parts and materials delivered to Canon is neither prohibited nor restricted.

Appendix 2 List of Product Environmental Impact Substances

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

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

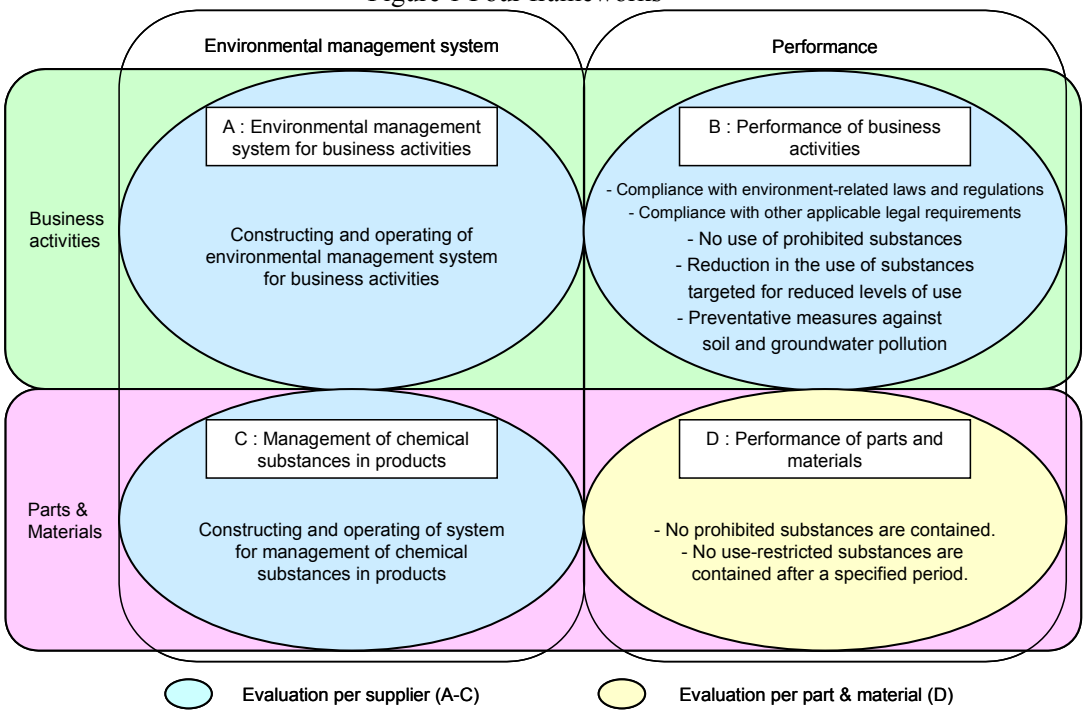
A : Environmental management system for business activities
A company must construct and operate a system to reduce environmental impact caused by its business activities

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

C : Management of chemical substances in products (environmental management system for parts and materials)
A system must be constructed and operated to keep track of and manage chemical substances contained in parts and materials delivered to Canon.

D : Performance of parts and materials
No "prohibited substances" are contained in parts and materials delivered to Canon, and no "use-restricted substances" are contained after a specified period.

Figure 1 Four frameworks



6. Procedure for Starting Dealings

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

1. Evaluation of suppliers (A through C shown in Figure 1)
   (1) Canon will request suppliers to submit "Self-Evaluation Sheet" based on "Supplier Environmental Evaluation" (see page 15).
   (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 18).
   (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.

Appendix 2　List of Product Environmental Impact Substances

[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."
https://chemsherpa.net/english/docs/guidelines/archive?id=6

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.

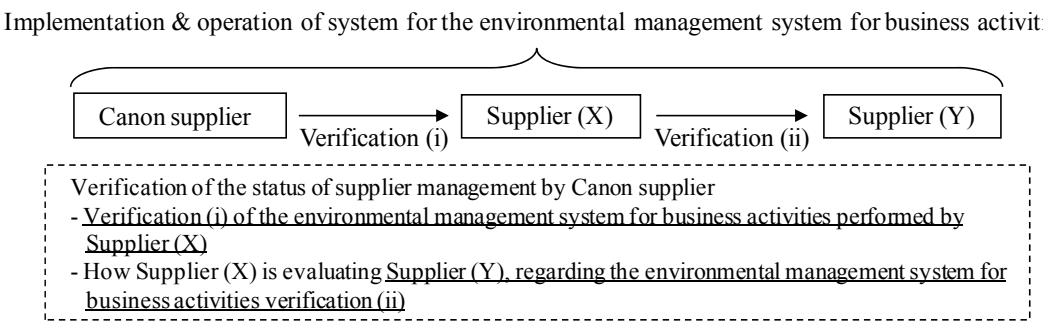
1.2 Use-restricted substances
- None of the "2B Use-restricted Substances" defined in the "List of Product Environmental Impact Substances" (Attachment 2) shall be contained in parts and materials delivered to Canon after a specified period.

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.

Appendix 2 List of Product Environmental Impact Substances

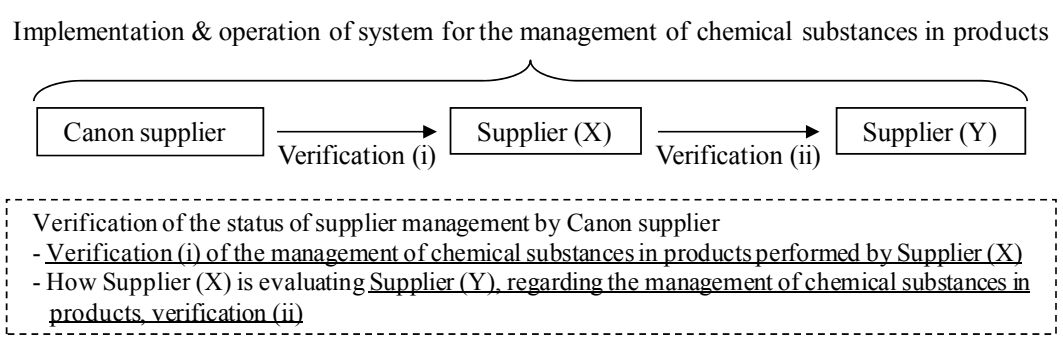
8. Explanation of the Requirements

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.



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.



(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 16).

(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.

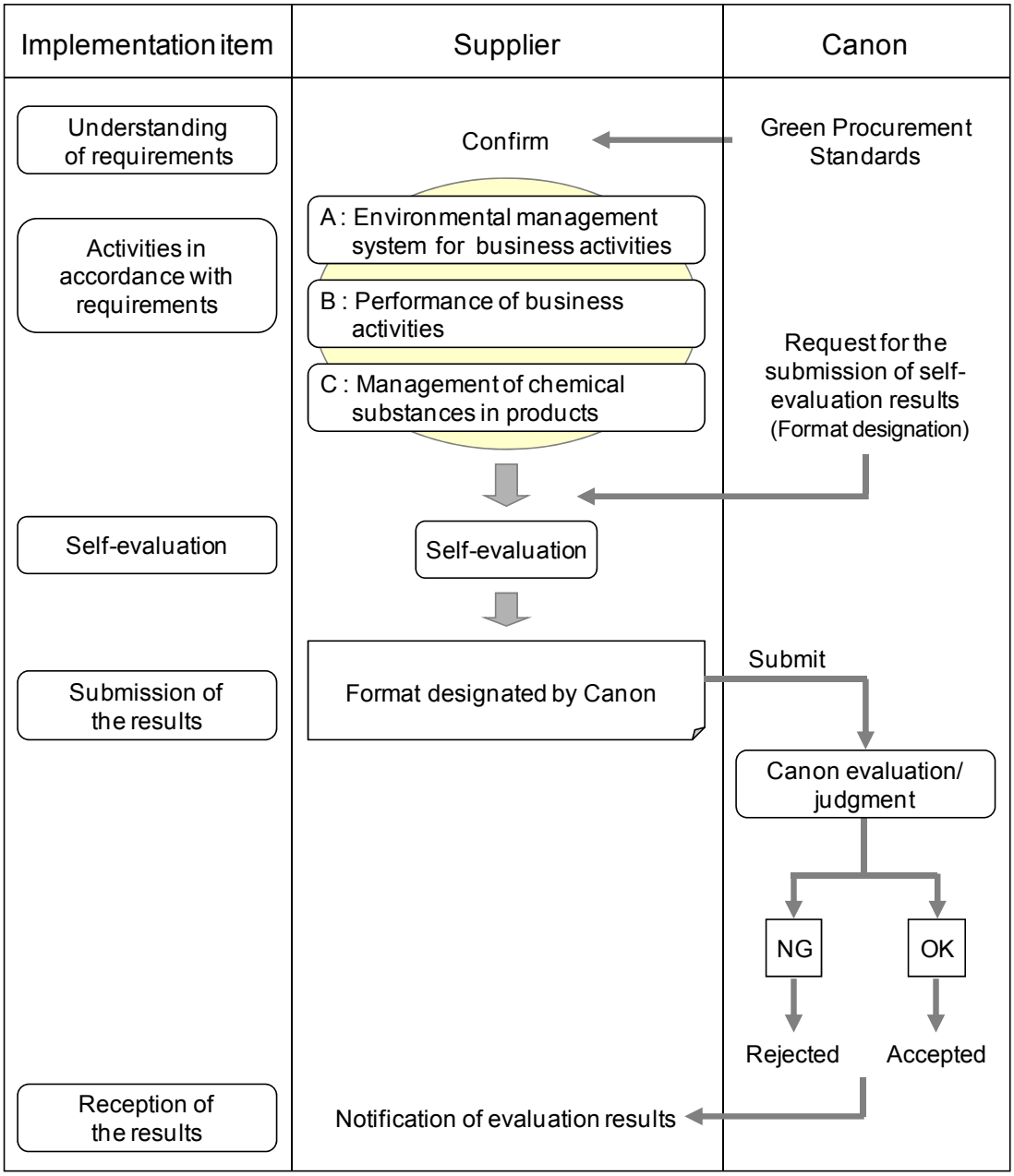
In addition to the results of self-evaluation explained, Canon may request suppliers to submit materials that will verify the construction and operation of an “environmental management system for business activities” and “system for management of chemical substances in products”.

(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.

Figure2 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)

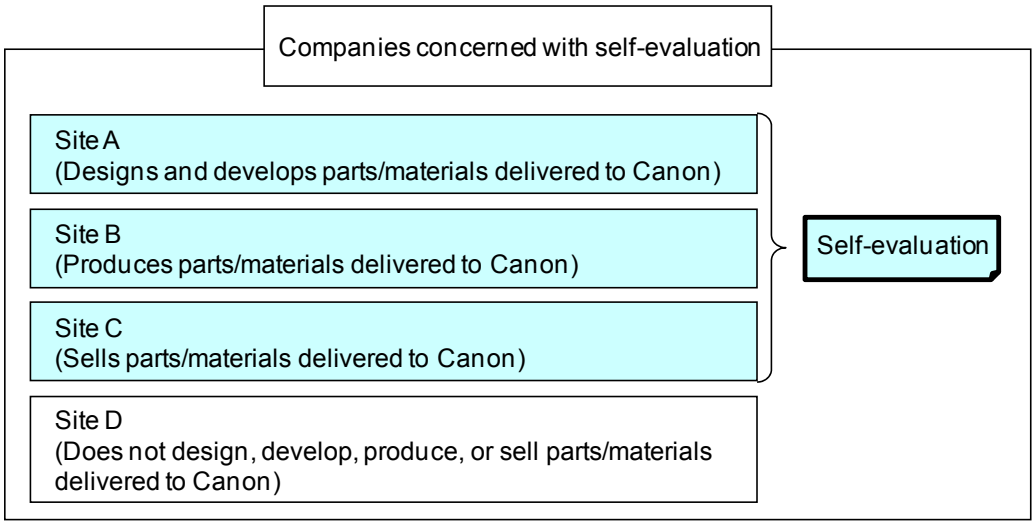
If the supplier is a trading company and currently unable to perform purchasing management in accordance with these Standards, the supplier takes the responsibility for checking the status of supplier management by manufacturers or subcontractor sites/plants that produce parts and materials delivered 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 19).

(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 with (1).
In addition, we may request submission of 2 documents as needed.

(c) Suppliers are asked to fill in the requested survey form with their answers and submit it.

(1) “chemSHERPA-AI file” and “chemSHERPA-CI file”

Necessity of each information is as follows when you fill in "chem SHERPA-AI file":
-Compliance : Required
-Composition : Optional

Necessity of each information is as follows when you fill in "chem SHERPA-CI file":
-Composition : Required

In addition, please use the data creation support tool provided by chemSHERPA for entry.

For detailed methods on c providing responses, please refer to the manual and usage rules provided by chemSHERPA. These will be obtained at the following URL.

https://chemsherpa.net/english/tool

(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 chemSHERPA file. Canon will request surveys as needed.

- Product environmental impact substances specified in these Standards but not the subject of the chemSHERPA 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.

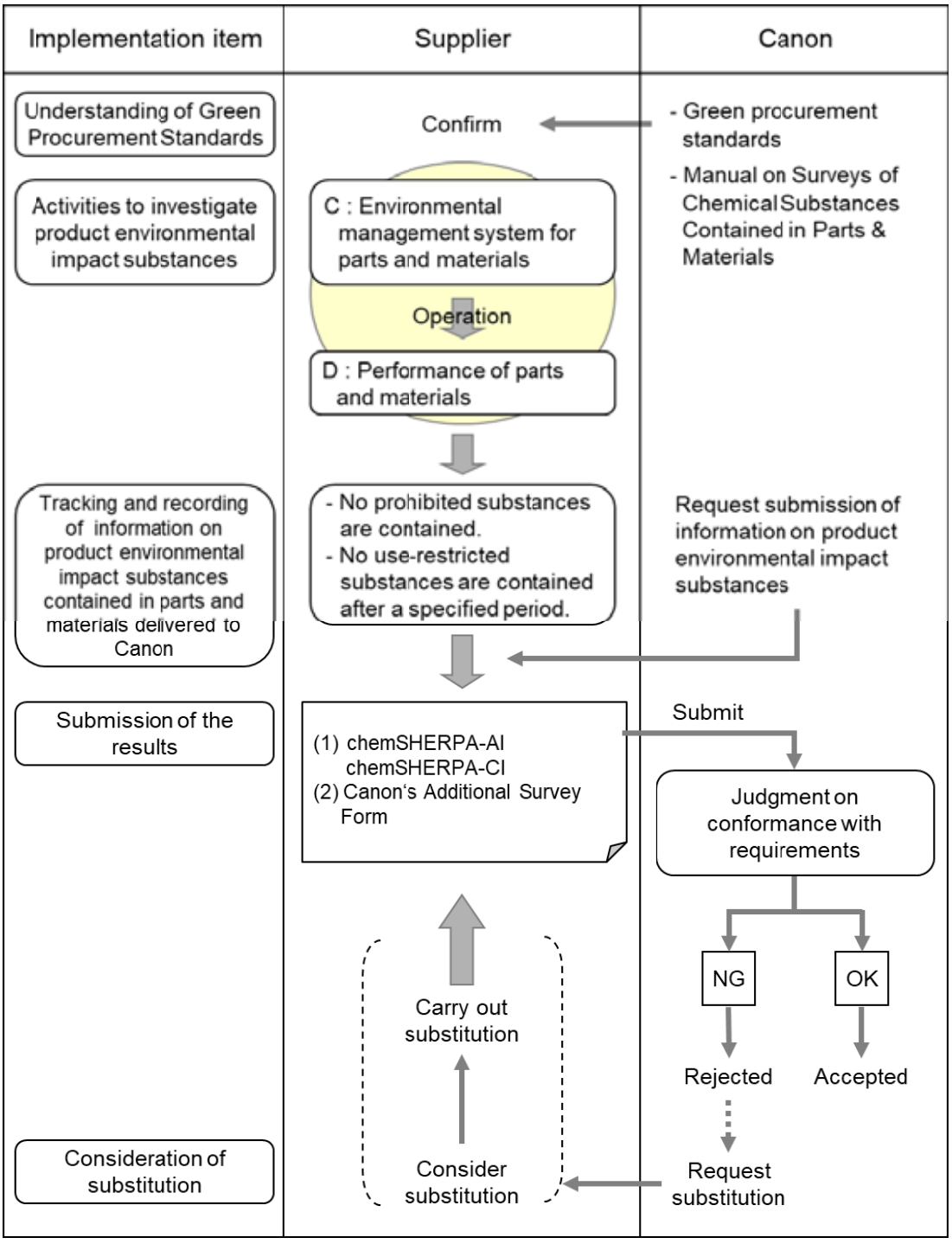
https://global.canon/en/procurement/green03.html

(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.

Appendix 2 List of Product Environmental Impact Substances

Figure3 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*"

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," "3A Prohibited Substances for Package only" "2B Use-restricted substances" (prohibition to be placed within one year),
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,"
   (2) Revision of supplements for the requirements
   (3) Corrections of typos

* "Acknowledgement of Revision" is a document to acknowledge compliance with the revised Standards when revisions are made.

12. Starting Date for Application

This version (Ver.12.0) of Canon Green Procurement Standards shall start to be applied from September 1, 2019.

Appendix 2 List of Product Environmental Impact Substances

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	- 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	- 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	- 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	- 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	- 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

Appendix 2 List of Product Environmental Impact Substances

Ver.6.0	Aug. 2009	- 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” Addition to 1A Prohibited substances Addition to and deletion from 1C Controlled substances - Revision to Attachment 2 “List of Product Environmental Impact Substances” 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 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 Addition of explanations about the requirements Correction of the Self-Evaluation Sheet Wording changes
Ver.6.01	Dec. 2009	- Correction of errors in writing 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	- 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” 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) 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” Addition to 2B Use-restricted substances Addition to 2C Controlled substances - Formats 1, 2, and 3 have been separated from these Standards. - Wording changes

Appendix 2 List of Product Environmental Impact Substances

Ver.8.0	Jul. 2011	- 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” [Products] Addition to 2A Prohibited substances Addition to 2C Controlled substances [Packaging] 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	- Revision to Attachment 2 “List of Product Environmental Impact Substances” [Products] 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 [Packaging] Addition to examples (typical examples of target chemical substances) in 3A Prohibited substances in packaging materials [Reference] Revision to List of Product Environmental Impact Substances
Ver.9.0	Jun. 2013	- Additions and revision to definition of terms - Revision to Attachment 2 “List of Product Environmental Impact Substances” [Products] 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 [Packaging] 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 [Reference] Revision to List of Product Environmental Impact Substances - 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	- Correction of errors in writing Diarsenic pentoxide (CAS No. 1303-28-2) have been corrected as Diarsenic trioxide (CAS No. 1327-53-3) on Page 63.

Appendix 2 List of Product Environmental Impact Substances

Ver.10.0	Jun. 2014	- 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 Addition to 1A Prohibited substances - Attachment 2 "List of Product Environmental Impact Substances" has been revised [Products] 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] 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	- Correction of errors in writing
Ver.11.0	Jun. 2015	- 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 [Products] 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] 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

Appendix 2　List of Product Environmental Impact Substances

Ver.11.1	Jun. 2016	- Revision following changes made to composition of Attachment 2 “List of Product Environmental Impact Substances” Revision to explanation of 4. “Production environmental impact substances” and “product environmental impact substances” Revision to following with respect to Attachment 2 “List of Product Environmental Impact Substances” 1) Integration of “Products” and “Packaging” parts 2) Revision of chart format; organization of information stated 3) Consolidation of SVHC into Controlled Substances (REACH Regulation candidates) ・Statement of revisions to Attachment 2 “List of Product Environmental Impact Substances” ・Addition of information on gradual transition from Jan. through Jun. 2017 from surveys using preexisting JGP file system to surveys using the chemSHERPA-AI file and chemSHERPA-CI file
Ver.11.11	Jul. 2016	- Correction of errors in writing (Lacked of 2D,2E,3D,3E)
Ver.11.2	June 2017	- Correction of description with switching form JGP files to chemSHERPA file. - Addition of 1A-4 Prohibited for Preventing Soil Contamination (Canon Standards). - Chang of Target Scope of 2A Prohibited Substances. - Deletion of description about Attached Table 2A-2 for NiCd batteries. - Addition of note for all description and target scope of in 2C Controlled Substances. - Addition of 3 substances in 2C-1 Controlled Substances (Candidates SVHC for authorization of REACH).
Ver.11.21	June 2017	- Correction of errors in writing
Ver.11.3	June 2018	- Change　specific phthalate from Use-restricted Substances to Prohibited Substances - Partially Change Of Applicable Range　(prohibited/controlled) - Addition of controlled substances (　Perfluorohexane-1-sulphonic acid and its salts：REACH SVHC　) - Updating of exemption items and expired date in the law
Ver.12.0	June 2019	- Revision to Attachment 1 “List of Production Environmental Impact Substances” Addition and changes to 1A Prohibited substances - Revision to Attachment 2 “List of Product Environmental Impact Substances” -Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances -Revised Annex 2A-3 Exempted Applications of Heavy Metals Restricted by EU RoHS Directives -Added 13 substances to 2C-1 Controlled Substances (Candidates SVHC for authorization of REACH) -3E Revision to Prohibited substances in LBP (Laser Printer) packaging material

Documentation, survey sheets (forms) and other materials related to green procurement are available by download from the following URL

English　(English and Chinese)
http://global.canon/en/procurement/green03.html

Japanese　(English, Japanese and Chinese)
http://global.canon/ja/procurement/green03.html

Inquiries
Canon’s each site of your dealing

Canon Green Procurement Standards Ver.12.0

Published: Canon Inc. June 2019

Appendix 1　List of Production Environmental Impact Substances

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

1A　Prohibited Substances
1B　Substances Targeted for Reduced Levels of Use

Appendix 1 List of Production Environmental Impact Substances

1A Prohibited Substances

(Chemical substances prohibited to be used production, or sales of parts and materials delivered to Canon.)

1A-1 Montreal Protocol (Annex A/B/C/E)		
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 Convention concerning safety in the use of asbestos		
No.	CAS.No.	Substance
9	-	Asbestos
1A-3 Stockholm convention on Persistent Organic Pollutants (Annex A/B)		
No.	CAS.No.	Substance
10	-	Polychlorinated biphenyls (PCB)
11	-	Polychlorinated naphthalene (2 or more chlorine atoms)
12	118-74-1	Hexachlorobenzene
13	309-00-2	Aldrin
14	60-57-1	Dieldrin
15	72-20-8	Endrin
16	50-29-3	DDT
17	57-74-9	Chlordane
18	76-44-8	Heptachlor
19	8001-35-2	Toxaphene
20	2385-85-5	Mirex
21	87-68-3	Hexachlorobutadiene
22	-	Perfluorooctane sulfonic acid (PFOS) and its salts [a)] Perfluorooctane sulfonyl fluoride (PFOSF)
23	608-93-5	Pentachlorobenzene
24	319-84-6	Alpha hexachlorocyclohexane
25	319-85-7	Beta hexachlorocyclohexane
26	58-89-9	Lindane
27	143-50-0	Chlordecone
28	36555-01-8	Hexabromobiphenyl
29	-	Tetrabromodiphenyl ether and pentabromodiphenyl ether
30	-	Hexabromodiphenyl ether and heptabromodiphenyl ether
31	115-29-7 959-98-8 33213-65-9	Technical endosulfan and its related isomers

Appendix 1 List of Production Environmental Impact Substances

1A-3 Stockholm convention on Persistent Organic Pollutants (Annex A/B) (continued)		
32	25637-99-4 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	Hexabromocyclododecane
33	-	Pentachlorophenol and its salts and esters
34	85535-84-8 68920-70-7 71011-12-6 85536-22-7 85681-73-8 108171-26-2	Short-chain chlorinated paraffins (Alkanes, C10-13, chloro): straight-chain chlorinated hydrocarbons with chain lengths ranging from C10 to C13 and a content of chlorine greater than 48 per cent by weight
35	1163-19-5	Decabromodiphenyl ether (commercial mixture, c-decaBDE)

Note : In Japan, targets substances of Stockholm treaty is prohibited as specified chemical substances Class I of Chemical Substances Control Law. And some substances except the above substances are listed in specified chemical substances Class I.

Note [a)] Perfluorooctane sulfonic acid (PFOS) and its salts 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 photo films for industrial use

1A-4 Prohibited Substances for Preventing Soil Contamination (Canon Standards)		
No.	CAS.No.	Substance
(3)	56-23-5	Carbon tetrachloride [a)]
36	107-06-2	1,2-Dichloroethane
37	75-35-4	Vinylidene (di) chloride
38	540-59-0 156-59-2 156-60-5	1,2-Dichloroethylene
39	542-75-6	1,3-dichloropropene
40	75-09-2	Dichloromethane
41	127-18-4	Tetrachloroethylene
(4)	71-55-6	1,1,1-Trichloroethane [a)]
42	79-00-5	1,1,2-Trichloroethane
43	79-01-6	Trichloroethylene
44	71-43-2	Benzene
45	75-01-4	Chloroethylene [b)]

Note [a)] These substances are prohibited by other categories (International treaties). However, these are listed again in the light of importance of preventing soil contamination.

Note [b)] Chloroethylene is not prohibited as synthetic raw material for resin and/or paint, etc.

Appendix 1 List of Production Environmental Impact Substances

1A-5 Substances having a significant impact on human health (Canon Standards)		
No.	CAS.No.	Substance
46	-	yellow phosphorus match flint(yellow phosphorus)
47	-	Benzidine and its salt
48	-	4-Aminobiphenyl and its salt
49	-	4-Nitrobiphenyl and its salt
50	-	Bis(chloromethyl) ether
51	-	β-Naphthylamine and its salt

1B Substances Targeted for Reduced Levels of Use

(Chemical substances targeted for reduced levels of use 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

Note: New “substances targeted for reduced levels of use” may be set in the future.

Appendix 2 List of Product Environmental Impact Substances

2A Prohibited Substances
(Prohibited Substances including in product/packing to delivery to Canon)

3A Prohibited Substances for Package only
Annex 2A-1 Details of Prohibited substances
Annex 2A-2 Items for Prohibition of the Use of Heavy Metals in Batteries
Annex 2A-3-1 Exempted Applications of Heavy Metals Restricted by RoHS Directive (common)
Annex 2A-3-2 Exempted Applications of Heavy Metals Restricted by RoHS Directive (category 8,9)

2B Use-restricted Substances *No stipulations at present
(For product/package delivery to Canon, Canon should make the deadline, and contain of the substances will be prohibited after the deadline.)

2C Controlled Substances
(Substances to be managed use-for, part (portion) of use and including product to be delivered
to Canon.)

Annex 2C-1 Controlled substances (Candidate SVHC for authorization of REACH)

2D Environmental label substances in plastic exterior enclosure members/cabinets for business machine products (EcoMark, BlueAngel)

2E Prohibited Substances in LBP (Laser Printer) parts

3E Prohibited Substances in packaging LBP (Laser Printer) parts

Legal References and Numberings in Attached Tables

Appendix 2 List of Product Environmental Impact Substances

2A Prohibited Substances

No	Substance/ Substance Group	Applicable Substances CAS No	Applicable Range (Threshold level)	Typical applications	Reference laws and regulations
1	Cadmium and its compounds [a)]	-	1) When more than 100 ppm of cadmium is contained in homogenous material 2) Restrictions on heavy metals contained in batteries: Attached t able2A-2 <Exemptions> Attached Table2A-3-1	pigments, corrosion-resisting surface treatment, batteries, contact points, optical materials, stabilizers in polyvinyl chloride	1,2-1
2	Hexavalent chromium compounds [a)]	-	1) When more than 1,000 ppm of hexavalent chromium is contained in homogenous material 2) When leather articles and articles containing leather parts contain hexavalent chromium in concentrations equal to or greater than 3 ppm of the total dry weight leather. <Exemptions> Attached Table2A-3-1	pigments, paints, ink, catalysts, anticorrosive surface treatment, dyestuff, anti-rust paint	1, 2-1
3	Lead and its compounds [a)]	-	1) When more than 1,000 ppm of lead is contained in homogeneous material. 2) When more than 300 ppm of lead is contained in the PVC covering PVC electrical cable. 3) Products designed for a child aged 12 or younger: when more than 100 ppm of lead is contained in each part or when more than 90 ppm of lead is contained in their paints or dry coatings 4) Restrictions on heavy metals contained in batteries: Attached table2A-2 Note: For the above 3), detail will be informed separately <Exemptions> Attached Table2A-3-1	pigments, paints, stiffener in rubber, stabilizer in plastics, batteries, curing (vulcanizing) agents for rubber, solders, glasses, free cutting alloy, contents of alloys, additives in various type of resins	1, 2-1,3,4
4	Mercury and its compounds [a)]	-	1) When used intentionally 2) When more than 1,000 ppm of mercury is contained in homogenous material 3) Restrictions on heavy metals contained in batteries: Attached Table2A-2 <Exemptions> Attached Table2A-3-1	batteries, fluorescent materials, contact points, hermometers, pigments	1, 2-1,5

Appendix 2 List of Product Environmental Impact Substances

2A Prohibited Substances (continued)

No	Substance/ Substance Group	Applicable Substances CAS No	Applicable Range (Threshold level)	Typical applications	Reference laws and regulations
5	Asbestos	-	When used intentionally	Insulators, fillers, heat insulators, frictional materials	2-1,6,7
6	Bis(tributyltin)oxide (TBTO)	56-35-9	When used intentionally	Paints, pigments, antiseptic agents, refrigerants, digestives, foaming agents	8
7	Dibutyltin (DBT) compounds [a)]	-	When more than 1,000 ppm of tin is contained in a part.	PVC stabilizers, curing catalysts for silicone resin and urethane resin	2-1
8	Dioctyltin (DOT) compounds [a)]	-	When more than 1,000 ppm of tin is contained in a part in the following items: 1) Textile articles and leather products intended to come into contact with the skin 2) Childcare articles 3) Two-component room temperature vulcanisation moulding kits (RTV-2 moulding kits)	PVC stabilizers, curing catalysts for silicone resin and urethane resin	2-1
9	Tri-substituted organostannic compounds [a)]	-	1) When used intentionally 2) When more than 1,000 ppm of tin is contained in a part	Pigments, paints, flame retardants, stabilizers, n-type semiconductor dopant	2-1,8
10	Polybrominated biphenyls (PBBs)	-	When more than 1,000 ppm is contained in homogenous material	flame retardants	1
11	Polybrominated diphenyl ethers (PBDEs)	-	1) When used intentionally 2) When more than 1,000 ppm is contained in homogeneous material	flame retardants	1,8
12	Hexabromocyclododecane (HBCDD)	Refer to Attached Table 2A-1(1)	1) When used intentionally 2) When more than 100 ppm is contained in-an article	Flame retardant mainly used for expanded polystyrene (PS), polyurethane (PU) and some types of fiber	8,9,10

Appendix 2 List of Product Environmental Impact Substances

2A Prohibited Substances (continued)

No	Substance/ Substance Group	Applicable substances CAS No	Applicable range (Threshold level)	Typical applications	Reference laws and regulations
13	Polychlorinated biphenyls (PCBs) and specific substitutes	Refer to Attached Table 2A-1(2)	When used intentionally	insulating oils, lube oil, electrical insulation medium, plasticizers, paints solvent, heat transfer medium	2-1, 6,8.10
14	Polychlorinated terphenyls (PCTs)	-	When more than 50 ppm is contained in homogeneous material	Insulating oils, lube oil, electrical insulation medium, plasticizers, paints solvent, heat transfer medium	2-1
15	Polychlorinated Naphthalenes	-	When used intentionally	Lubricating oils, paints, stabilizer in plastics, electrical insulation medium, flame retardants	8,10
16	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	-	1)When used intentionally 2)When more than 1,000 ppm is contained in an article	greases, metal treatment liquids, flame retardants, plasticizer in PVC	43
17	Perfluorooctane sulfonate (PFOS)	-	1) When used intentionally 2) When more than 1,000 ppm is contained in a part 3) Textiles or other coated materials : When more than 1μg/m^2 is contained in the coated material <Exemptions> 1) Photo-resist or anti-reflective coating for photolithography process 2) Photo coating applied to films, documents, or printing plates	Photolithography, photo-coating materials, hydraulic fluid, metal plating, cleaning materials, fire-fighting foams, and coating materials for paper	8,9,10, 12
18	Selected Fluorinated greenhouse gases (PFC, SF_6, HFC)	Refer to Attached table2A-1 (3)	When used intentionally for the specific uses indicated in Attached table 2A-1 (3).	Refrigerants, blowing agents, fire extinguishers, cleaning agents, insulating materials, caustic gas	14
19	Ozone depleting substances	Refer to Attached table2A-1 (4)	When used intentionally	refrigerants, fire extinguisher, foaming agents, detergent, fumigation	15,16
20	Azocolourants and azodyes which form certain aromatic amines	-	Azocolourants and azodyes that are in fabric products/leather products and form more than 30 ppm of some aromatic amines listed in Attached Table2A-1 (6).	pigments, dyes, coloring agents	2-1

Appendix 2 List of Product Environmental Impact Substances

2A Prohibited Substances (continued)

No	Substance/ Substance Group	Applicable substances CAS No	Applicable range (Threshold level)	Typical applications	Reference laws and regulations
21	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	When used intentionally	Adhesive agents, paints, printing ink, plastics, ink ribbons, putties, caulking, filling materials (ultraviolet light absorbers)	8
22	Dimethyl fumarate	624-49-7	When more than 0.1 ppm is contained in a part	Moisture prevention agents, mildew-proofing agents	2-1
23	Polycyclic aromatic hydrocarbons (PAHs)	Refer to Attached table2A-1 (6)	When more than 1 ppm in rubber or plastic components that come into direct contact with human skin of oral cavity for long period of time or repeatedly. Note:Toys or child care article, the threshold is 0.5 ppm.	Pigments in rubber or plastic components (as impurity)	2-1
24	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	1) When more than 1,000 ppm contained in homogeneous material in the products under the scope of EU RoHS Directive. Notes for 1) Products falling under Categories 8 and 9 can be delivered by 2020/7/21. 2) When more than 1,000 ppm of DEHP, DBP, BBP and DIBP combined is contained in plasticized materials [b)] within the below products under the scope of the EU RoHS Directive ・Packaging material ・Promotional materials and accessories Notes for 2) Can be delivered by 2019/9/6. However, the delivery of toys or child care articles is prohibited regardless of the above deadline.	Plasticizers, dyes, pigments, paints, ink, adhesive	1,2-1
25	Dibutyl phthalate (DBP)	84-74-2			
26	Benzyl butyl phthalate (BBP)	85-68-7			
27	Diisobutyl phthalate (DIBP)	84-69-5			

Appendix 2　List of Product Environmental Impact Substances

No	Substance/ Substance Group	Applicable substances CAS No	Applicable range (Threshold level)	Typical applications	Reference laws and regulations
28	Perfluorooctanoic acid (PFOA) and its salts	-	1) When used intentionally 2) When more than 25ppb(0.025ppm) is contained in an article Notes Can be delivered by 2019/9/3. However, the delivery of substances that fall under Details of Prohibited Substances (7) based on intentional use is prohibited regardless of the above deadline.	Water-repellant coating agents, polymers containing fluoride, emulsifiers for elastomers containing fluoride, lubricants	2-1, 11,13
29	Perfluorooctanoic acid (PFOA)-related substances [c)]	-	1) When used intentionally 2) When more than 1,000ppb (1ppm) is contained in an article as the combined concentration with No. 28 (Perfluorooctanoic acid (PFOA) and its salts) Notes Can be delivered by 2019/9/3. However, the delivery of substances that fall under Details of Prohibited Substances (7) based on intentional use is prohibited regardless of the above deadline.	Water-repellant coating agents, polymers containing fluoride, emulsifiers for elastomers containing fluoride, lubricants	2-1, 11,13

2A Prohibited Substances (continued)

Appendix 2 List of Product Environmental Impact Substances

3A Prohibited Substances for Package only

No	Substance/ Substance Group	Applicable Substances CAS No	Applicable Range (Threshold level)	Typical applications	Reference laws and regulations
30	Four heavy metals: Cadmium and its compounds /Hexavalent chromium compounds /Lead and its compounds /Mercury and its compounds [a)]	-	1) When used intentionally 2) Sum of cadmium, hexavalent chromium, lead and mercury contained in excess of 100 ppm by weight in homogeneous material	Pigment, paint, stabilizer for PVC	18,19
31	Arsenic Compounds	-	When used in timber as antiseptic agent	Wood preservative	2-1
32	Cobalt dichloride	-	The substance is contained as an indicator in a drying agent.	Humidity Indicator Cards (HIC), moisture indicator in silica gel	2-1
33	Halogen compounds and halogen resins [d)]	-	When added intentionally to plastic materials or used in these materials <Exemptions> (1) Polyvinyl chloride molded articles of packaging used repeatedly between suppliers and Canon. However, this does not apply to new designs after October 1, 2011 Example: returnable container (2)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 this Attached Table2A	Flame retardants, adhesive	20,21

Appendix 2　List of Product Environmental Impact Substances

【Notes for 2A/3A as a whole】

Note1: The “Applicable Substance CAS No.” column shows CAS No. when substance(s) is specified.
The “-“ in the column means the substance is defined as substance group.

Note2: The numbers in the “Reference laws and regulations” column correspond to the numbers in Attached “Reference laws and regulations”.

Note3: Regarding the restricted substances on the EU RoHS Directives referred to 1-4, the following exceptional categories are approved to be used in cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity based on Article 4 of the EU RoHS Directives.
However, efforts shall be made to eliminate the substances as much as possible.
(PBB and PBDE have already been abolished.)

1. Prohibited substances between No. 1 and 4
   1) Products that had been in Scope of the original EU RoHS Directive (2002/95/EC) which were placed on the market before 1st July 2006 (Products in Category1-7 and 10 whose primary function is dependent on electric currents or electromagnetic fields"
   2) Medical devices other than the following 3 and monitoring and control instruments other than the following 3 and 4, which were placed on the market before 22st July 2014(Category 9)
   3) In-vitro diagnostic medical devices placed on the market before 22st July 2016 (Category 8)
   4) Industrial monitoring and control instruments placed on the market before 22 July 2017 (Category 9)
2. Prohibited substances between No. 24 and 27
   1) Products under Categories 1-7, 10 and 11 that were placed on the market before 21st July 2019
   2) Products under Categories 8 and 9 that were placed on the market before 21st July 2019

Note [a] The “Element equivalent” shall be used for “Applicable Range (Threshold level)”

[b] “Plasticized materials” refers to the following homogeneous materials.
-Polyvinyl chloride (PVC), polyvinylidene chloride (PVDC), polyvinyl acetate (PVA), polyurethane
-Silicone rubber or any other polymers with the exception of natural latex coating
-Surface coating, slip resistance coating, finishing agents, transfer sheets, printed designs
Adhesive agents, sealants, paints and inks

[c] “Perfluorooctanoic acid (PFOA)-related substances” refers to the following.
-All related substances with a linear or branched perfluorooctanoic radical that has the molecular formula C7F15 directly bonded to another carbon atom as one of its component elements (salts of PFOA and polymers included).
-All related substances with a linear or branched perfluorooctanoic radical that has the molecular formula C8F17 directly bonded to another carbon atom as one of its component elements (salts of PFOA and polymers included).
-The below substances are excluded from this specification.
・C8F17-X (X being F, Cl or Br)
・C8F17-C(=O)OH、C8F17-C(=O)O-X' or C8F17-CF2-X' (X being all radicals that include salt)
Note that perfluorooctane sulfonate (PFOS) is excluded from perfluorooctanoic acid (PFOA)-related substances.

[d] The No.33, “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.

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-1 Details of Prohibited Substances (1)

No		Applicable substances	CAS No.
12	Hexabromocyclododecane (HBCDD)	Hexabromocyclododecane (HBCDD)	25637-99-4 4736-49-6 65701-47-5 138257-17-7 138257-18-8 138257-19-9 169102-57-2 678970-15-5 678970-16-6 678970-17-7
		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

Attached Table 2A-1 Details of Prohibited substances (2)

No		Applicable substances	CAS No.
13	Polychlorinated biphenyls (PCBs) and specific substitutes	Polychlorinated biphenyls (all isomers and homologs)	1336-36-3
		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

Attached Table 2A-1 Details of Prohibited Substances (3)

No		Applicable substances	CAS No.
18	Selected Fluorinated greenhouse gases (PFC, SF_6, HFC)	Carbon tetrafluoride (perfluoromethane)	75-73-0
		Perfluoroethane (hexafluoroethane)	76-16-4
		Perfluoropropane (octafluoropropane)	76-19-7
		Perfluorobutane (decafluorobutane)	355-25-9
		Perfluoropentane (dodecafluorobutane)	678-26-2
		Perfluorohexane (tetradecafluorohexane)	355-42-0
		Perfluorocyclobutane	115-25-3
		Sulfur hexafluoride (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

Applicable range:
When the following substances are used intentionally for the specific uses respectively.
1) PFCs, HFCs, SF_6
- Non-refillable containers, Windows, Footwear, Tires
- One component foams, except when required to meet national safety standards

2) HFCs, PFCs
- Non-confined direct evaporation systems containing refrigerants

3) PFCs, HFC-23
- Fire protection equipments

4) HFCs (GWP [a)] 150 or more)
- 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" means Global Worming Potential.

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-1 Details of Prohibited substances (4)

No			Applicable Substances	Number of isomers
19	Ozone-depleting Substances	Montreal Protocol Annex A Group I	$CFCl_3$ (CFC-11)	
			CF_2Cl_2 (CFC-12)	
			$C_2F_3Cl_3$ (CFC-113)	
			$C_2F_4Cl_2$ (CFC-114)	
			C_2F_5Cl (CFC-115)	
		Group II	CF_2BrCl(halon-1211)	
			CF_3Br(halon-1301)	
			$C_2F_4Br_2$(halon-2402)	
		Montreal Protocol Annex B Group I	CF_3Cl(CFC-13)	
			C_2FCl_5(CFC-111)	
			$C_2F_2Cl_4$(CFC-112)	
			C_3FCl_7(CFC-211)	
			$C_3F_2Cl_6$(CFC-212)	
			$C_3F_3Cl_5$(CFC-213)	
			$C_3F_4Cl_4$(CFC-214)	
			$C_3F_5Cl_3$(CFC-215)	
			$C_3F_6Cl_2$(CFC-216)	
			C_3F_7Cl(CFC-217)	
		Group II	CCl_4 Carbon tetrachloride	
		Group III	$C_2H_3Cl_3$ 1,1,1-trichloroethane (methylchloroform) Note : This does not refer to 1,1,2-trichloroethane.	
		Montreal Protocol Annex C Group I	$CHFCl_2$(HCFC-21)	1
			CHF_2Cl(HCFC-22)	1
			CH_2FCl(HCFC-31)	1
			C_2HFCl_4(HCFC-121)	2
			$C_2HF_2Cl_3$(HCFC-122)	3
			$C_2HF_3Cl_2$(HCFC-123)	3
			$CHCl_2CF_3$(HCFC-123)[a)]	-
			C_2HF_4Cl(HCFC-124)	2
			$CHFClCF_3$(HCFC-124)[a)]	-
			$C_2H_2FCl_3$(HCFC-131)	3
			$C_2H_2F_2Cl_2$(HCFC-132)	4
			$C_2H_2F_3Cl$(HCFC-133)	3
			$C_2H_3FCl_2$(HCFC-141)	3
			CH_3CFCl_2(HCFC-141b)[a)]	-
			$C_2H_3F_2Cl$(HCFC-142)	3
			CH_3CF_2Cl(HCFC-142b)[a)]	-
			C_2H_4FCl(HCFC-151)	2
			C_3HFCl_6(HCFC-221)	5
			$C_3HF_2Cl_5$(HCFC-222)	9
			$C_3HF_3Cl_4$(HCFC-223)	12
			$C_2HF_4Cl_3$(HCFC224)	12
			$C_3HF_5Cl_2$(HCFC-225)	9
			$CF_3CF_2CHCl_2$(HCFC-225ca)[a)]	-
			CF_2ClCF_2CHClF(HCFC-225cb)[a)]	-
			C_3HF_6Cl(HCFC-226)	5
			$C_3H_2FCl_5$(HCFC-231)	9
			$C_3H_2F_2Cl_4$(HCFC-232)	16
			$C_3H_2F_3Cl_3$(HCFC-233)	18

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-1 Details of Prohibited substances (4) (continued)

No			Applicable substances	Number of isomers
19	Ozone-depleting Substances (continued)	Group I (continued)	$C_3H_2F_4Cl_2$(HCFC-234)	16
			$C_3H_2F_5Cl$(HCFC-235)	9
			$C_3H_3FCl_4$(HCFC-241)	12
			$C_3H_3F_2Cl_3$(HCFC-242)	18
			$C_3H_3F_3Cl_2$(HCFC-243)	18
			$C_3H_3F_4Cl$(HCFC-244)	12
			$C_3H_4FCl_3$(HCFC-251)	12
			$C_3H_4F_2Cl_2$(HCFC-252)	16
			$C_3H_4F_3Cl$(HCFC-253)	12
			$C_3H_5FCl_2$(HCFC-261)	9
			$C_3H_5F_2Cl$(HCFC-262)	9
			C_3H_6FCl(HCFC-271)	5
		Group II	$CHFBr_2$	1
			CHF_2Br(HBFC-22B1)	1
			$C_2HF_2Br_3$	3
			C_2HF_4Br	2
			$C_2H_2F_2Br_2$	4
			$C_2H_3FBr_2$	3
			C_2H_4FBr	2
			$C_3HF_2Br_5$	9
			$C_3HF_4Br_3$	12
			C_3HF_6Br	5
			$C_3H_2F_2Br_4$	16
			$C_3H_2F_4Br_2$	16
			$C_3H_3FBr_4$	12
			$C_3H_3F_3Br_2$	18
			$C_3H_4FBr_3$	12
			$C_3H_4F_3Br$	12
			$C_3H_5F_2Br$	9
			CH_2FBr	1
			C_2HFBr_4	2
			$C_2HF_3Br_2$	3
			$C_2H_2FBr_3$	3
			$C_2H_2F_3Br$	3
			$C_2H_3F_2Br$	3
			C_3HFBr_6	5
			$C_3HF_3Br_4$	12
			$C_3HF_5Br_2$	9
			$C_3H_2FBr_5$	9
			$C_3H_2F_3Br_3$	18
			$C_3H_2F_5Br$	8
			$C_3H_3F_2Br_3$	18
			$C_3H_3F_4Br$	12
			$C_3H_4F_2Br_2$	16
			$C_3H_5FBr_2$	9
			C_3H_6FBr	5
		Group III	CH_2BrCl Bromochloromethane	
		Montreal Protocol Annex E Group I	CH_3Br Methylbromide	

Note [a)] These are substances which have the highest possibility of being used commercially.

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A -1 Details of Prohibited substances (5)

No			CAS No.
20	Azocolourants and azodyes which form certain aromatic amines	4-Aminoazobenzene	60-09-3
		o-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
		o-toluidine	95-53-4
		4-chloro-o-toluidine	95-69-2
		2,4-toluenediamine	95-80-7
		o-aminoazotoluene	97-56-3
		5-nitro-o-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
		p-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-m-phenylenediamine	615-05-4
		4,4'-methylenedi-o-toluidine	838-88-0
Note	The object of control under Attached 2A is " Azocolourants and azodyes which form certain aromatic amines." This refers to azo compounds that form any of the amines listed in this Table during the reductive decomposition of azo groups. The threshold level of 30 ppm specified in the applicable range applies not to azo dyes/pigments but to the amines listed in this Table No20.		

Attached Table 2A-1 Details of Prohibited substances (6)

No		Applicable substances	CAS No.
23	Polycyclic aromatic hydrocarbons (PAHs)	Benzo[a]pyrene (BaP)	50-32-8
		Benzo[e]pyrene (BeP)	192-97-2
		Benzo[a]anthracene (BaA)	56-55-3
		Chrysen (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

Attached Table 2A-1 Details of Prohibited substances (7)

No		Applicable substances	CAS No.
28 29	Perfluorooctanoic acid (PFOA) and its salts Perfluorooctanoic acid (PFOA)-related substances * Substances whose intentional use is prohibited even before 2019/9/3, the deadline indicated in the Notes	Pentadecafluorooctanoic acid (PFOA)	335-67-1
		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

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-2 Items for Prohibited of Use of Heavy Metals in Batteries

Substance Group	Classification of batteries	Applicable range (Threshold level)	Reference laws and regulations
1. Cadmium and its compounds	A. All batteries except those indicated in B	Batteries containing cadmium of which concentration is more than 20ppm by mass <Exemption> The battery of the use of following 1 and 2. 1) Emergency and warning system including emergency lamps 2) Medical equipment	30,31,32
	B..Manganese battery, alkaline battery, and nickel hydride (Ni-MH) secondary battery (excluding Button battery)	Batteries containing cadmium of which concentration is more than 10ppm by mass	
2. Lead and its compounds	A. Manganese battery	Batteries containing lead of which concentration is more than 1,000ppm by mass	31,33,34
	B.Alkaline battery	Batteries containing lead of which concentration is more than 40ppm by mass	
	C.Nickel hydride (Ni-MH) secondary batteries (excluding Button battery)	Batteries containing lead of which concentration is more than 4,000ppm by mass	
3. Mercury and its compounds	A. All batteries except those indicated in B to D	Batteries containing mercury of which concentration is more than 5ppm in homogeneous material	30,31,32, 35,36,37, 38,39,40, 41,42
	B. Alkaline battery, manganese battery (excluding button battery)	1) Intentional use. 2) Batteries containing mercury as impurity of which concentration is 1ppm or more by mass or more than 5ppm in homogenous material	
	C.Nickel hydride (Ni-MH) secondary battery (excluding Button battery)	Batteries containing mercury of which concentration is 1ppm or more by mass or more than 5ppm in homogenous material	
	D.Alkaline button battery, Manganese button battery, Mercury oxide cells, Mercury oxide button cells, Button-type air-zinc cell battery, Button-type silver oxide cell battery, All button batteries used in consumer products	Intentional use. When the substance is contained as impurity, item A above shall apply.	

Note: Definition of batteries.

1) A manganese battery: A battery that consists of a manganese dioxide positive electrode, a zinc negative electrode, and a non-alkaline electrolyte
2) An alkaline battery: A battery that consists of a manganese dioxide positive electrode, a zinc negative electrode, and an alkaline electrolyte
3) 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
4) A mercury oxide cell: A battery in which a mercuric-oxide electrode is used

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
1.Cadmium and its compounds	8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	Jan.1,2012	
	8(b)	Cadmium and its compounds in electrical contacts	Feb.29,2020	Jul.21,2021 [a)]
A new requirement of above 8(b)	8(b)-I	Cadmium and its compounds in electrical contacts used in: - circuit breakers; - thermal sensing controls; - thermal motor protectors (excluding hermetic thermal motor protectors); - AC switches rated at: - 6 A and more at 250 V AC and more; or - 12 A and more at 125 V AC and more; - DC switches rated at 20 A and more at 18 V DC and more; and - switches for use at voltage supply frequency ≥ 200 Hz.	Jul.21,2021	
	13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	Jul.5,2018	Jul.21,2021 [a)]
New requirements of above 13(b)	13(b)-(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	Jul.21,2021	
	13(b)-(III)	Cadmium and lead in glazes used for reflectance standards 16.6.2017 L 153/22 Official Journal of the European Union EN	Jul.21,2021	
	21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses etc	Feb.29,2020	Jul.21,2021 [a)]
New requirements of above 21	21(a)	Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	2021/7/21 (except for the use covered by Legal No.21(b) or No.39)	
	21(b)	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses etc	2021/7/21 (except for the use covered by Legal No.21(a) or No.39)	

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
1.Cadmium and its compounds (continued)	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	Jul.21,2016	Jul.21,2021[a)]
	38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	Jul.21,2016	Jul.21,2021[a)]
	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	Nov.1,2018	Nov.1,2018
A new requirement of above 39	39(a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications (< 0.2 μg Cd per mm^2 of display screen area)	Undetermined	
	40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	Dec.31,2013	
2.Hexavalent chromium compounds	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	Undetermined	

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
3.Lead and its compounds	5(a)	Lead in glass of cathode ray tubes	Jul.21,2016	Jul.21,2021[a)]
	5(b)	Lead in glass of fluorescent tubes not exceeding 0.2 % by weight	Undetermined	
	6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight	Jun.30,2019	Jul.21,2021[a)]
A new requirement of above 6(a)	6(a)-I	Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components containing up to 0.2% lead by weight	Jul.21,2021	
	6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	Jun.30,2019	Jul.21,2021[a)]
New requirements of above 6(b)	6(b)-I	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling	Jul.21,2021	
	6(b)-II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight	May.18,2021	
	6(c)	Copper alloy containing up to 4 % lead by weight	Jul.21,2021	Jul.21,2021[a)]
	7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	Jul.21,2021 (except for the use covered by Legal No.24)	Jul.21,2021[a)]
	7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	Jul.21,2016	Jul.21,2021[a)]
	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	Jul.21,2021 (except for the use covered by Legal No.34)	Jul.21,2021[a)]
	7(c)-II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	Jul.21,2021	Jul.21,2021[a)]

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
3.Lead and its compounds (continued)	7(c)-III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	Jan.1,2013	
	7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete	Jul.21,2021	Jul.21,2021 [a)]
	9(b)	Lead in bearing shells and bushes for refrigerant- containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	Jul.5,2018	Jul.21,2021 [a)]
New requirements of above 9(b)	9(b)-(I)	Lead in bearing shells and bushes for refrigerant- containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications	Jul.21,2019 (Only Category I)	
	11(a)	Lead used in C-press compliant pin connector systems	Sep.24,2010	
	11(b)	Lead used in compliant pin connector systems other than C-press connector systems	Jan.1,2013	
	12	Lead as a coating material for the thermal conduction module C-ring	Sep.24,2010	
	13(a)	Lead in white glasses used for optical applications	Jul.21,2021	Jul.21,2021 [a)]
	13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	Jul.5,2018	Jul.21,2021 [a)]
New requirements of above 13(b)	13(b)-(I)	Lead in ion coloured optical filter glass types	Jul.21,2021	
	13(b)-(III)	Cadmium and lead in glazes used for reflectance standards	Jul.21,2021	
	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	Jan.1,2011	Jul.21,2021

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
3.Lead and its compounds (continued)	15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	Feb.29,2020	
A new requirement of above 15	15(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: - a semiconductor technology node of 90 nm or larger; - a single die of 300 mm^2 or larger in any semiconductor technology node; - stacked die packages with die of 300 mm^2 or larger, or silicon interposers of 300 mm^2 or larger.	Jul.21,2021	Jul.21,2021 a)
	16	Lead in linear incandescent lamps with silicate coated tubes	Sep.1,2013	
	17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	Jul.21,2016	Jul.21,2021 a)
	18(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ($(Sr,Ba)_2MgSi_2O_7$:Pb)	Jan.1,2011	
	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 ($BaSi2O_5$:Pb)	Jul.21,2021	
A new requirement of above 18(b)	18(b)-I	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps containing phosphors such as BSP ($BaSi_2O_5$:Pb), when used in tanning equipment or in medical phototherapy equipment - excluding applications covered under point 34 of Annex IV	Jul.21,2021 (Category 5, 8) (except for the use covered by Legal No.34)	Jul.21,2021 a)
	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)	Jun.1,2011	

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
3.Lead and its compounds (continued)	20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	Jun.1,2011	
	21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	Feb.29,2020	Jul.21,2021 a)
A new requirement of above 21	21(c)	Lead in printing inks for the application of enamels on glasses other than borosilicate glasses	Jul.21,2021	
	23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	Sep.24,2010	
	24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	Jul.21,2021	Jul.21,2021 a)
	25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	Jul.21,2016	Jul.21,2021 a)
	26	Lead oxide in the glass envelope of black light blue (BLB) lamps	Jun.1,2011	
	27	Lead alloys as solder for transducers used in high powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers	Sep.24,2010	
	29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	Jul.21,2021	Jul.21,2021 a)
	31	Lead in soldering materials in mercury free flat fluorescent lamps (e.g. which are used for liquid crystal displays, design or industrial lighting)	Jul.21,2016	Jul.21,2021 a)
	32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	Jul.21,2021	Jul.21,2021 a)
	33	Lead in solders for the soldering of thin copper wires of 100 μm diameter and less in power transformers	Jul.21,2016	Jul.21,2021 a)
	34	Lead in cermet-based trimmer potentiometer elements	Jul.21,2021	Jul.21,2021 a)
	37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	Jul.21,2021	Jul.21,2021 a)
	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	Undetermined	

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
3.Lead and its compounds (continued)	42	Lead in the bearings or bushings of diesel- or gasoline-fueled internal combustion engines applied to professional-use equipment for non-public roads -Equipment with an engine displacement of 15 liters or more, or -Equipment with a displacement of less than 15 liters and an engine designed for usage requiring less than 10 seconds from the time the start signal is emitted to the time that a fully-loaded state is reached, or equipment whose periodic maintenance is conducted in a grueling, dirty outdoor environment, with typical examples being equipment for mining, construction sites or agriculture		Jul.21,2024 (Category 11) (except for the use covered by Legal No.6(c))
4.Mercury and its compounds	1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	-	
	1(a)	For general lighting purposes < 30 W : 5 mg	Dec.31,2011	
		For general lighting purposes < 30 W : 3.5 mg	Dec.31,2012	
		For general lighting purposes < 30 W : 2.5 mg	Undetermined	
	1(b)	For general lighting purposes ≥ 30 W and < 50 W : 5 mg	Dec.31,2011	
		For general lighting purposes ≥ 30 W and < 50 W : 3.5 mg	Undetermined	
	1(c)	For general lighting purposes ≥ 50 W and < 150 W : 5 mg	Undetermined	
	1(d)	For general lighting purposes ≥ 150 W : 15 mg	Undetermined	
	1(e)	For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm	Dec.31,2011	
		For general lighting purposes with circular or square structural shape and tube diameter ≤ 17 mm : 7 mg	Undetermined	
	1(f)	For special purposes : 5 mg	Undetermined	
	1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20,000 h: 3,5 mg	Undetermined	
	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	Dec.31,2011	
		Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) : 4 mg	Undetermined	
	2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5) : 5 mg	Dec.31,2011	
		Tri-band phosphor with normal lifetime and a tube diameter ≥ 9 mm and ≤ 17 mm (e.g. T5) : 3 mg	Undetermined	

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Appendix 2 List of Product Environmental Impact Substances

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
4.Mercury and its compounds (continued)	2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) : 5 mg	Dec.31,2011	
		Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and ≤ 28 mm (e.g. T8) : 3.5 mg	Undetermined	
	2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 5 mg	Dec.31,2011	
		Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 3.5 mg	Undetermined	
	2(a)(5)	Tri-band phosphor with long lifetime(≥ 25,000 h): 8 mg	Dec.31,2011	
		Tri-band phosphor with long lifetime(≥ 25,000 h): 5 mg	Undetermined	
	2(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	-	
	2(b)(1)	Linear halophosphate lamps with tube diameter > 28 mm (e.g. T10 and T12) : not exceeding 10 mg	Apr.13,2012	
	2(b)(2)	Non-linear halophosphate lamps (all shapes) : not exceeding 15 mg	Apr.13,2016	Apr.13,2016
	2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : >15 mg	Dec.31,2011	
		Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : ≤ 15 mg	Undetermined	
	2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps) : >15 mg	Dec.31,2011	
		Lamps for other general lighting and special purposes (e.g. induction lamps) : ≤15 mg	Undetermined	
	3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	-	
	3(a)	Short length (≤ 500 mm) : >3.5 mg	Dec.31,2011	
		Short length (≤ 500 mm) : ≤ 3.5 mg	Undetermined	
	3(b)	Medium length (> 500 mm and ≤ 1,500 mm) : > 5 mg	Dec.31,2011	
		Medium length (> 500 mm and ≤ 1,500 mm) : ≤ 5 mg	Undetermined	

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
4.Mercury and its compounds (continued)	3(c)	Long length (> 1,500 mm) : >13 mg	Dec.31,2011	
		Long length (> 1,500 mm) : ≤13 mg	Undetermined	
	4(a)	Mercury in other low pressure discharge lamps (per lamp) : >15 mg	Dec.31,2011	
		Mercury in other low pressure discharge lamps (per lamp) : ≤15 mg	Undetermined	
	4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index > 60Ra:	-	
	4(b)-I	P ≤ 155 W : >30 mg	Dec.31,2011	
		P ≤ 155 W : ≤30 mg	Undetermined	
	4(b)-II	155 W < P ≤ 405 W : > 40 mg	Dec.31,2011	
		155 W < P ≤ 405 W : ≤ 40 mg	Undetermined	
	4(b)-III	P > 405 W : > 40 mg	Dec.31,2011	
		P > 405 W : ≤40 mg	Undetermined	
	4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	-	
	4(c)-I	P ≤ 155 W : >25 mg	Dec.31,2011	
		P ≤ 155 W : ≤25 mg	Undetermined	
	4(c)-II	155 W < P ≤ 405W : >30 mg	Dec.31,2011	
		155 W < P ≤ 405W : ≤30 mg	Undetermined	
	4(c)-III	P > 405 W : >40 mg	Dec.31,2011	
		P > 405 W : ≤40 mg	Undetermined	
	4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	Apr.13,2015	Apr.13,2015
	4(e)	Mercury in metal halide lamps (MH)	Undetermined	
	4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	Undetermined	

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-1 Exempted Applications of Heavy Metals by RoHS Directive (common) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates	
			Category 1-7,10	Category 8,9,11
4.Mercury and its compounds (continued)	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.	Dec.31,2018	Dec.31,2018
	36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	Jul.1,2010	

【Notes for Attached Table 2A-3-1 as a whole】

Note 1: Information about the items exempted from the RoHS Directives indicated in this Attached Table is valid as of April 20th, 2019.

Note 2: The "Legal expiration dates" refers to a legal time limit after which the concerned application will no longer be exempted. When, however, an exemption renewal application is submitted within 18 months prior to the expiration date, the exemption will be placed "Undetermined"

Note 3: In this table, gray shading indicates that the exemptions have passed their expiration dates. Each concerned substance, however, may be used in spare parts for electric and electronic equipment placed on the market prior to the legal expiration date.

Note 4: The items "Undetermined" mean they are discussed for extension by requests from related industries. Even when they are refused or application range is reduced, one or one-and-a-half years mercy period (extension) will be set. Necessary actions will be informed when legal expiration date is fixed.

Note a) The legal expiration dates are as specified below unless any request is submitted regarding withdrawal of exemption or reduction of the applicable range.

- Categories 8 and 9 for general purposes: July.21,2021
- Category 8 for in-vitro diagnostic medical devices: July.21, 2023
- Category 9 for industrial monitoring and control instruments, Category 11: July.21,2024

※The contents in this appendix will be reviewed and corrected as appropriate based on the EU RoHS Directive. Exemption lists are planned to be created and published in IEC 62474 for the exemption items regulated by the EU RoHS Directive and the accompanying information (target substance groups, product categories, expiration dates, etc.). Therefore, if the contents of this application exclusion item change in the future, please refer to the EU RoHS ANNEX III list of "Exemption Lists" on the site of IEC 62474 below, and take measures based on this.

http://std.iec.ch/iec62474/iec62474.nsf/welcome?openpage

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-2 Exempted Applications of Heavy Metals Restricted by RoHS Directive (Category 8 and 9)

Substance	Legal No.	Exempted Applications	Legal expiration dates
1.Cadmium and its compounds	Equipment utilising or detecting ionising radiation		
	1	Lead, cadmium and mercury in detectors for ionising radiation.	Jul.21,2021[a)]
	8	Radioactive cadmium isotope source for portable X-ray fluorescence spectrometers.	Jul.21,2021[a)]
	Sensors, detectors and electrodes		
	1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	Jul.21,2021[a)]
	1c	Lead, cadmium and mercury in infra-red light detectors.	Jul.21,2021[a)]
	Others		
	9	Cadmium in helium-cadmium lasers.	Jul.21,2021[a)]
	10	Lead and cadmium in atomic absorption spectroscopy lamps.	Jul.21,2021[a)]
	12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (NuclearMagnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	Jun.30,2021
	20	Cadmium in X-ray measurement filters.EN L 174/106 Official Journal of the European Union 1.7.2011	Jul.21,2021[a)]
	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.	Dec.31,2019
	31a	Lead, cadmium, hexavalent chromium, and polybrominated diphenyl ethers (PBDE) in spare parts recovered from and used for the repair or refurbishment of medical devices, including in vitro diagnostic medical devices, or electron microscopes and their accessories, provided that the reuse takes place in auditable closed-loop business-to-business return systems and that each reuse of parts is notified to the customer.	Jul.21,2021[a)]
2.Hexavalent chromium compounds	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.	Dec.31,2019
	31a	Lead, cadmium, hexavalent chromium, and polybrominated diphenyl ethers (PBDE) in spare parts recovered from and used for the repair or refurbishment of medical devices, including in vitro diagnostic medical devices, or electron microscopes and their accessories, provided that the reuse takes place in auditable closed-loop business-to-business return systems and that each reuse of parts is notified to the customer.	Jul.21,2021[a)]
3.Lead and its compounds	Equipment utilising or detecting ionising radiation		
	1	Lead, cadmium and mercury in detectors for ionising radiation.	Jul.21,2021[a)]
	2	Lead bearings in X-ray tubes.	Jul.21,2021[a)]
	3	Lead in electromagnetic radiation amplification devices: micro-channel plate and capillary plate.	Jul.21,2021[a)]
	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.	Jul.21,2021[a)]
	5	Lead in shielding for ionising radiation.	Jul.21,2021[a)]
	6	Lead in X-ray test objects.	Jul.21,2021[a)]
	7	Lead stearate X-ray diffraction crystals.	Jul.21,2021[a)]
	Sensors, detectors and electrodes		
	1a	Lead and cadmium in ion selective electrodes including glass of pH electrodes.	Jul.21,2021[a)]
	1b	Lead anodes in electrochemical oxygen sensors.	Jul.21,2021[a)]
	1c	Lead, cadmium and mercury in infra-red light detectors.	Jul.21,2021[a)]

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-2 Exempted Applications of Heavy Metals Restricted by RoHS Directive (Category 8 and 9) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates
3.Lead and its compounds (continued)	Others		
	10	Lead and cadmium in atomic absorption spectroscopy lamps.	Jul.21,2021[a)]
	11	Lead in alloys as a superconductor and thermal conductor in MRI.	Jul.21,2021[a)]
	12	Lead and cadmium in metallic bonds creating superconducting magnetic circuits in MRI, SQUID, NMR (NuclearMagnetic Resonance) or FTMS (Fourier Transform Mass Spectrometer) detectors.	Jun.30,2021
	13	Lead in counterweights.	Jul.21,2021[a)]
	14	Lead in single crystal piezoelectric materials for ultrasonic transducers.	Jul.21,2021[a)]
	15	Lead in solders for bonding to ultrasonic transducers.	Jul.21,2021[a)]
	17	Lead in solders in portable emergency defibrillators.	Jul.21,2021[a)]
	18	Lead in solders of high performance infrared imaging modules to detect in the range 8-14 μm.	Jul.21,2021[a)]
	19	Lead in Liquid crystal on silicon (LCoS) displays.	Jul.21,2021[a)]
	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.	Jun.30,2021
	23	Lead as an alloying element for bearings and wear surfaces in medical equipment exposed to ionising radiation.	Jun.30,2021
	24	Lead enabling vacuum tight connections between aluminium and steel in X-ray image intensifiers.	Dec.31,2019
	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.	Jun.30,2021
	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.	Jun.30,2021
	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.	Undetermined
	28	Lead in solders for mounting cadmium telluride and cadmium zinc telluride digital array detectors to printed circuit boards.	Dec.31,2017
	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.	Jun.30,2021

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-2 Exempted Applications of Heavy Metals Restricted by RoHS Directive (Category 8 and 9) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates
3.Lead and its compounds (continued)	31a	Lead, cadmium, hexavalent chromium, and polybrominated diphenyl ethers (PBDE) in spare parts recovered from and used for the repair or refurbishment of medical devices, including in vitro diagnostic medical devices, or electron microscopes and their accessories, provided that the reuse takes place in auditable closed-loop business-to-business return systems and that each reuse of parts is notified to the customer.	Jul.21,2021[a)]
	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.	Dec.31.2019
	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 : Jun.30,2016 Class IIb: Dec.31,2020
	34	Lead as an activator in the fluorescent powder of discharge lamps when used for extracorporeal photopheresis lamps containing BSP ($BaSi_2O_5$:Pb) phosphors.	Jul.22,2021
	36	Lead used in other than C-press compliant pin connector systems for industrial monitoring and control instruments.	Dec.31,2020
	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.	Undetermined
	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.	Dec.31,2019
	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 mm2; (iii) a multiplication factor larger than 1,3 × 103. (c) a response time shorter than 5 ns for detecting electrons or ions; (d) a sample detection area larger than 314 mm2 for detecting electrons or ions; (e) a multiplication factor larger than 4,0 × 107.	Jul.21,2021

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2A-3-2 Exempted Applications of Heavy Metals Restricted by RoHS Directive (Category 8 and 9) (continued)

Substance	Legal No.	Exempted Applications	Legal expiration dates
3.Lead and its compounds (continued)	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.	Dec.31,2020
	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.	Undetermined
4.Mercury and its compounds	Equipment utilising or detecting ionising radiation		
	1	Lead, cadmium and mercury in detectors for ionising radiation.	Jul.21,2021[a)]
	Equipment utilising or detecting ionising radiation		
	1c	Lead, cadmium and mercury in infra-red light detectors.	Jul.21,2021[a)]
	1d	Mercury in reference electrodes: low chloride mercury chloride, mercury sulphate and mercury oxide.	Jul.21,2021[a)]
	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.	Jul.21,2021[a)]
	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	Jul.21,2024
	42	Mercury in electric rotating connectors used in intravascular ultrasound imaging systems capable of high operating frequency (>50MHz) modes of operation.	Jun.30,2019

【Notes for Attached Table 2A-3-2 as a whole】

Note 1: Information about the items exempted from the RoHS Directives indicated in this Attached Table is valid as of April 20th, 2019. The numbers indicated under Exempted Applications show the exempted item numbers assigned for the RoHS Directives.

Note 2: The "Legal expiration dates" refers to a legal time limit after which the concerned application will no longer be exempted. When, however, an exemption renewal application is submitted within 18 months prior to the expiration date, the exemption will be placed "Undetermined"

Note 3: In this table, gray shading indicates that the exemptions have passed their expiration dates. Each concerned substance, however, may be used in spare parts for electric and electronic equipment placed on the market prior to the legal expiration date.

Note 4: The items "Undetermined" mean they are discussed for extension by requests from related industries. Even when they are refused or application range is reduced, one year or one-and-a-half year mercy period (extension) will be set. Necessary actions will be informed when legal expiration date is fixed.

Note 5: The exemptions in this table apply only to Category 8 (medical devices) and Category 9 (monitoring and control instruments) described in EU RoHS Directive.

Note [a)] The legal expiration dates are as specified below unless any request is submitted regarding withdrawal of exemption or reduction of the applicable range.

- Categories 8 and 9 for general purposes: July.21,2021
- Category 8 for in-vitro diagnostic medical devices: July.21, 2023
- Category 9 for industrial monitoring and control instruments: July.21,2024

※The contents in this appendix will be reviewed and corrected as appropriate based on the EU RoHS Directive. Exemption lists are planned to be created and published in IEC 62474 for the exemption items regulated by the EU RoHS Directive and the accompanying information (target substance groups, product categories, expiration dates, etc.). Therefore, if the contents of this application exclusion item change in the future, please refer to the EU RoHS ANNEX IV list of "Exemption Lists" on the site of IEC 62474 below, and take measures based on this.

http://std.iec.ch/iec62474/iec62474.nsf/welcome?openpage

Appendix 2 List of Product Environmental Impact Substances

2C Controlled Substances(Chemical substances that require tracking of the absence/presence of each substance in parts and materials delivered to Canon, its content, purpose, and where it is contained, etc.)

No	Substance/ Substance Group	Applicable substances CAS No.	Applicable range (Threshold level)	Typical applications	Reference laws and regulations
1	Nickel and its compound	-	Intentional use in a part that come into contact with skin for a long period of time Example of products that come into contact with skin for a long period of time: headphones, mobile phones	Stainless steel, plating	2-1
2	Radioactive substances	-	Intentional use	Optical haracteristics (thorium), smoke detector, easurement equipment, gauges, detectors	22,23
3	Beryllium oxide (BeO)	1304-56-9	Inclusion of more than 1,000 ppm in a part	Ceramics materials	24
4	Perchlorates	-	Inclusion of more than 0.006 ppm in a part	Coin-cell batteries	25
5	Brominated flame retardants (other than PBBs, PBDEs, or HBCDD)	-	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) Note 1 : Substances in the scope of Attached Table3A No.33 (Halogen compounds and halogen resins), are prohibited. Note 2 : Element conversion values are applied to concentrations in the applicable range.	Flame retardants	26,27
6	Chlorinated flame retardants	-	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)]Note 1 : Substances in the scope of Attached Table3A No.33(Halogen compounds and halogen resins), are prohibited. Note 2 : Element conversion values are applied to concentrations in the applicable range.	Flame retardants	26,27
7	Polyvinyl chloride (PVC) and PVC Copolymers [a)]	-	Inclusion of 1,000 ppm or more of total content of chlorine in plastic material. Note 1: Substances in the scope of Attached Table3A No.33 (Halogen compounds and halogen resins), are prohibited. Note2 : For printed wiring board laminates, see 2C No.6 (Chlorinated flame retardants).	Resin materials, insulators, chemical resistance, transparency, PVC Copolymers-sheath materials	26

Appendix 2 List of Product Environmental Impact Substances

2C Controlled Substances (Chemical substances that require tracking of the absence/presence of each substance in parts and materials delivered to Canon, its content, purpose, and where it is contained, etc.) (continued)

No	Substance/ Substance Group	Applicable Substances CAS No.	Applicable Range (Threshold level)	Typical applications	Reference laws and regulations
8	Formaldehyde	50-00-0	Textile products containing formaldehyde of which concentration is more than 75ppm	adhesive	43
9	Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	Inclusion of more than 1,000 ppm as a sum of DINP, DIDP and DNOP in homogeneous materials Note: Any toys that can be placed in a child's mouth or child care articles shall not be placed on the market or distributed.	Plasticizers, dyes, pigments, paints, ink, adhesive	2-1,4
	Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1			
	Di-n-octyl phthalate (DNOP)	117-84-0			
10	Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	Intentional use	Plasticizers	3
11	Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	Intentional use	Plasticizers, dyes, pigments, paints, ink, adhesive	3
12	Di-n-hexyl phthalate (DnHP)	84-75-3	1) When used intentionally 2) When more than 1,000 ppm is contained in an article	Plasticizers	2-2,3
13	4,4'-isopropylidened iphenol (BPA, Bisphenol A)	80-05-7	1) When used intentionally 2) When more than 1,000 ppm is contained in an article	Plasticizers	2-2,3
14	REACH Regulation Substances of SVHC Candidate List	See Attached Table 2C-1	Inclusion of more than 1,000 ppm in an article	-	2-2

【Notes for Attached Table 2C as a whole】

Note [a)] For No.7 Polyvinyl chloride (PVC) and PVC polymer, additional survey will be carried out if necessary indivudually.

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2C-1 - Controlled Substances (Candidate SVHC for authorization of REACH)

The following substances are on the candidate list for authorization of the REACH Regulation (EC) .
They are controlled substances when contained more than 1,000 ppm in an article.[a)].
However, each requirement shall take precedence, in the case that there is a description in the Note column and falls within the scope of Attached Table1 (Prohibited substances) or Table2 (Use-restricted substances).

No	Applicable Substance	Applicable Substances CAS No.	Note
1	Diarsenic pentoxide	1303-28-2	Use for wood preservative is prohibited pursuant to Attached Table3A No.31 (Arsenic Compounds).
2	Diarsenic trioxide	1327-53-3	
3	Cobalt dichloride (CoCl2)	7646-79-9	Use for indicator in a drying agent, is prohibited pursuant to Attached Table3A No.32 (Cobalt dichloride).
4	Bis (2-ethylhexyl) phthalate (DEHP)	117-81-7	Under the scope of RoHS (See Attached Table2A No.24-No.27) , use after the expiry date is prohibited.
5	Dibutyl phthalate (DBP)	84-74-2	
6	Benzylbutyl phthalate (BBP)	85-68-7	
7	Diisobutyl phthalate (DIBP)	84-69-5	
8	Lead chromate	7758-97-6	Use under the scope of Attached Table2A No.2 (Hexavalent chromium compounds) or No.3 (Lead and its compounds), is prohibited.
9	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	
10	Lead sulfochromate yellow (C.I.Pigment Yellow 34)	1344-37-2	
11	Aluminosilicate Refractory Ceramic Fibres [b)]	-	-
12	Zirconia Aluminosilicate Refractory Ceramic Fibres [c)]	-	-
13	Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	-
14	Boric acid	10043-35-3 11113-50-1	-
15	Disodium tetraborates		-
	Disodium tetraborate, anhydrous	1330-43-4	
	Disodium tetraborate, pentahydrate	12179-04-3	
	Disodium tetraborate, decahydrate	1303-96-4	
	Tetraboron disodium heptaoxide, hydrate	12267-73-1	
16	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	-
17	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	-
18	Strontium chromate	7789-06-2	Use under the scope of Attached Table2A No.2 (Hexavalent chromium compounds) is prohibited.
19	Pentazinc chromateoctahydroxide	49663-84-5	
20	Potassium hydroxyoctaoxodizincate dichromatea)	11103-86-9	
21	Bis(2-methoxyethyl) phthalate	117-82-8	-
22	Bis(2-methoxyethyl) ether	111-96-6	-
23	4-(1,1,3,3-tetramethylbutyl)phenol (4-tert-Octylphenol)	140-66-9	-
24	Diboron trioxide	1303-86-2	-
25	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	-
26	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	-

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2C-1 - Controlled Substances (Candidate SVHC for authorization of REACH) (continued)

No	Applicable Substance	Applicable Substances CAS No.	Note
27	Lead (II, IV) oxide	1314-41-6	Use under the scope of Attached Table 2A No.3 (Lead and its compounds) is prohibited. Use under the scope of Attached Table 2A No.3 (Lead and its compounds) is prohibited.
28	Lead oxide sulfate ($Pb_2O(SO_4)$)	12036-76-9	
29	Sulfurous acid, lead salt, dibasic	62229-08-7	
30	Tetralead trioxide sulfate (Lead sulfate)	12202-17-4	
31	Pentalead tetraoxide sulphat	12065-90-6	
32	Lead dinitrate	10099-74-8	
33	Lead titanium trioxide	12060-00-3	
34	Lead titanium zirconium oxide	12626-81-2	
35	Trilead dioxide phosphonate	12141-20-7	
36	Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped	68784-75-8	
37	Fatty acids, C16-18, lead salts	91031-62-8	
38	Dioxobis(stearato)trilead	12578-12-0	
39	Lead cyanamidate	20837-86-9	
40	[Phthalato(2-)]dioxotrilead	69011-06-9	
41	Pyrochlore, antimony lead yellow (C.I.Pigment yellow 41)	8012-00-8	
42	Dibutyltin dichloride (DBTC)	683-18-1	Use under the scope of Attached Table 2A No.7 (Dibutyltin (DBT) compounds) is prohibited.
43	Diisopentylphthalate (DIPP)	605-50-5	-
44	N-pentyl-isopentylphthalate	776297-69-9	-
45	Hexahydromethylphthalic anhydride		-
	Hexahydromethylphthalic anhydride	25550-51-0	
	Hexahydro-4-methylphthalic anhydride	19438-60-9	
	Hexahydro-1-methylphthalic anhydride	48122-14-1	
	Hexahydro-3-methylphthalic anhydride	57110-29-9	
46	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	-
47	1,2-Diethoxyethane	629-14-1	-
48	N,N-dimethylformamide	68-12-2	-
49	4-Aminoazobenzene	60-09-3	Use under the scope of Attached Table 2A No.20 (Azocolourants and azodyes which form certain aromatic amines) is prohibited.
50	Cadmium	7440-43-9	Use under the scope of Attached Table 2A No.1 (Cadmium and its compounds) is prohibited.
51	Cadmium oxide	1306-19-0	
52	Cadmium sulfide	1306-23-6	
53	Cadmium hydroxide	21041-95-2	
54	Dipentyl phthalate (DPP)	131-18-0	-
55	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]	-	-

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2C-1 - Controlled Substances (Candidate SVHC for authorization of REACH)(continued)

No	Applicable Substance	Applicable substances CAS No.	Note
56	Trixylyl Phosphate	25155-23-1	-
57	Imidazolidine-2-thione, (2-imidazoline-2-thiol)	96-45-7	-
58	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	-
59	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	-
60	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (DiHP)	68515-50-4	-
61	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	-
62	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	Use under the scope of Attached Table 2A No.8 (Dioctyltin (DOT) compounds is prohibited.
63	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)	-	
64	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters or mixed decyl and hexyl and octyl diesters	68515-51-5 68648-93-1	-
65	1,3-propanesultone	1120-71-4	-
66	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	-
67	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)	36437-37-3	-
68	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	-
69	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	Usage within the scope of the Table 2A, No.23 Polycyclic aromatic hydrocarbons (PAHs) is prohibited.
70	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3830-45-3 3108-42-7	-
71	Perfluorohexanesulfonic acid and its salts	-	-
72	Cyrysene	218-01-9 1719-03-5	On the CAS No.218-01-9 and 56-55-3, Usage within the scope of the Table 2A, 23 Polycyclic aromatic hydrocarbons (PHAs) is prohibited.
73	Benzo[a]anthracene	56-55-3 1718-53-2	
74	Dodecachrolopentacyclo[12.2.1.16.9.02.13.05.10]octadeca 7.15-diene	13560-89-9 135821-74-8	Use for flame retardant and

		135821-03-3	usage under the scope of Attached Table 2C No.6 (Chlorinated flame retardants), other special control has to be needed.

Appendix 2 List of Product Environmental Impact Substances

Attached Table 2C-1 - Controlled Substances (Candidate SVHC for authorization of REACH) (continued)

No	Applicable Substance	Applicable substances CAS No.	Note
75	Benzo[ghi]perylene	191-24-2	-
76	Octamethylcyclotetrasiloxane	556-67-2	-
77	Octamethylcyclotetrasiloxane	541-02-6	-
78	Dodecamethylcyclohexasiloxane	540-97-6	-
79	Disodium octaborate	12008-41-2	-
80	Terphenyl, hydrogenated	61788-32-7	-
81	Lead	7439-92-1	Use under the scope of Attached Table1-1 No.3 (Lead and its compounds) is prohibited.
82	Dicyclohexyl phthalate	84-61-7	-
83	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	-
84	Benzo[k]fluoranthene	207-08-9	Use under the scope of Attached Table1-1 No.24 (Polycyclic aromatic hydrocarbons (PAHs) is prohibited.
85	Fluoranthene	206-44-0 93951-69-0	-
86	Phenanthrene	85-01-8	-
87	Pyrene	129-00-0 1718-52-1	-

【Note for Attached Table- 2C-1 as a whole】

Note 1 In principle, this table includes substances in the IEC62474 database which applies to electrical and electronic equipment only among substances on the candidate substance list for authorization.

Note a) article" means "the minimum part that provides a function". (This is based on the interpretation about the denominator for calculating the content of candidate list substances in the REACH Regulation issued by the Court of Justice of European Union in September 2015)
This is determined as unit

b) "Aluminosilicate Refractory Ceramic Fibres" are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 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:
1) oxides of aluminium and silicon are the main components present (in the fibres) within variable concentration ranges
2) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm)
3) alkaline oxide and alkali earth oxide ($Na_2O+K_2O+CaO+MgO+BaO$) content less or equal to 18% by weight

c) "Zirconia Aluminosilicate Refractory Ceramic Fibres" are fibres covered by index number 650-017-00-8 in Annex VI, part 3, table 3.1 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:
1) oxides of aluminium, silicon and zirconium are the main components present (in the fibres) within variable concentration ranges
2) fibres have a length weighted geometric mean diameter less two standard geometric errors of 6 or less micrometres (μm)
3) alkaline oxide and alkali earth oxide ($Na_2O+K_2O+CaO+MgO+BaO$) content less or equal to 18% by weight

Appendix 2 List of Product Environmental Impact Substances

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).

No	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	Substances listed on the candidate list of SVHC (Versions up to time of application)	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 2008on 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.

Appendix 2 List of Product Environmental Impact Substances

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.

No	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)	Refer to Appendix 2E for objective substances and threshold value	Applies to exterior components for LBP

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

Appendix 2　List of Product Environmental Impact Substances

Attached Table 2E

No	CAS NO.	**Target Chemical substances**	Threshold Level（ppm）
1	50-32-8	Benzo(a)pyrene	< 1
2	192-97-2	Benzo(e)pyrene	< 1
3	56-55-3	Benzo(a)anthracene	< 1
4	205-99-2	Benzo(b)fluoranthene	< 1
5	205-82-3	Benzo(j)fluoranthene	< 1
6	207-08-9	Benzo(k)fluoranthene	< 1
7	218-01-9	Chrysene	< 1
8	53-70-3	Dibenzo(a,h)anthracene	< 1
9	191-24-2	Benzo(g,h,i)perylene	< 1
10	193-39-5	Indeno(1,2,3-cd)pyrene	< 1
11	83-32-9	Acenaphthene	Total < 50
12	208-96-8	Acenaphthylene	
13	86-73-7	Fluorene	
14	85-01-8	Phenanthrene	
15	120-12-7	Anthracene	
16	206-44-0	Fluoranthene	
17	129-00-0	Pyrene	
18	91-20-3	Naphthalene	< 1
	Total of the above 18 substances		< 50

Appendix 2 List of Product Environmental Impact Substances

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.

No	Target chemical substances	Threshold	Application
1	Latex element included in natural rubber	Intentional use	Excludes cases where Canon specified parts or materials that contain said element in advance
2	Elemental chlorine	Intentional use	Use as bleaching agent to whiten fibers contained in packaging made of paper (virgin or recycled materials) is prohibited

Appendix 2 List of Product Environmental Impact Substances

Legal References and Numberings in Attached Tables

Attached Legal references (numberings in attached tables)	Country/Area	Reference laws and regulations (Partially deleted)
1	EU	EU RoHS Directive (Recast) 2011/65/EU
2-1	EU	REACH Regulation (EC) No.1907/2006 Annex XVII(Restricted substances)
2-2	EU	REACH Regulation (EC) No.1907/2006 Candidate SVHC for authorization
4	USA	Consumer Product Safety improvement Act of 2008 (PUBLIC LAW 110-314)
5	Louisiana, USA	Mercury Risk Reduction Act
6	USA	Toxic Substances Control Act (TSCA)
7	Switzerland	Act of Reduction of Risks in Treatment of Specified Hazardous Substances, Preparations, and Articles in Switzerland (ChemRRV)
8	Japan	Chemical Substances Control Law (Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.)
9	International Treaty	Stockholm Convention on Persistent Organic Pollutants¥
10	EU	Persistent Organic Pollutants (POPs) Regulation (EC) No.850/2004
11	Norway	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)
12	Canada	Canadian Environmental Protection Act (SOR/2008-178)
13	USA	PFOA Self-Elimination Program
14	EU	F-gas Regulation (EU) No517/2014
15	International Treaty	Montreal Protocol on Substances that Deplete the Ozone Layer
16	Japan	Law concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures
17	Canada	Prohibition of Certain Toxic Substances Regulations 2012 (SOR/212-282)
18	EU	EU Package Directive 94/62/EEC
19	California, USA	Toxics in Packaging Prevention Act
20	Germany	Blue Angel
21	Japan	Eco Mark
22	Japan	Law Concerning Prevention from Radiation Hazards due to Radio-Isotopes, etc.
23	Japan	Law for the Regulation of Nuclear Source Material, Nuclear Fuel Material, and Reactors
24	EU	EU WEEE Directive 2002/96/EC Article 11: DIGITAL EUROPE/CECED/AeA/EERA Guidance concerning implementation of information provision to processing facilities
25	California, USA	Perchlorate Contamination Prevention Act of 2003
26	USA	JS709(Industry standard)
27	International Standard	IPC-04101,IEC61249-2-21
28	-	-
29	Austria	BGB I 1990/194: Formaldehyde Restriction §2, 12/2/1990
30	EU	EU Battery Directive 2006/66/EC and its amendments
31	Korea	Korean Quality Management and Manufactured Product Safety Management Law (Battery Regulation)
32	Taiwan	Restrictions on the Manufacture, Import, and Sale of Dry Cell Batteries

Appendix 2 List of Product Environmental Impact Substances

Legal References and Numberings in Attached Tables
(continued)

Attached Legal references (numberings in attached tables)	Country/Area	Reference laws and regulations (Partially deleted
33	Brazil	Brazil Battery Regulation Resolution No.401
34	China	China's limitation of mercury, cadmium and lead contents for alkaline and non-alkaline zinc manganese dioxide batteries (GB24427-2009),
35	Canada	Products Containing Mercury Regulations SOR/2014-254
36	USA	Federal Mercury-Containing and Rechargeable Battery Management Act (104-142)
37	Iowa, USA	Mercury Cell Regulations
38	Maine, USA	Regulation concerning mercury added button-type cell (LD 1026)
39	Minnesota, USA	Mercury Cell Regulations
40	New York, USA	Battery Reduction Rules
41	Rhode Island, USA	Mercury Reduction and Education Act SECTION 23-24.9-6
42	China	Regulations on the mercury content of battery products
43	International Standard	IEC62474

Canon
Green Procurement Standards
Ver. 12.0
Update Overview

Issued by Canon Inc.
June 1, 2019

Main update point

1. Revision to Appendix 1 “List of Production Environmental Impact Substances”
   Addition and changes to 1A Prohibited substances

2. Revision to Appendix 2 “List of Product Environmental Impact Substances”
   2.1 Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances
   1) Expanded the scope of the 4 specific phthalate substances between No. 24 and 27
   2) Added No. 28 Perfluorooctanoic acid (PFOA) and its salts
   3) Added No. 29 PFOA-related substances
   4) Revised Annex 2A-3 Exempted Applications of Heavy Metals Restricted by EU RoHS Directive
   2.2 Added 13 substances to 2C-1 Controlled Substances (Candidates List of SVHC for authorization of REACH)

1. Revision to Appendix 1 “List of Production Environmental Impact Substances”

Addition and changes to 1A Prohibited substances

The following were added or changed as product environment impact substances that are prohibited.

1. The following two substances in the Stockholm Convention on Persistent Organic Pollutants were added.

・Short-chain chlorinated paraffins (Alkanes, C10-13, chloro):
straight-chain chlorinated hydrocarbons with chain lengths ranging from C10 to C13 and a content of chlorine greater than 48 per cent by weight

・Decabromodiphenyl ether(DecaBDE)

2. The below substance name and CAS No. in the Prohibited for Preventing Soil Contamination (Canon standards) were changed.

・1,2-Dichloroethylene

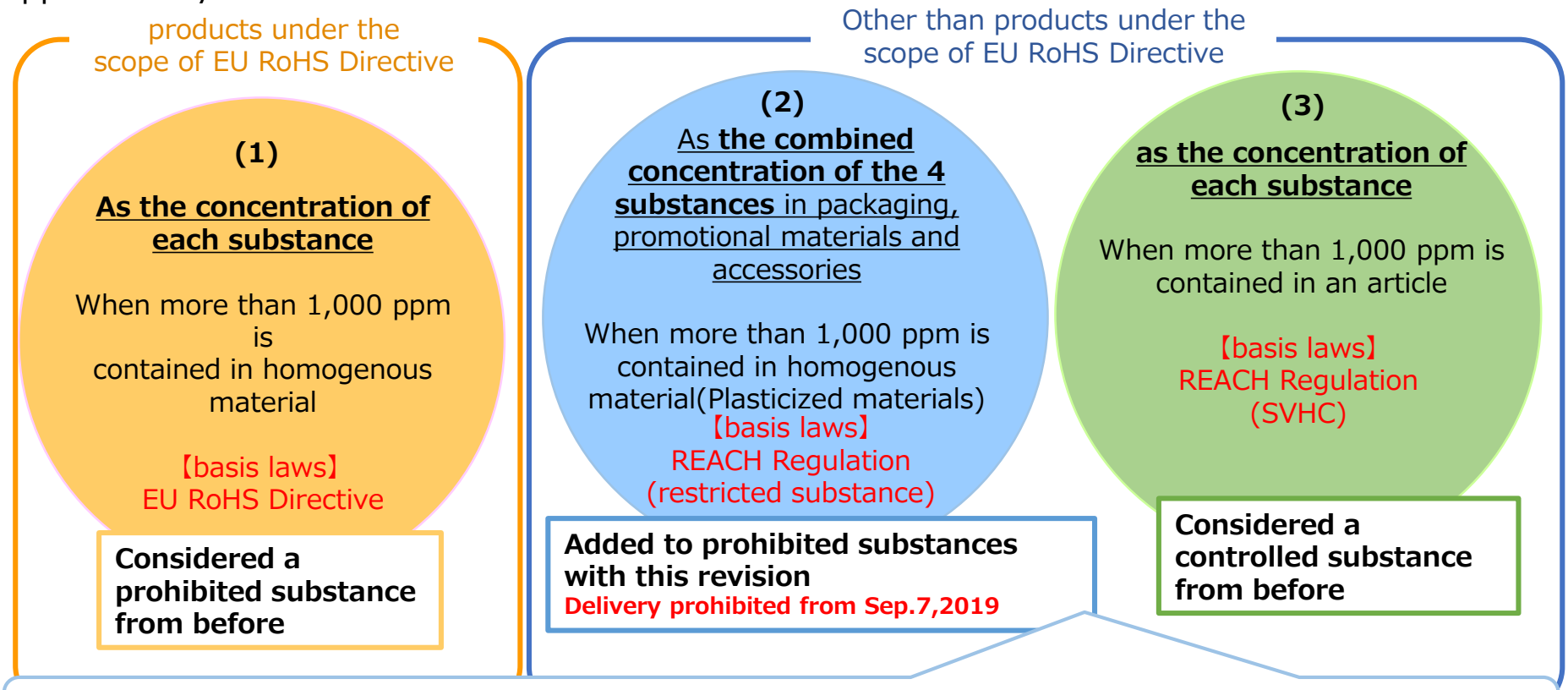
2. Revision to Appendix 2 “List of Product Environmental Impact Substances”

2.1 Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances

1) Expanded the scope of the 4 specific phthalate substances between No. 24 and 27

Regarding the four specific phthalate substances DEHP,BBP,DBP and DIBP

The three requirements (1) through (3) below, each with differing applicable products and threshold levels, coexist for DEHP,BBP,DBP and DIBP. Under this update, requirement (2) was prescribed in line with the expansion of regulations for applicable substance groups for which REACH Regulations were applied to toys and child care aids.



Although the REACH regulation applies to many plasticized materials except some of the exempt products (RoHS products and others), Canon group specifies Packaging, Promotional materials and Accessories.

2. Revision to Appendix 2 “List of Product Environmental Impact Substances”

2.1 Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances

1) Expanded the scope of the 4 specific phthalate substances between No. 24 and 27

As stated on the previous page, due to the expanded scope of REACH Regulations-based restrictions, an applicable scope under REACH Regulations-based restrictions was added in addition to restrictions by RoHS Directives for the four specific phthalate substances DEHP,BBP,DBP and DIBP.

Substance/ Substance Group	Ver.11.3
Bis (2-ethylhexyl) phthalate (DEHP)	When more than 1,000 ppm contained in homogeneous material in the products under the scope of EU RoHS Directive.
Dibutyl phthalate (DBP)	
Benzyl butyl phthalate (BBP)	
Diisobutyl phthalate (DIBP)	

Ver.12.0
(1)When more than 1,000 ppm contained in homogeneous material in the products under the scope of EU RoHS Directive.
(2)When more than 1,000 ppm of DEHP, DBP, BBP and DIBP combined is contained in plasticized materials within the below products under the scope of the EU RoHS Directive 1)Packaging material 2)Promotional materials and accessories

Added applicable scope under REACH Regulations-based restrictions

Delivery prohibited from Sep.7,2019

2. Revision to Appendix 2 “List of Product Environmental Impact Substances”

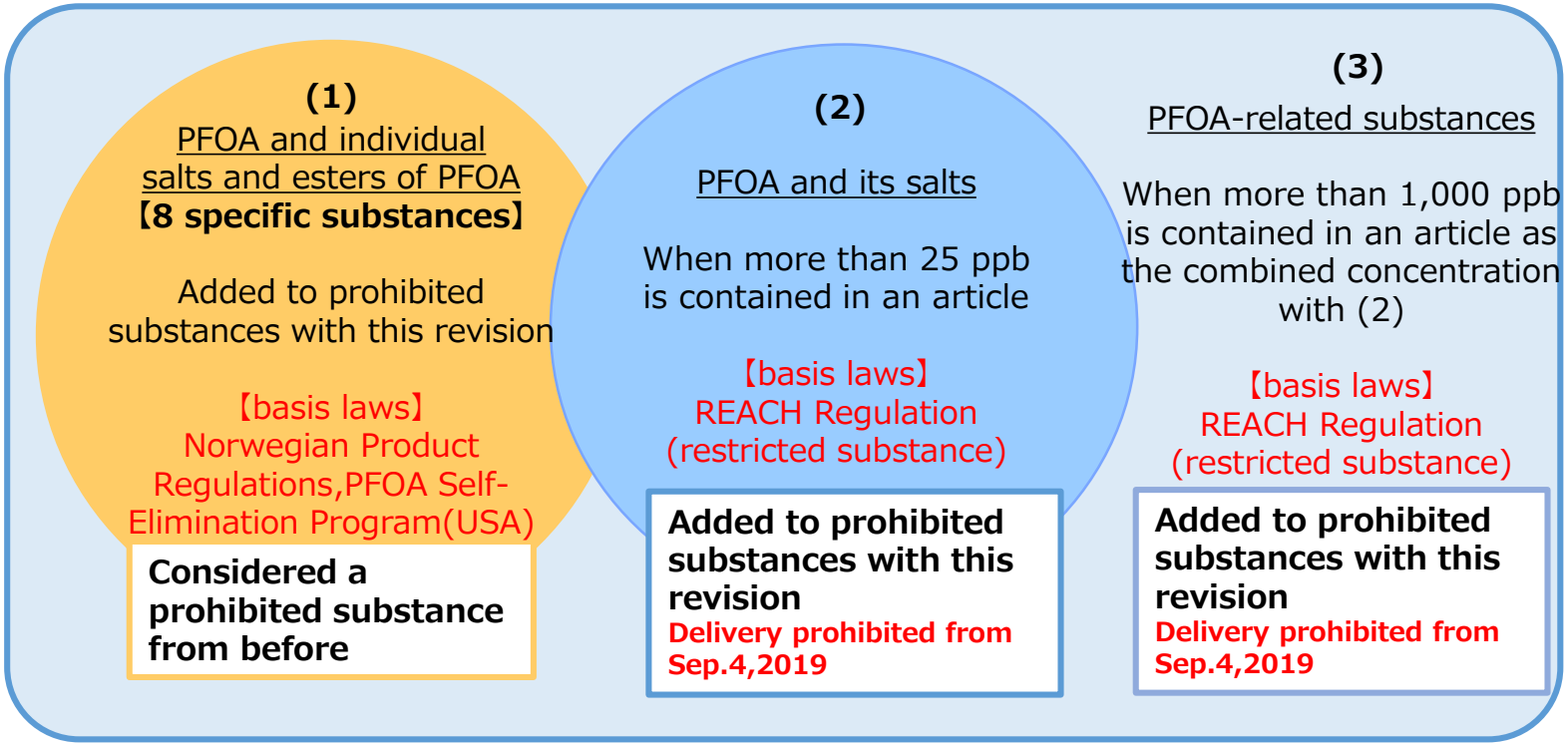
2.1 Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances

2) Added No. 28 Perfluorooctanoic acid (PFOA) and its salts

3) Added No. 29 PFOA-related substances

Regarding PFOA, its salts, and related substances

The three requirements (1) through (3) below, each with differing applicable products and threshold levels, coexist for PFOA, its salts, and related substances. Under this update, in addition to adding (2) and (3) based on REACH Regulations as prohibited substances, requirement (1) was unified with requirements (2) and (3).



2. Revision to Appendix 2 “List of Product Environmental Impact Substances”

2.1 Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances

2) Added No. 28 Perfluorooctanoic acid (PFOA) and its salts

3) Added No. 29 PFOA-related substances

As stated on the previous page, we added “Perfluorooctanoic acid (PFOA) and its salts” and “PFOA-related substances” based on REACH Regulations-based restrictions.
Thus, we deleted “PFOA, its salts, and its esters” which was in old version of the standards.

Substance/ Substance Group	Ver.12.0
PFOA and its salts	(1) When used intentionally (2) When more than 25 ppb is contained in an article
PFOA-related substances	(1) When used intentionally (2) When more than 1,000 ppb (1ppm) is contained in an article as the combined concentration with PFOA and its salts

Added applicable scope under REACH Regulations-based restrictions

Delivery prohibited from Sep.4,2019

2. Revision to Appendix 2 “List of Product Environmental Impact Substances”

2.1 Addition to 2A Prohibited substances and correction of and changes to scope of 2A Prohibited substances

4) Revised Annex 2A-3 Exempted Applications of Heavy Metals Restricted by EU RoHS Directive

The following revisions were made for exempted applications of heavy metals restricted by EU RoHS Directive.

- Reflected legal expiration date through publication in Official Journal
- Added new exempted applications (Category 11)
- Revised notation (from “Under discussion” to “TBD”, etc.)

2. Revision to Appendix 2 “List of Product Environmental Impact Substances”

2.2 Added 13 substances to 2C-1 Controlled Substances (Candidates SVHC for authorization of REACH)

Among substances that were added to the 19th and 20th candidate list of substances of very high concern (SVHCs) under the REACH Regulations, the 13 substances in the below table, which were added to the IEC 62474 substance list, were added to controlled substances as product environment impact substances that are controlled.

19th candidate list of SVHC	Benzo[ghi]perylene
	Octamethylcyclotetrasiloxane
	Decamethylcyclopentasiloxane
	Dodecamethylcyclopentasiloxane
	Disodium octaborate
	Terphenyl, hydrogenated
	Lead
	Dicyclohexyl phthalate
20th candidate list of SVHC	2,2-bis(4'-hydroxyphenyl)-4-methylpentane
	Benzo[k]fluoranthene
	Fluoranthene
	Phenanthrene
	Pyrene

Canon Inc.
Procurement Headquarters
Procurement Planning Center

GPH-2C9-32

June 1, 2019

Revision of "Canon Green Procurement Standards"

Dear Valued Suppliers

This is to inform you that "Canon Green Procurement Standards" has been revised to Ver.12.0 from the current Ver.11.3. The updated "Standards" to be in effect as of September 1, 2019. Thus, please be sure to let all the related sections in your organization, including your supplier(s) and subcontractor(s) if any, know the revised "Standards", also replace the current "Standards" with the updated "Standards Ver.12.0."

You are requested to thoroughly maintain Environment Management, since suppliers, having business accounts with Canon group companies, are responsible for Environmental Assurance of all your products delivered to Canon group companies.

Please keep in mind that your deliveries on and after the effective date, September 1, 2019, must completely comply with the articles defined in the updated "Canon Green Procurement Standards Ver.12.0."
Your kind understanding and prompt implementation would be very much appreciated.

Taking this opportunity, we would like to express our sincere appreciation for all your cooperation for Canon group companies' procurement operations and activities.

Best regards,

Hiroyuki Ichikawa
Senior General Manager

– Details –

◆ Outline of the revision of Canon Green Procurement Standards Ver.12.0
< Change > Revision to Appendix 1 "List of Production Environmental Impact Substances"
< Change > Revision to Appendix 2 "List of Product Environmental Impact Substances"

◆ Documents to be distributed
Canon Green Procurement Standards Ver.12.0
Canon Green Procurement Standards Ver.12.0 Outline of Revisions

◆ How to get the Documents
GSIS user : Download the above documents from GSIS "Manual Format" page
Non GSIS user : Canon procurement division in charge of your account will send the documents by e-mail.

◆ Submission of "Canon Green Procurement Standards—Acknowledgment of Revision"

Regarding this revision, it is necessary to submit “Canon Green Procurement Standards—Acknowledgment of Revision”.

◆ Please contact the below mentioned window;

In case the content of any designated chemical substance exceed the regulation.

In case you cannot take maeasures against time-limited Exempted Applications of RoHS before the expiration date.

◆ For inquiries

Please contact the procurement division of Canon group companies in charge of your products.

Address: _____

_____Year____Month___Day

Corporation code: _____ Supplier cord_____
Address: _____
Company Name: _____
Division: _____
Name/Title (Signature): _____

The Confirmation of "Canon Green Procurement Standards—Acknowledgment of Revision"

We have confirmed the contents of the "Canon Green Procurement Standards (Ver.12)" per the Notice we received from Canon Inc. entitled "Announcement of Revision to "Canon Green Procurement Standards" (GPH-2C9-32).

Our company complies with the provisions stipulated in "The Canon Green Procurement Standards (Ver.12)" which have dealings with Canon Inc. and Canon-group companies listed below

Moreover, should products that we deliver to the Canon Group contain either the "prohibited substances" or "controlled substances" added following the recent revision to the Green Procurement Standards, we will immediately notify Canon Inc. to that effect.

[Canon Inc. and Canon-group Companies]

Canon Inc.
Canon Electronics Inc.
Canon Finetech Nisca Inc.
Canon Precision Inc.
Canon Optron, Inc.
Canon Components, Inc.
Canon Semiconductor Equipment Inc.
Canon ANELVA Corporation
Canon Machinery Inc.
Canon Tokki Corporation
Canon Chemicals Inc.
Fukui Canon Inc.
Oita Canon Inc.
Oita Canon Materials Inc.
Nagahama Canon Inc.
Ueno Canon Materials Inc.
Fukushima Canon Inc.
Canon Ecology Industry Inc.
Canon Mold Co., Ltd.
Nagasaki Canon Inc.
Miyazaki Canon Inc.
Canon Imaging Systems Inc.
Canon Virginia, Inc.
Canon Giessen GmbH.
Canon Bretagne S.A.S.
Canon Inc., Taiwan
Canon Opto (Malaysia) Sdn. Bhd.
Canon Dalian Business Machines, Inc.
Canon Zhuhai, Inc.
Canon Hi-Tech (Thailand) Ltd.
Canon Zhongshan Business Machines Co., Ltd.
Canon (Suzhou) Inc
Canon Vietnam Co., Ltd.
Canon Prachinburi (Thailand) Ltd.
Canon Business Machines (Philippines),Inc.
Canon Finetech Nisca (Shenzhen) Inc.
Canon Engineering Hong Kong Co., Ltd.
Canon U. S. A., Inc.
Canon Electronic Business Machines (H.K.) Co., Ltd.
Canon Korea Business Solutions Inc.
Canon Electronics (Malaysia) Sdn. Bhd.
Canon Electronics Vietnam Co., Ltd.
Canon Marketing Japan Inc.
Canon Europa N. V.
Canon (China) Co., Ltd.
Canon Australia Pty. Ltd.