

Investigation Manual for the Regulated Chemical Substances

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Introduction

Going into 21st century, the solution of global environmental problems and the co-existence with the environment are becoming "a basic requirement for survival of businesss".

Omron Corporation recognizes that the environment is a big challenge to the management, and has incorporated its corporate philosophy toward addressing the environmental problems into "Environmental Declaration", and the principle into "Environmental Policy".

To realize the philosophy and declaration, the company formulated in May 2002 "Green Omron 21" that specifies the contents and goals for creating a 21st century company, under which we are practicing the environment-oriented management. In the Green Omron 21, we are performing the environmental activities in the five areas based on Eco-Mind (all employees act with high ecological consciousness).

In Eco-Products, one of the five areas, we are approaching to supply environmentally sound products through the introduction of "Product Assessment System" in September 1997 where any product is subjected to evaluation during the process of product development, and "Green Procurement System" in May 2001 to evaluate the environmental conservation activities of our suppliers.

However, EU, the United States and China have strengthened the control of regulated chemicals in recent years. These trends have put to the test the attitude of businesses toward the control of regulated chemicals furthermore. Particularly, EU's "RoHS" (Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment) banned the use of 6 substances (lead, cadmium, hexavalent chromium, mercury, PBB (polybrominated biphenyl) and PBDE(polybrominated diphenylether)) effective July 2006. Now the businesses are required to supply such products as environmentally warranted products rather than environmentally friendly products.

Under such circumstances, we decided to revise our Green Procurement policy to promote the supply of environmentally warranted products, and make a survey of regulated chemical substances to ensure the non-use of regulated chemical substances in any part or material used in our products.

We would highly appreciate it if our suppliers understand the importance of addressing the solution of global environmental issues and cooperate with us in this project.

December 2005 Omron Corporation Toshio Ochiai, Senior Managing Officer, Corporate General Affairs Division Hideo Higuchi, Managing Officer, Business Process Innovation Headquarters

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1. Purpose of Survey

The purpose of this survey is to grasp the content, content ratio, and other relevant information on the chemical substances contained in the parts, materials, etc. used in Omron's products so that we can supply our customers with Omron's environmentally warranted products, thereby complying with the relevant laws and regulations as well as attempting to reduce the burden of our products on the environment.

2. Scope of Survey

The scope of this survey shall be as shown below:

- 2.1 Scope of products covered
 - 1) Products designed, manufactured and sold by Omron
 - 2) Products, the design and manufacture of which are outsourced or into which the products of other companies are purchased and incorporated, and which are sold with Omron brands (OEM products)
 - 3) Products, the design and manufacture of which are entrusted with Omron by third parties (excluding, however, the parts or materials designated by the said third parties)
- 2.2 Scope of parts and materials covered

The parts, materials, etc. used in the products cited in 2.1 above (hereinafter referred to as "part(s) or material(s)") shall be the target for this survey, and the scope of them shall be as shown below:

- 1) Parts or materials (Electronic parts, processed parts, raw materials, packaging materials, packing materials, etc.)
- 2) Assembly articles such as functional units, modules and board ass'y
- 3) Components including subsidiary materials (soldering materials, adhesives, inks, greases, tapes, etc.)
- 4) Instruction manuals
- 5) Service parts for repair and accessories (CD-ROM, cables, etc.)

3. Definitions

3.1 Classification management of regulated chemical substances

Regulated chemical substances are classified into the following four categories according to the management criteria: A rank substances that are subject to immediate prohibition of application; A1 rank substances whose prohibition of application/ non-use should be practiced in order according to the decided timetable; B rank substances whose deadlines are not decided but which is subject to self acceleration of substitution; and C rank substances that are left to voluntary control but whose consumption are to be grasped.

Omron will identify and categorize the regulated chemical substances (as shown in Attachment 2) that are contained in our parts or materials constructing our products into Prohibited Substances, Non-use Substances, Substitution Accelerating Substances and Self Control Substances and promote their compliance and reduction of environmental burden according to the classification management.

1) Prohibited Substances (A rank)

The substances whose use in products (parts or materials) have been prohibited by the regulations home and abroad or which Omron has defined in its sole discretion as Prohibited Substances since they are publicly known to be an environmental heavy burden and there exist substitute substances for them. If still used, such use must be discontinued immediately.

2) Non-use Substances (A1 rank)

The substances whose regulations were formulated expressly and whose deadlines for prohibition were stipulated as shown in the list of regulated chemical substances (Attachment 2), and schedule for non-use/prohibition has been accelerated by Omron. If used currently, such use must be discontinued by the replacement with the available substitutes or other means before the accelerated deadlines for non-use.

3) Substitution Accelerating Substances (B rank)

Those substances whose regulations are expected to be tightened further, so that the allowance may be reduced or the use may be prohibited. We have to study or promote the acceleration of substitution.

4) Self Control Substances (C rank)

The substances whose use has not been prohibited by regulations home and abroad, but on which we are going to grasp the status of application and to reduce the consumption, recycle or treat appropriately. We will investigate the consumption and the contents in our products, and control them appropriately.

3.2 Part component

Part component means the minimum unit of a part or material that can be disassembled, by which it is examined if the substance in question is "Contained" or "Not Contained".

* Example: When a cable is picked up, the part components are the exterior sheath of cable (jacket), interior jacket of cable (insulation), electric wire, connectors, and connector terminals

Note that the surface coatings (plating, chromate treatment, coating, etc.) are handled as a separate part component from the base material.

3.3 "Contained" or "Not Contained"

"Contained" means that manufacturers has intentionally used, filled or adhered (called "intentionally used") chemicals to products or parts or materials for the purpose of continually maintaining the function or quality of them regardless of the type of constituent or the amount contained. Insofar as impurities are concerned (see Section 3.6), however, it shall be regarded as "Contained" if the content exceeds the allowable concentration (threshold), and "Not Contained" if not exceeds the allowable concentration.

In the case of formaldehyde that is a Prohibited Substance and intentionally used, it is regarded as "Contained" if the content exceeds the allowable

concentration.

Ensure that such materials not containing the Prohibited Substance are employed for the part component of metallic molds, tools and jigs, machines and equipment that have direct contact with products.

If any regulated chemical substance used in the manufacturing process is not present in the final product, its status is regarded as "Not Contained". (Example: When parts or materials are cleaned with volatile solvents such as dichloromethane, it is regarded as "Not Contained" since such solvent does not remain basically.)

- Note: The definition of "intentionally used" in "Annex II of EC Directive 2002/525/EC on ELV reads as follows: "deliberately utilized in the formulation of a material or component where its continued presence is desired in the final product to provide a specific characteristic, appearance or quality
- 3.4 Content ratio
 - To make a compatibility evaluation of the allowable concentrations of the target regulated chemical substances cited below, focusing on RoHS Directive Prohibited Substances, the content ratio is calculated by the ratio of the mass of the part component to that of the regulated chemical substance contained therein, both of which are of the same material, and entered in Sheet 2.
 - Content ratio (ppm)={Mass of the regulated chemical substance contained in the part component (g) / Mass of the part component(g)}x10⁶ (Example: Lead content ratio in the case:[Amount of PVC in a sheath covering: 100g → Breakdown: PVC:89.5g; Antimony as flame retardant for PVC: 10g; and lead:0.5g]

Lead content=(0.5/100) x 10⁶=5,000ppm

* Target regulated chemical substances:

RoHS Directive Prohibited Substances (lead, cadmium, hexavalent chromium, mercury, PBB and PBDE (specific brominated flame retardants)) and polyvinyl chloride, and brominated flame retardant as Substitution Accelerating Substances.

- 2) To calculate the content of regulated chemical substances in an Omron's product, the content ratio is calculated by the ratio of the mass of the whole part or material to that of the regulated chemical substance contained therein and entered in Sheet 3.
 - Content ratio (ppm) = {Mass of regulated chemical substance contained in the whole part or material (g) / Mass of the whole part or material (g)} x 10⁶ (Example: Antimony content in the PVC wire covering)
 - (1) Covering : Amount of PVC 100g → Breakdown: PVC:89.5g;
 Antimony as flame retardant for PVC: 10g; and lead:0.5g]
 - (2) Electric wire: Copper wire(50g), solder coating on the copper wire (5g)

Antimony content = $\{10/(100+50+5)\} \times 10^{6}=64,500$ ppm

- Content ratio of the regulated chemical substances in raw materials (molding compounds, metallic materials) or subsidiary materials (solders, adhesives, inks, etc.) is calculated by the ratio per unit weight and entered in Sheet 3. However, if any of the target regulated substances cited in paragraph 3.4.1) above has surface coating, entry is to be made in Sheet 2 as well.
 - Content ratio (ppm)=Ratio of regulated chemical substances per unit weight
- 3.5 Allowable concentration (threshold)

In this manual, the allowable concentration (threshold) is the maximum content ratio of a Prohibited Substance or a Non-use Substance allowable as an impurity to the part or material. If it exceeds the allowable concentration, it is regarded as "contained", and if not exceeds, it is regarded as "not contained." Since there is no setting of allowable concentration for Substitution Accelerating Substances and Self Control Substances, they are regarded as "not contained" unless intentionally used. (See Figure 1)

For formaldehyde that is a Prohibited Substance and intentionally used, it is regarded as "contained" if the content exceeds the allowable concentration.





3.6 Impurities

Substances not intentionally used, filled or adhered, or those present in natural materials and technically impossible to eliminate during raw materials refining process or technically impossible to eliminate during synthetic reaction process (residual matter such as residual solvents and unreacted monomers), or those added for the purpose of accelerating reaction during manufacturing process but not maintaining the functions or qualities of the products or materials continually (for example, catalysts), or those contained in the raw materials for alloys (ores, etc.) and impossible to eliminate during manufacturing process, are regarded as impurities.

3.7 Certificate of Non-inclusion for Regulated Substances

This is a certification by which the supplier guarantees that none of the Prohibited Substances or Non-use Substances cited in the regulated chemical substances lists of Attachment 2 are intentionally used in the parts or materials supplied as a principle ("Not Contained").

3.8 Changes in technical matter (design and process) of parts or materials Design changes include changes of drawings in shape, material, dimension, circuit, software, etc. and product standards / specifications (change of materials of part or material, change of plating treatment, etc.)

Process changes include the changes in the matters relating to the description in the manufacturing standards (process quality confirmation drawing, operation manual, inspection manual, etc.) and changes in places of production and production facilities.

4. Contents of Survey

4.1 Survey basis

We are going to survey the content, content ratio, part component, and intended use of the regulated chemical substances for each part or material.

The suppliers are requested to collect the information on the substances "Contained" in each of the parts or materials comprising your products delivered to Omron (including subsidiary materials such as inks, adhesives, etc.) and return the results to us on your own responsibility. If there is no information on any of them, please inquire each of your suppliers of them. After such are fully done, you could arrange the information in order for each part or material to answer our questions.



4.2 Survey forms

- (1) "Certificate of Non-inclusion for Regulated Substances"
- (2) "Survey Form for the Regulated Chemical Substances (Sheet 1)" includes the check if any Prohibited Substance or Non-use Substance is "Contained or Not", your Phase-out Plan, etc.
- (3) "Survey Form for the Regulated Chemical Substances (Sheet 2)" for content, content ratio, etc. on a part component basis.
- (4) "Survey Form for the Regulated Chemical Substances (Sheet 3)" for content ratio, etc. on a part or material basis.
- (5) "Declaration for Phase-out of Regulated Substances" for guarantee of your Phase-out Plan.

4.3 Procedure for returning the completed survey forms

Prepare your answers for the survey forms in the form of electronic file in accordance with the flow diagram illustrated in Fig. 2 of Page 11, and upload it to Omron's website in the Internet.

- 4.4 Instructions for survey forms
 - 1) "Certificate of Non-inclusion for Regulated Substances"

If none of Prohibited Substance (A rank) and Non-use Substance (A1 rank) are "contained", enter the information on your part or material and the company information, and then put signature of your responsible person.

(Note) Responsible person means a person who is in a position to guarantee the contents entered in the Survey Forms for the Regulated Chemical Substances and to take the responsibility for any unexpected accidents (occurrence of compensation for damages, etc.).

When the column for parts list is not enough for your entry, please prepare the attached sheet for parts list.

- 2) Deliberate check on the substances whose allowable concentrations (threshold) are specified among Prohibited Substances/Non-use Substances If any substance was not intentionally used and the impurities are estimated to be contained above the allowable concentration, analysis (measurement) should be performed. If you judge it is unlikely to be the case, complete the Attachment 6 "Declaration for Phase-out of Regulated Substances" after checking it with the manufacturing specifications.
- 3) Duration of guarantee for "Not Contained"

The guarantee for "Not Contained" shall continue from the issue date until the use and manufacture of the part or material is discontinued. However, you may be required to produce the analytical data when requests arise from Omron customers in some cases.

- 4) "Survey Form for the Regulated Chemical Substances (Sheet 1)"
 - (1) For the reason for submitting the survey form, check "new part or material".
 - (2) When it is confirmed by the Survey Form 3 described in the paragraph 6) below that none of Prohibited Substances or Non-use Substances is contained in the part or material, check "Not Contained" in Q1, and complete the "Certificate of Non-inclusion for Regulated Substancesl" described in paragraph 1) above and submit it to us. If the part or material contains any of Substitute Accelerating Substances (B rank) or Self Control Substances (C rank), fill out Sheet 3 described in paragraph 6) below as well.
 - (3) If any of Prohibited Substances or Non-use Substances is "Contained", fill out Sheets 2 and 3, and in the case of Non-use Substances, enter the deadline for non-use and so on in response to Q2 and Q3, and complete the "Declaration for Phase-out of Regulated Substances" (attachment 7) for guarantee of the Non-use Plan and submit it to us. Note that, if any

Prohibited Substance is "Contained" or both Prohibited Substance and Non-use Substance are "Contained", you need not enter the column for Non-use Plan in Q2. You are required to address the replacement promptly as well as report it to the section-in-charge of Omron.

If the substitution of Non-use Substance is delayed behind the deadline for replacement of Prohibited Substance, such supplier is required to apply for the approval by submitting Survey Forms and "Declaration for Phase-out of Regulated Substances" again to the Omron's sections-in-charge along with Attachment 8 "Process Change Report (PCR)" set forth in subparagraph 7) (2) below after the completion of replacement of Prohibited Substance.

- 5) "Survey Form for the Regulated Chemical Substances (Sheet 2)"
 - (1) If the part or material contains RoHS Directive Prohibited Substances (lead, cadmium, mercury, hexavalent chromium, PBB and PBDE) and polyvinyl chloride and brominated flame retardant as Substitution Accelerating Substances, enter the substance number, substance name, part component, purpose of addition, mass of the part component, content, and type of data <u>on a part component basis</u>.
 - (2) For judgment of "Contained" or "Not Contained", "Contained" is entered if intentionally used or impurities are above the allowable concentration, while "Not Contained" if below the allowable concentration. However, it is necessary to enter the data if the impurities are below the allowable concentration.

Analysis is the values obtained from the analysis (measurement) made for check, and the design specifications include the other values (manufacturing specifications, inspection certificate, theoretical values, etc.).

- (3) If polyvinyl chloride or brominated flame retardant is intentionally used in the part or material, it is regarded as "Contained".
- (4) No need to enter in Reserve columns 1&2.
- 6) "Survey Form for the Regulated Chemical Substances (Sheet 3)
 - If the part or material contains any of the regulated chemical substances defined by Omron (Attachment 2: List of Regulated Chemical Substances), enter content ratio, part component, and purpose of addition <u>on a part</u> <u>basis</u>.

Note, however, that the part component and purpose of addition entered in Sheet 2 for the regulated chemical substances described in the paragraph 5) above should be entered, too. (In this case, the main part component and purpose of addition should be entered here.)

- (2) The judgment of "Contained" or "Not Contained" is made on the same basis as in Sheet 2. If any of Substitution Accelerating Substances/Self Control Substances is intentionally used in the part or material, "1" is entered in the "Contained or Not" column, and, if not, there is no need to enter.
- 7) Procedures for new parts or materials and technical changes of the existing

parts or materials

- If a new part or material is subjected to examination The Survey Forms set forth in section 4.2 above shall be submitted to the section-in-charge of Omron together with the ordinary necessary documents.
- (2) If there occurs the necessity of technical (design/process) changes of the existing part or material If the technical change is accompanied by material change, changes of printing, coatings, plating treatment, changes of adhesives, lubricants, solders, etc., and change of place of production (including the change of suppliers), then you are required to investigate it from time to time, and apply for the approval submitting the Survey Forms set forth in 4.2 above and Attachment 8 "Process Change Report (PCR)" together with the ordinary documents to the section-in-charge of Omron.
- 4.5 In the case any of Prohibited Substances/Non-use Substances is "Contained"
 - 1) If any of Prohibited Substances (A rank) is "Contained" in the existing part or material, you are required to report the fact to the section-in-charge of Omron and exclude the part or material in question immediately. <u>The purchase of the existing part or material in such a state shall be discontinued in principle</u>.
 - If any of Non-use Substances (A1 rank) is contained, <u>such part or material</u>, <u>on which Non-use Plan has not been established by Omron's designated</u> <u>deadline</u>, <u>shall not be purchased in principle</u>.
 - Note 1) In case the answer is not returned by the deadline for return, such supplier may be subject to suspension of transaction.
 - Note 2) This manual specifies the contents of survey common to Omron Group companies. However, additional survey may be conducted with different contents in some cases.
 - Note 3) How to enter the "Certificate of Non-inclusion for Regulated Substances" and "Declaration for Phase-out of Regulated Substances" if the supplier is using the part or material Omron has designated (the target supplier's processed products) If A or A1 substance is contained in the raw materials and surface treatment that Omron has designated (*1), the supplier can not change the specification unless Omron's approval is obtained. In that case, such supplier is requested to complete the "Certificate of Non-inclusion for Regulated Substances" and "Declaration for Phase-out of Regulated Substances" concerning the parts or materials, for which the supplier has selected the other manufacturers, grades (or types) and surface treatment and the subsidiary materials to be used in the manufacturing

process, such as lubricants, detergents, and solders, and submit it to Omron after entering the following proviso in the target product or part "provided that the materials (surface treatments) designated by Omron shall not be covered by this document"

However, if any of the parts or materials Omron specified by the name of standards, such as JIS (for example, metal), it will be selected by the supplier, so that the above proviso shall not apply to such case.

*1: "designate" means to designate the manufacturer, grade (or type), and thickness as necessary, in the drawings or by written specifications for the materials (molding compounds, metallic material, other materials, paints, additives, oils, etc.), and to designate the specifications for surface treatment (solder plating, rustproof treatment, etc.) in the drawings or by written specifications.



5. Guide to Entry

5.1 Survey items

(1) Sheet 1

This is a questionnaire on whether any Omron's defined Prohibited Substance (A)/ Non-use Substances (A1) is "Contained or Not" in your part or material, Non-use Plan, and substitution.



(i) Omron's factory-in-charge; Section-in-charge; Person-in-charge; Site ID; Survey form ver.; and Standard

These are the information on the sections in charge of this project and the survey form to be entered by Omron side. <u>Do not enter or alter anything</u>.

(ii) Reason for submission

Check "New part or material" or "Change of an existing part or material". Existing parts or materials are regarded as new parts or materials here. (In default, "New part or material" has been checked.)

In the case of "Change of an existing part or material", apply for the approval by Omron submitting Attachment 8 "Process Change Report (PCR)" concurrently.

- (iii) Product Number; Category Name; and Type/Material (Catalog Number) Enter the product number, category name and type/material (catalog number) employed by Omron for the target existing part or material subject to this survey. In the Survey Forms, pick up the applicable items from among the list of target part or material we are sending you and enter them. Note that you should put the English product name into "Category Name" column and the English type into "Catalog Number" column.
 - (Note 1) If it is a commercial product, enter its type (e.g. ERJP06D1100v). If it is a processed product, write down the material (e.g. T1.5 A1050P).

(iv) Name of manufacturer / Machined Parts

Put the English name of the manufacturer and the Machined Parts of the target part or material in the column "Manufacturer".

- (Note 2) If it is a commercial product, enter the name of the manufacturer (e.g. NEC, Stanley). If it is a processed product, write down the Machined Parts (name of the product) (e.g. E5CN, H3CR-A)
- (v) Mass of Part or Material (g)

Enter the total mass of the part or material in gram (g) (significant figure:2; minimum unit: Please enter it if it is below 0.001g). If the target part or material is a cable, paint and the like, enter the mass per unit length or unit volume and note its unit in the "Note" column.

Example: In the case of cables, "The mass of the part is mass per meter (cm, mm)". In the case of paints, "The mass of the part or material is mass per L (cc, mL)".

If the part or material is raw materials (molding compounds, metallic materials) or subsidiary materials (solder, adhesives, greases, inks, etc.), there is no need to enter.

In the case of a sheet of multi-piece PCBs of uniform specifications and a sheet of combined PCBs of different specifications, enter the mass of the portion illustrated in the following figures:

- * In the case of a sheet of multi-piece PCBs of uniform specifications:
 - \Rightarrow Mass of the striped area (A)



- * In the case of a sheet of combined PCBs of different specifications:
- \Rightarrow Mass of the striped area (A + B)



(vi) Note

Write down special notes (for example, "a product whose manufacture is expected to be suspended), if any.

(vii) Date of Entry

Enter the date when the answer to the Survey has been completed. Year should be expressed in four digits with 'year of grace', and month and day in two digits, with hyphens put between year, month, and day.

(For example, 2003-11-01, yyyy-mm-dd)

 (viii) Company, Supplier's Code No., Section, Person in charge, TEL, FAX, E-mail Enter the company name, supplier's code number, section, person-in-charge, TEL, FAX and E-mail of your company. The supplier here means the primary supplier from the standpoint of Omron. If the part or material is delivered through a trading company, the supplier's information should be the information on the trading company, not that of the manufacturer.

Put the English company name into "Company" column, English section name into

"Section" column, and the name of the person-in-charge in English into "Person in charge" column.

(ix) Q1: Whether any of Prohibited Substances (A)/Non-use Substances (A1) is "Contained or Not"

If any one of Prohibited Substances (A)/ Non-use Substances (A1) included in Attachment 2 "List of Regulated Chemical Substances" is contained, check "Contained" of "Answer" column. If none of the listed substances is contained, check "Not Contained", and then prepare Attachment 6: "Certificate of Non-inclusion for Regulated Substances" and submit it to Omron. (In default, "Contained" is checked.) If "Contained" is the answer, then check either "A substance Contained" or "A1 substance Contained" according to the substance contained.

"Contained" includes the following (see Fig.1 of P.6):

- (1) Any of Prohibited Substances (A) intentionally used is regarded as "Contained" regardless of constituents or content.
- (2) Any of Non-use Substances (A1) intentionally used for the application and under the applicable conditions of A rank and A1 rank, it is regarded as "Contained". <u>If it only corresponds to C rank, it is not regarded as "Contained".</u>
- (3) If the content ratio of Prohibited Substance (A) as Impurities to the whole part or material and that of Non-use Substance (A1) as Impurities in each part component constructing the part or material exceeds the allowable concentration specified for each substance, such impurities are regarded as "Contained".
- (x) Q2: Whether Non-use Plan for Prohibited Substance or Non-use Substance has been established or not

If any of Non-use Substances is "Contained" and the Non-use Plan has been established, check "Have a plan", and select the deadline (year and month) from the pull-down menus. If "Have a substitute" is your answer in Q3, write down the "Date of completion of preparation for substitution" in the column for the Deadline. And complete Attachment 7. "Declaration for Phase-out of Regulated Substances" and submit it to Omron concurrently. If you have no Non-use Plan, check "Have no plan" and write down the reason. (In default, "Have a Plan" is checked.)

If you have no Non-use Substance in Q1, you need not answer here. If A substance is contained, you also need not answer here, but instead report it to Omron and address the replacement promptly.

(xi) Q3: Substitution

If only Prohibited Substance is "Contained" in Q1 or there is no Non-use Plan in Q2, and you have a substitute, then check "Have a substitute", and enter the type of the substitute. If "Have a plan" is your answer in Q2, write down the "type of the Non-use Substance". If you don't have a substitute, then check "Have no substitute" and write down the reason. If you have a substitute, it may be considered to be a candidate for replacement, but if not, the purchase may be suspended.

(2) Sheet 2

This is a survey on a part component basis concerning the status of the content of RoHS-targeted substances, polyvinyl chloride and brominated flame retardant. Since there is no concept of "part component" in raw materials (molding compounds, metallic materials (not plated) and subsidiary materials (solder, adhesives, inks, etc.), there is no need to enter.

As for the surface coating on metallic materials and electric cables etc. that have "part component", it is needed to fill out this sheet.



(i) Omron's factory-in-charge, Site ID, Section in charge, Person in charge

- (iii) Product No., Category Name, Catalog Number
- (iv) Manufacturer
- (v) Mass of Part or Material
- (vi) Note
- (vii) Date of Entry

(viii) Company / Supplier's Code No. / Section / Person in charge / TEL / FAX / E-mail Since the above 8 items are transferred from Sheet 1, you need not enter them.

(ix) Substance No., Substance Name, CAS No.

Select the substances "Contained" in part components of the part or material from the pull-down menus of Substance No., or Substance Name. You need not enter CAS No.'s as they are input automatically.

"Contained" means herein that a substance is present in the part or material or the part component thereof, whether or not it is "intentionally used" or "impurities" and if

the amount is below the allowable concentration. Note that it is different from the definition set forth in section 3.3 in this Manual.

If the same chemical substance is "Contained" in multiple part components of the part or material, select the corresponding number of Substance Names so that entries be made for all the part components. However, <u>if the materials or content ratios of</u> <u>multiple part components are the same, put together such multiple part components</u> <u>as the same part component</u>. In that case, the mass and content of the part components should be entered in an aggregate of all the part components put together.

(Example: For IC lead terminals, enter the aggregate by putting together the number of lead terminals.)

(x) Part component where regulated chemical substance is "Contained" Enter the name of the part component where any regulated chemical substance is "Contained".

For the names of part component, use the Omron's designated name listed in Attachment 1 and Separate volume; Detail Part Name".

When the proper name can not be found in the "Detail Part Name", refer to other parts drawings. If you can't find it for all efforts, then answer it by a common name or the name of part component used by your company.

• When the target for the survey is a single part like electronic parts, the name of part component should be the one written in the construction drawings and list of components of the said part component.

If there are multiple names of part component, enter them as a single part component (in a single line).

- Example 1) In the case of multi-layer ceramic condensers: Ceramic dielectric material, interior electrode
- Example 2) In the case of electrolytic capacitors: lead terminals, electrolytic solution, electrode foil
- Example 3) In the case of switches: Rubber contacts, springs, plastic covers
- Example 4) In the case of screws, steel plates, rods: mother material, surface treatment (chromate, plating)
- Example 5) In the case of batteries or accumulators: Cells (whole part)

Example 6) In the case of electric cables: Conductors, surface treatment of conductors (plating), interior jacket, exterior sheath

- * Even for a single constructional element such as an electric cable without sheath, enter "base material" / "main material".
- If the target for the survey is a machine or device, equipment, or unit composed of multiple electronic parts or mechanical parts, regard the name written in the construction drawings and parts list of the said part (product) as the name of part component and enter it in the manner shown below:

If it covers multiple parts, enter the same name over the multiple lines.

(Superior name of part component) / (Name of part or material) / (Name of part component)

- Example 1) Printed circuit board unit / Resistance 1 / Lead terminal (for example, if "Contained" in $100K\Omega$ resistance)
- Example 2) Printed circuit board unit / Resistance 2 / Lead terminal (for example, if "Contained" in 10 K Ω resistance)
- Example 3) Power supply unit / Heat sink / plating

(xi) Purpose of addition

Enter the intended use of the chemical substance "Contained".

- Example 1) Stabilizer, plasticizer, coloring agent, flame retardant, anti-corrosion agent, constituent of solder, etc.
- Example 2) Main constituent, improvement of heat stability, improvement of electric properties, improvement of mechanical properties, etc.
- Example 3) Impurities (when it is clear that they are not intentionally used)

(xii) Mass of part component

Enter the mass of the part component where a chemical substance is "Contained" in the unit of gram (g) with two significant figures (Please enter the minimum unit if it is below 0.001g, in which case, however, the indication of the figure will be 0.000g.) You need not enter it for metallic materials with surface treatment. For the mass of part component of batteries or accumulators, enter the mass per

piece of cell (unit cell). In the case of a battery pack, calculate the mass of the set as a part. Also, in the case of electric cables, enter the mass of the part component per unit.

(xiii) Content

Enter the mass of the chemical substance "Contained" in each part component in the unit of gram with two significant figures (Please enter the minimum unit if it is below 0.001g, in which case, however, the indication of the figure will be 0.000g.). Content should come from the analysis or design specifications (theoretical value,

calculated value or design value). If there is a fluctuation of content according to manufacturing lots, answer the maximum value in principle.

You need not enter it for metallic materials with surface treatment.

Calculate the content in a battery or an accumulator on a unit cell basis, and, in the case of a battery pack, calculate the content on a battery basis.

(xiv) Content ratio

The content ratio of the chemical substance "Contained" in each part component is expressed in the unit of ppm with two significant figures (minimum unit: 1 ppm). You need not enter it since it is automatically calculated from the entries in (xii) and (xiii). The content ratio is calculated by the formula: Content of a chemical substance in the part component (g) / mass of the part component (g) where the chemical substance is "Contained".

However, when the target is metallic material with surface treatment, enter the content ratio of the chemical substance in the surface treatment. In calculating it, <u>erase the calculation formula preset in the cell and overwrite it</u>. For the calculation method for it, see paragraph 5.2.(8).

(xv) Type of data

If the content and content ratio are based on the analysis (measurement), check "Analysis", and if theoretical value, calculated value or others, check "Design specifications".

(xvi) Judgment of whether the substance is "Contained or Not"

When the status of containing in each part component (Purpose of addition, content ratio) corresponds to the application, applicable conditions and allowable concentration of A rank or A1 rank specified in Attachment 2: List of Regulated Chemical Substances, check "Contained (A/A1)".

When it corresponds to the application, applicable conditions and allowable concentration of B rank or C rank specified in the list, check "Contain (B/C)". If it does not correspond to either of the above, check "Not Contained". (In default, "Contained (A/A1)" is checked.)

* *If there is even one checked as "Contained (A/A1)", your answer in Q1 will be "Contained".

(xvii) Reserve 1&2

No need to enter as it is not used in the survey based on this Manual.

Item	Measurement data	Value for the answer
*Mass and content (g) of parts or	· 25 47.05 g	2500g
part components where chemical	· 25. 4705 g	25g
substances are "Contained"	· 0.0025g	0.0025g
(Significant figure: 2, and the	· 0.0004 56 g	0.00046g
value is rounded off after the		
second digit. Minimum unit:		
Please enter it if it is below		
0.001g)		
*Content ratio (ppm)	· 46 4500 ppm	· 460000ppm
(The significant figure is 2, and	· 46 5.4 ppm	· 470ppm
the value is rounded off after	· 40. 4 ppm	· 40ppm
the second digit. (minimum	· 0. 5 ppm	· 1ppm
unit: 1ppm))	· 0. 055 ppm	· Oppm

* Example for rounding the actual measurements:

(iii) Sheet 3

This is a survey on the status in which any of Regulated Chemical Substances is "Contained" in the part or material including Substitution Accelerating Substances / Self Control Substances.

	<u>Survey Fo</u>	orm for the Regulated Chemical Substances (Sheet 3)		i)	Omron's factory-in-				Site ID	
		<u></u>			Section-In-charge	2			Survey form ver.	2006/4/1
					Person-In-charge				Standard	Manual ver 1.2
	Part Informatio	n]			Supplier Infor	mation				
(iii)	Product Number			(vii)	Date					
• •	Category Name				Company					
2.	Catalog Number				Section					
(V)	Manufactures			viii)	Person in					
	Manufacturer				charge					
	Mass of Part or				TEI					
	Material (g)				IEL					
					FAX					
					E-mail					
	50 · · · / 5									
	[Content of Reg	ulated Chemical Substance						\frown		
	Substance No.	Substance Name	Listed or	No. in	CAS No	Whether	Content Rati	Part component	Purpose of	Old Substance
			not	PRIR		Contained of	(ppm)		Addition	No.
				Law		"Contained"=1/"No	(English one			
			_			t Contained"=blank	byte characters			
	A-154	Lead and its compounds	•	1-230		(iv)	-(~)	(91)	(with	B-004
	A-155	Cadmium and its compounds	•	1-060		(1^)	(^)	(XI)	(XII)	B-002
	A-156	Hexavalent chromium and its compounds	•	1-069						B-001
	A-157		_							
		Mercury and its compounds	•	1-175						B-003
	A-058	PBB (polybrominated biphenyls)	•	1-175						B-003 A-058∼059
	A-058 A-063	PBDE (polybrominated biphenyls) PBDE (polybrominated diphenylethers)	•	1-175						B-003 A-058~059 A-060~063,A-124
	A-058 A-063 A-153	Nercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride	•	1-175	9002-86-2					B-003 A-058~059 A-060~063,A-124 C-123
	A-058 A-063 A-153 B-013	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants	•	1-175	9002-86-2					B-003 A-058~059 A-060~063,A-124 C-123 -
	A-058 A-063 A-153 B-013 A-123	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants Ozone layer depleting substances	•	1-175	9002-86-2					B-003 A-058~059 A-060~063,A-124 C-123 - A-001~057
	A-058 A-063 A-153 B-013 A-123 A-125 A-125	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants Ozone layer depleting substances Dioxins	• • • • • •	1-175 1-179	9002-86-					B-003 A-058~059 A-060~063,A-124 C-123 - A-001~057 A-064~069 A-070
	A-058 A-063 A-153 B-013 A-123 A-123 A-125 A-070	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants Ozone layer depleting substances Dioxins PCB (Polychlorobiphenyl) PCB (Polychlorobiphenyl)	•	1-175 1-179 1-306	9002-86-					B-003 A-058~059 A-060~063,A-124 C-123 - A-001~057 A-064~069 A-070 A-071
	A-058 A-063 A-153 B-013 A-123 A-125 A-070 A-070 A-071	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants Ozone layer depleting substances Dioxins PCB (Polychlorobiphenyl) Polychloronaphthalene UCP (Howehlersherspep)	•	1-175 1-179 1-306	9002-86-2 1336-36- 70776-03-2					B-003 A-058~059 A-060~063,A-124 C-123 - A-001~057 A-064~069 A-070 A-071 A-072
	A-058 A-063 B-013 A-153 A-123 A-123 A-125 A-070 A-071 A-071 A-072	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants Ozone layer depleting substances Dioxins PCB (Polychlorobiphenyl) Polychloronaphthalene HCB (Hexachlorobenzene) Aldrie	•	1-175 1-179 1-306	9002-86-2 1336-36-2 70776-03-2 118-74-2 200.00					B-003 A-058~059 A-060~063,A-124 C-123 A-001~057 A-064~069 A-070 A-071 A-071 A-072
	A-058 A-063 A-153 B-013 A-123 A-125 A-070 A-071 A-071 A-072 A-073 A-074	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polychiorated flame retardants Ozone layer depleting substances Dioxins PCB (Polychlorobiphenyl) POlychloronaphthalene HCB (Hexachlorobenzene) Aldrin	•	1-175 1-179 1-306	9002-86- 1336-36- 70776-03- 118-74- 309-00- 60-57					B-003 A-058~059 A-060~063,A-12 C-123 - A-001~057 A-064~069 A-070 A-071 A-071 A-072 A-073 A-074
	A-058 A-063 A-153 B-013 A-123 A-125 A-070 A-071 A-072 A-073 A-074 A-075	Mercury and its compounds PBB (polybrominated biphenyls) PBDE (polybrominated diphenylethers) Polyvinyl chloride Brominated flame retardants Ozone layer depleting substances Dioxins PCB (Polychlorobiphenyl) Polychloronaphthalene HCB (Hexachlorobenzene) Aldrin Dieldrin Endein		1-175 1-179 1-306	9002-86- 1336-36- 70776-03- 118-74- 309-00- 60-57- 72-20-					B-003 A-058~059 A-060~063,A-12- C-123 - A-001~057 A-064~069 A-070 A-071 A-071 A-072 A-073 A-074 A-075

(i) Omron's factory-in-charge, Site ID, Section in charge, Person in charge

(iii) Product No., Category Name, Catalog Number

(iv) Manufacturer

(v) Mass of Part or Material

(vii) Date of Entry

(viii) Company / Supplier's Code No. / Section / Person in charge / TEL / FAX / E-mail Since the above 8 items are transferred from Sheet 1, you need not enter them.

(ix) Whether "Contained or Not"

If any regulated chemical substance is "Contained" in the part or material subject to the Survey, enter "1" (in an English one byte character). If "Not Contained", you need not enter anything.

As far as 8 substances inquired in Sheet 2 are concerned, the contents of (ix) and (x) will be transferred from your corresponding answers entered in Sheet 2 and you need not enter here. However, in the case of metallic materials with surface treatment in which any of 8 substances questioned in Sheet 2 is "Contained", there is no transfer from Sheet 2. In that case, <u>erase the calculation formula preset in the cell and overwrite</u> it. For the calculation method for it, see paragraph 5.2.(8). "Contained" herein includes the following (see Fig.1 of P.6):

- (1) Any of regulated chemical substances intentionally used is regarded as "Contained" regardless of constituents or content.
- (2) If the content ratio of Prohibited Substance as Impurities to the whole part or

material and that of Non-use Substance as Impurities in each part component constructing the part or material exceeds the allowable concentration specified for each substance, such impurities are regarded as "Contained".

- (3) In the C rank application and applicable conditions of Substitution Accelerating Substances (B), Self Control Substances (C) and Non-use Substances, the impurities are regarded as "Not Contained".
- (x) Content ratio

The content ratio of the chemical substance "Contained" in each part or material is expressed in the unit of ppm with two significant figures (minimum unit: 1 ppm). The content ratio is calculated by the formula: Content of the chemical substance (g) / mass of the target part or material (g).

(When the column for content ratio is blank, we may inquire you of it later.) Here, enter the content ratio only if the chemical substance is "Contained" according to the definition of section 3.3.

(Example: As it is regarded as "Not Contained" if the content of impurities is below allowable concentration or its allowable concentration is not specified, you need not enter.)

Only the data on the answers "Contained" in Sheet 2 are aggregated automatically and input in Sheet 3. If you have manually erased the calculation formula, you are required to aggregate it by inputting the data on "Contained" manually in Sheet 3.

(xi) Part component where any regulated chemical substance is "Contained" Enter the name of the part component where any regulated chemical substance is "Contained".

For the name of part component, use the Omron's designated name listed in Attachment 1 and Separate Volume; Detail Part Name.

When the proper name can not be found in the part component drawings, refer to other parts drawings. If you can't find it for all efforts, then answer it by a common name or the name of part component used by your company. If the same chemical substance is "Contained" in multiple part components, enter the major part component or the whole part component separated with comma ",". As the status of the content of Non-use Substances and polyvinyl chloride and brominated flame retardant as Substitution Accelerating Substances has been input in Sheet 2 on a part component basis, enter the main part component here.

- When the target for the survey is a single part like electronic parts, the name of part component should be the one written in the construction drawings and list of components of the said part component.
 - Example 1) In the case of multi-layer ceramic condensers: Ceramic dielectric material, interior electrode
 - Example 2) In the case of electrolytic capacitors: lead terminals, electrolytic solution, electrode foil
- Example 3) In the case of switches: Rubber contacts, springs, plastic covers
 If the target for the survey is a machine or device, equipment, or unit composed of multiple electronic parts or mechanical parts, regard the name of part components or part or material written in the construction drawings and parts list of the said part

(product) as the name of part component and enter it in the manner shown below:

- Example 1) In the case of Printed circuit board unit: Printed circuit boards, electronic parts, solder for connection, etc.
- Example 2) In the case of power supply unit: Heat sinks, transformers, printed circuit boards, electronic parts, power supply cover

(xii) Purpose of addition

Enter the intended use of the chemical substance "Contained". As the status of the content of Non-use Substances and polyvinyl chloride and brominated flame retardant as Substitution Accelerating Substances has been input in Sheet 2 on a part component basis, enter the purpose of addition for the main part component here.

- Example 1) Stabilizer, plasticizer, coloring agent, flame retardant, rustproofing, constituent of solder, etc.
- Example 2) Main constituent, improvement of heat stability, improvement of electric properties, improvement of mechanical properties, etc.
- Example 3) Impurities (when it is clear that they are not intentionally used), etc.

5.2 Instructions for the Survey on Chemical Substances Contained in Parts and Materials

(1) Concept on "Contained"

In principle, if definitely intentionally used or contained, the substance is regarded as "Contained" independently of its constituent or content. If unintentionally used, it is handled as "Impurities", which are regarded as "Contained" if the content is above the allowable concentration (threshold).

The chemical substances on which no answer has been made are regarded as "Not Contained".

(2) Calculation of content

Express the content by analysis or design specifications. If there is some variation in content according to manufacturing lot, answer with the maximum value in principle.

In calculating the content in part components, the chemical substance contained in the purchased part or material constructing the part or material should be covered along with that contained during the manufacturing process.

(3) Calculation of content of metals and their compounds

Express the content of metallic compounds not by the amount of the compounds contained, but by the value converted as the amount of metal element contained in the compounds. The conversion into metal element can be done by multiplying the molecular weight of the compound by the conversion factor. Typical conversion factors are given in Attachment 3. Illustrative List of Regulated Chemical Substances.

With alloys, enter the content of the chemical substances in the alloy. With the chemical substances not covered by the Attachment 3. Illustrative List of Chemical Substances, investigate their conversion factors and prepare the answer using them. (Conversion factors can be calculated by [molecular weight of the metal element contained in the compound] / [molecular weight of the compound])

- Example 1) The amount of antimony in containing 100mg of antimony trichloride (SbCl₃) is obtained by multiplying its conversion factor, 0.534, i.e. (antimony trichloride) 100mg x 0.534=53mg (amount of antimony)
- Example 2) In the case of eutectic solder, express the content not by the amount of solder but the amount of lead in the solder.
 - Note 1) The oxide films present on metal surface in normal conditions should be excluded.
- (4) Calculation of content in the case that a chemical substance corresponds to multiple chemical substances.

If a chemical substance corresponds to multiple chemical substances, calculate each corresponding content individually.

Example) If 100 mg of lead chromate (II) is "Contained", give the contents of lead and hexavalent chromium in both columns for "lead and its

compounds" and "hexavalent chromium compounds". 100mg (amount of lead chromate) x 0.641(conversion factor of lead) = <u>64mg</u> (lead content) 100mg (amount of lead chromate) x 0.161 (hexavalent chromium) = <u>16mg</u> (hexavalent chromium content)

- (5) Chemical substances used during the manufacturing process You need not enter the content of any chemical substance that is used during the manufacturing process, if it is not present in the final product, such as solvent, cleaning agents, foaming agents.
- (6) Examples of part or material in which any of the target chemicals is expected to be "Contained"

The target chemical substances are very likely to be "Contained" in the below listed parts and materials. You are requested to check them to a satisfactory extent.

- Grease and other lubricants that are used for the parts having movable parts such as bearing, lever, etc.: Lead, polychlorinated naphthalene, chlorinated paraffins.
- Flame retardants for plastics: Specific brominated flame retardants such as PBB and PBDE, brominated flame retardants, antimony, etc.
- Polyvinyl chloride, flame retardant and stabilizers for lead wire covering: lead, antimony, cadmium, etc.
- Special metals (alloys) for improvement of electric stability of contacts: cadmium, gold, silver, etc.
- Additives for rubber products such as belts, rollers, bushes, and tubes: lead, PBB, PBDE, etc.
- · Color code and other display paints: cadmium, lead, hexavalent chromium
- (7) Use of ozone depleting substances during the manufacturing process The use of ozone depleting substances for cleaning parts or materials during manufacturing process is prohibited. Their intentional addition for part or material is also prohibited.
- (8) Calculation of content ratio and content in the surface treatment of raw materials (soldering plating, chromate, etc.)

The content ratios of the 8 regulated chemical substances including RoHS Directive chemical substances on a part component basis in Paragraph 3.4.1) are those of the target regulated substances "Contained" in the part components of the same material. Calculate the content ratio and content in surface treatment referring to the following samples:



Example 1) Solder plating

(i) Lead content ratio of solder plating in Sheet 2 (on a part component basis)

 Lead content ratio of soldering plating in part components is the composition ratio of lead in solder plating. Enter the value <u>by manual</u> <u>inputting</u>, while you need not enter the content and the mass of the part component.

Example) If the composition ratio of lead in solder plating is 10%, Content ratio of lead =100,000 ppm

- (ii) Lead content ratio in solder plating in Sheet 3 (on a part or material basis)
 - 1) When the amount of solder plating as feedstock is determined by measurement:

After the weight of a certain length of feedstock and the amount of solder plating are worked out, calculate the content ratio of lead using the following equation and enter it <u>by manual inputting</u>:

- Content ratio of lead=[(Weight of solder plating (g) x Composition ratio of lead in solder plating) / (weight of feedstock (g))] x 10⁶ppm ...(I)
- 2) When the amount of solder plating is not determined:
 - After the weight of a certain length of feedstock is worked out or measured, calculate the amount of solder plating according to the following equation and find the content ratio of lead using the equation (I) above.
 - * Weight of solder plating=Film thickness (mm) x surface area (mm²) x specific gravity of solder x 10⁻³(g)

	- 1	<u> </u>	.,		
Composition of solder	Sn-5Pb	Sn-10Pb	Sn-37Pb	Sn-40Pb	Sn-50Pb
Specific gravity	7.4	7.6	8.4	8.5	8.9

Specific gravity of solder

Example 2) Chromate treatment

- (i) Content ratio of hexavalent chromium in Sheet 2 (on a part component basis)
 - Find the content ratio of hexavalent chromium in the chromate treatment of a part using the composition ratio of hexavalent chromium in chromate treatment solution (8.7%) from the table below.

Content ratio of hexavalent chromium=87,000 ppm

(Mass of part component covered by the chromate treatment of part component and the content of hexavalent chromium may not be entered.)

(ii) Content ratio of hexavalent chromium in Sheet 3 (on a part or material basis)

1) When the amount of hexavalent chromium as feedstock is determined by measurement:

After the weight of a certain length of feedstock and the amount of hexavalent chromium are worked out, calculate the content ratio of hexavalent chromium using the following equation, and enter it <u>by</u>

manual inputting:

- Content ratio of hexavalent chromium=(Content of hexavalent (g) / (weight of feedstock (g)) x 10⁶ppm ...(II)
- 2) When the amount of hexavalent chromium is not determined:
 - After the weight of a certain length of feedstock is worked out or measured, select the conversion factory by chromate treatment in the table below, calculate the amount of hexavalent chromium according to the following equation with the conversion factor and find the content ratio of hexavalent chromium using the equation (II) above.
 - Content of hexavalent chromium=Conversion factor in (ii) of the table below x surface area (mm²) (µg) ...(III)

Data for calculating the content ratio and content of hexavalent chromium in chromate treatment (Source: Technical materials of a certain screw manufacturer and plating company)

	Standard Value	
(i) Composition ratio of h	9 7%	
chromate treatment se	olution	0.7 /0
(ii) Conversion factor	Bright chromate treatment	0.01µg/mm ²
for content of	Color chromate treatment	0.04µg/mm ²
hexavalent	Black chromate treatment	0.07µg/mm ²
chromium in chromate treatment	Chromate plated steel plate	0.003µg/mm²

- (9) Calculation of content ratio and content in the surface treatment of screws (Example: hexavalent chromium in chromate)
 - (i) Content ratio of hexavalent chromium in the Survey Sheet 2 (on a part component basis)
 - When the content ratio is not available, use the value in (8), Example 2, (i) above.
 - (ii) Content of hexavalent chromium in the Survey Sheet 3 (on a part or material basis)
 - When the content of hexavalent chromium in a screw is not available, use the equation (III) in (8), Example 2), (ii), 2) above. If the surface area is not available, use the below equation.
 - * Method for roughly calculating the surface area of screws (calculated as a column)

Surface area = $\phi 1 \times (\phi 1/4) \times \pi \times 2 + \phi 1 \times \pi \times L1 + \phi 2 \times \pi \times L2 \text{ (mm²)}$



- 6. Statutory and Regulated Environment-related References of Regulated Chemical Substances Subject to This Survey
 - 6.1 Prohibited Substances

We defined Prohibited Substances that are "Contained" in our products (parts or materials) based on the below listed laws and regulations in Japan and foreign countries, and further defined our self-regulated Prohibited Substances as listed below.

1) Japanese laws and regulations

(i)	Substances listed in Annex A, B, C and E of Montreal Protocol in "The Law Concerning The Protection of The Ozone Laver Through The Control of
(1)	Specified Substances and Other Measures"
	Class 1 and Class 2 Specified Chemical Substances under the "Law
(ii)	Concerning the Examination and Regulation of Manufacture, etc. of
	Chemical Substances" (Chemical Examination Law)
/;;;)	Manufacture-prohibited substances under "Industrial Safety and Health
(111)	Law" (Safety and Health Law)
(i) ()	Specified poisonous substances under the "Poisonous and Deleterious
(17)	Substances Control Law"
(v)	Dioxins under the "Law Concerning Special Measures against Dioxins"
(vi)	Volatile organic compounds under the "Water Pollution Control Law"
	Nuclear substances under the "Law for the Regulations of Nuclear Source
(vii)	Material, Nuclear Fuel Material and Reactor" (Nuclear Substances Control
	Law)

2) Laws and regulations of foreign countries

	Marketing-banned substances in "EU: Directive concerning the restrictions
(i)	on the marketing and use of certain dangerous substances and
	preparations" (76/769/EEC Marketing Restriction Directive)
	Marketing-banned substances in "EU Council Directive on batteries and
(ii)	accumulators containing certain dangerous substances" (Directive
	91/157/EEC on Batteries).
	EU regulation on heavy metals in "Guidelines 94/62/EC of the European
(iii)	Parliament and the Council regarding Packaging and Packaging Waste"
	(Packaging Waste Directive 94/62/EC)
(iv)	Prohibited substances in "EU Directive on End-of-life Vehicles
(10)	2002/525/EC" (ELV Directive)
60	Marketing-banned substances in "Germany: Chemical Substance
(•)	Prohibition Law"
(vi)	Marketing-banned substances in "Germany: Regulations on Articles for
(1)	Daily Use"
(vii)	Prohibited substances in "Denmark: Chemical Substance Control Law"
(viii)	Prohibited substances in "Denmark: Regulations on Batteries"
(iv)	Marketing and use-banned substances in "Holland: "Regulations on
(1/)	Environmental Hazardous Substances" (Holland)
(\mathbf{v})	Heavy metals in "United States: "Regulations on Heavy Metals in Packaging
(^)	Materials"
(xi)	Ozone layer depletion substances in "United States: Clean Air Act (CAA)"
(vii)	Use and marketing-banned substances in "Canada: "Regulations for
(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Prohibition of Specific Hazardous Substances"

3) Omron's self-regulatory substances

(i)	Prohibited substances with limited applications: Polyvinyl chloride in
0	packing and packaging materials

6.2 Non-use Substances

We defined the substances that must be prohibited and the deadline for non-use of such substances based on the below laws, under which those substances are scheduled to be prohibited.

(i)	Prohibited substances in "EU: Restriction on Hazardous Substances Directive, 002/95/EC" (RoHS Directive)
(ii)	Prohibited substances with limited applications in "EU: Directive on End-of-life Vehicles 2002/525/EC" (ELV Directive)

6.3 Substitution Accelerating Substances

We defined the substances, on which the tightening of regulations under the below-listed laws home and abroad is very likely to encourage the reduction of consumption or prohibition of use and utmost efforts to avoid the obligation for separation for disposal.

(i)	The substances covered by the "Law Concerning the Promotion of the Measures to Cope with Global Warming" (Global Warming Measure Law) and the voluntary control substances proposed by The Japan Electronics and Information Technology Industry Association (JEITA)
(ii)	Those substances on which separation is mandatory in "EU: Waste Take-back Directive on Waste Electrical and Electronics Equipment, 2002/96/EC" (WEEE)
(iii)	Omron's self control substances (limited applications) Polyvinyl chloride for covering of electric wires, codes, tubes, etc.

6.4 Self Control Substances

We defined such control substances as necessitate the proper management and grasp of consumption, etc. under the below-listed Japanese laws and regulations.

(i)	Class 1 and Class 2 Specified Chemical Substances under "The Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management" (PRTR Law)
(ii)	Poisonous substances and deleterious substances under "Poisonous and Deleterious Substances Control Law".
(iii)	Heavy metals and pesticides under "Water Pollution Control Law"
(iv)	Special management industrial wastes under the "Waste Management and Public Cleansing Law" (Waste Management Law)
(v)	Substances covered by Attachment 3 of the "Law Concerning the Control of Export, Import and Management of Specified Hazardous Waste and Other Wastes" (Basel Domestic Law)
(vi)	Chemical substances suspected to act as endocrine disruptors ("Environmental Hormones")
(vii)	Substances listed for survey by Japan Green Procurement Survey Standardization Initiative (JGPSSI)

7. Revision

This manual is subject to revision depending on changes in social conditions and trend of legal regulations.

Attachment 1. Examples of Part Component Unit

The following are an informative guide for the names of part components that will serve as a reference for filling out the part component column in the Survey Forms. Calculate and enter the content of target substances in other parts referring to the calculation examples shown below and the component parts given in the following pages.

(Note: The collection of part components above is cited from the "Manual for Survey of Chemical Substances Contained in Parts and Materials" issured by JGPSSI)

[Examples of names for part components and calculations of contents of chemicals substances]

()		ŧ	
Cas	e Internal element (body)	Electrolytic solution	Lead terminal Rubber stopper
* Sample contents for each pa	art component and the	ir calculat	ions
Component	Applicable Substance	Content	Calculation
Aluminum electrolytic capacitor: Mass: 5.0g			
Sleeve (outer tube):			
Polyvinyl chloride	Polyvinyl chloride	50%	0.3g × 0.50 = 150mg
Weight: 0.3g	Phthalate ester	40%	0.3g × 0.40 = 120mg
	Antimony trioxide	10%	$0.3g \times 0.10 \times 0.835 = 25mg$
	(Antimony trioxide bei	ng a meta	llic compounds, multiply the
	content (composition that is cited from the S	ratio) by th Sample Su	ne metal conversion factor, 0.835, Ibstance List to obtain the amount
6222	or metar antimony.)		
Case	substance		
Internal element (body) Weight: 2.0g	Antimony Lead (lead in solder)	20.0mg 9.0mg	20.0mg Solder: 22.5mg, the composition ratio of lead in the solder (40%): 22.5 × 0.4 = 9.0mg
Electrolytic solution	No applicable substance		
Lead terminal			Solder plating: 10mg, the
Weight: 0.1g	Lead (lead in solder plating)	1.0mg	composition ratio (10%): 10×0.1 = 1.0mg
	Copper	20.0mg	20.0mg
Rubber stopper	No applicable substance		

The responses are as follows: Sheet 2:

Phthalate esters

Copper and its

derivatives

Substance Group	Part Compo	art Component Intended use Part compone		f ent	Content	Content ratio				
Lead and its compound	Internal elem (body)	ent	Solder	-	0.023	3g	0.009g	2,000ppm		
	Lead termina		Solder	⁻ plating	0.010)g	0.001g	100,000ppm		
Polyvinyl chloride (PVC)	Sleeve		Main consti	tuent	0.30)g	0.15g	500,000ppm		
Sheet 3:										
Substance Group	Content	onent	Intende	d use	Details of content calculation					
Antimony and its derivatives	9,000ppm	, etc.	Flame r	etardant	← 45	- 25mg + : 5mg	20mg =			
Lead and its compound	2,000ppm	Lead termina	al, etc.	Solder p	olating	←	- 9mg + 1	mg = 10mg		
Polyvinyl chloride (PVC)	30,000ppm	0,000ppm Sleeve			ent			_		

Plasticizer

constituent

Main

—

_

Calculate and enter the content of target substances in other parts referring to the calculation examples shown above and the component parts in the following.

Sleeve

terminal

Lead

24,000ppm

4,000ppm

[Component Part Example 1] Connectors

Component parts: Housing and contacts



[Component Part Example 2] Switch, relays and other parts with mechanical components Component parts: Part case (molded plastics, etc.), metal parts (lever, frame, terminal, etc.), moving parts (contact, etc.)



* Pay particular attention to special metals (alloys) with an intended use as flame retardants for plastics, for imparting electrical properties, and lubrication to contacts.

[Component Part Example 3] Surface-mounted chip parts Component parts: Terminal, Main body



- * When the main body of the part is composed of multiple materials, and the applicable substance is present therein, break it down.
- e.g. Part (main body) \rightarrow ceramic and internal electrode

[Component Part Example 4] Semiconductor divices

Component parts: Lead terminal (lead frame, etc.), main body of package (molded plastic, etc.), and device chip



- * Pay particular attention to the flame retardants in the plastics for main body of package and the material and treatment of lead.
- * Make a response on the device chips to the extent possible.

[Component Part Example 5] Transformers and inductors

Component parts: Core, coil, bobbin, lead wire, insulator, case frame, etc.



* Pay particular attention to flame retardants in the molding compounds or insulating parts, impregnants in the coils, PVC and flame retardants in the lead wires.

[Component Part Example 6] DC motors

Component parts: Part case (molded plastics, etc) metal parts (shaft, rotor core, terminal, frame, etc.), brush, magnet, coils, and others.



- * Pay particular attention to special metals (alloys) with an intended use as flame retardants for plastics, for imparting electrical properties and lubrication to commutators, and grease in bearings.
- * If lead wires and electronic circuits are included in the DC motor, calculate the content of the whole part from those of the respective component parts.

[Component Part Example 7] Electrical cables (power cord)

Component parts: Conductor (copper, plating), insulator (interior sheath), and jacket (exterior sheath)



Attachment 2. List of Regulated Chemical Substances

1. Prohibited Substances (A rank)

• Substances whose use in parts or materials is prohibited.

If "Contained", such part or material must be excluded immediately.

A substances: 64, A1 substances: 4

B substances:5, C substances: 134

											F	۱۹۹	icat							
OC. Substance No. A rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance) Chemical Evamination (Class 1.2	Crement Specified Annual (Crease 1,2 Specified and ream (Manufacture-prohibited	Poisonous and Deleterious (Specific/Toxic/Deleterious)	Dioxins Measure (Dioxins targeted by the law)	(Substances targeted by the law) Global Warming Measure	(Substances targeted by the law) Waste Management Law (Special management substances)	Basel Domestic Law (Specified substances)	PRTR Law (Class 1,2 specified substances)	Environmental Hormones (specified substances)	76/769/EEC (Use-prohibited substances)	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iv)02rmany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-stan ce No.
123	Ozo	one layer depleting substance	*	_	CFC, halons, HCFC, HBFC, brominated methyl	Detergents, refrigerants, foaming agents, halon extinguishers	Intentional addition/use prohibited	x		D		x			1		х	х	US CAA, JGPSSI, (Holland)	Illustrative List
058	ied brominate ne retardant	PBB (polybromobiphenyls)		_	PBDs	Plastics, wire covering, tubes, flame retardant for PCB, paints, adhesives (incl	Intentional addition prohibited and to be 1,000ppm or							x			х	x	Germany:Regulations on Articles for Daily Use; RoHS Directive; Canada: Prohibition of Specific Hazardous Substance; (Holland); JGPSSI	A-058
063	specifi flan	PBDE (polybromodiphenylethers)		-	PBBOs, PBBEs, PBDOs, DBDPO	sealing agents)	less.									х	х	х	RoHS Directive, JGPSSI	A-063
125	Dio	xins	*	-		Unintentional products	Intentional addition/ Intentionally "Contained" prohibited.				x		x	х	s	x	х	x		New
070	nical aw	PCB (polychlorobiphenyl)		1336-36-3		Heating medium, insulating oil	Intentional addition prohibited, and to be below 50ppm.		1			x	x	х	1	х	х	х	(Holland), JGPSSI	A-070
071	f Chen ation L	Polychloronaphthalene (>C ₃)		70776-03-3		Fungicides, feedstock for organic synthesis	Intentional addition prohibited		1										JGPSSI	A-071
072	ss 1 oi amina	HCB (hexachlorobenzene)		118-74-1		Feedstock for organic synthesis	Intentional addition prohibited		1					х		х				A-072
073	ы Са	Aldrin		309-00-2		Fungicide	Intentional addition prohibited		1	D				х		х				A-073

(Note) Chemical Examination Law: 1 → Class 1 Specified Chemical Substance under the said law, and :2 → Class 2 Specified Chemical Substance under the said law; Poisonous and Deleterious: S → Specified poisonous substances; P → Poisonous substances specified in Article1 of the Ministerial Ordinance, and D → Deleterious substances specified in Article 2 of the Ministerial Ordinance; (Holland) → Regulations on Holland: Environmentally Hazarous substances; PRTR Law: S → Special Class 1 Specified Chemical Substances, :1 → Class 1 Specified Chemical Substances, and :2 → Class 2 Specified Chemical Substances; Water Pollution Control: V → VOC (volatile organic compounds), and H → Heavy metals and pesticides

								Applicable Laws and Regulations												
OC. Substance No. A rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance) Chemical Examination (Class 1.2	Specified Substance) Safety and Health	(Manutacture-pronibited substance) Poisonous and Deleterious (Specific/Toxic/Deleterious)	Dioxins Measure (Dioxins targeted by the law) Water Pollution Control (Substances	Global Warming Measure (Substances targeted by the law)	Waste Management Law (Special management substances)	Basel Domestic Law (Specified Substances) PRTR Law (Class 1.2 specified	Environmental Hormones (specified	76/769/EEC (Use-prohibited	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-stan ce No.	
074		Dieldrin		60-57-1		Fungicide	Intentional addition prohibited		1	D				x	2	x			A-074	
075		Endrin		72-20-8		Fungicide	Intentional addition prohibited		1	Ρ				x	2	x			A-075	
076	۱Law	DDT (Dichlorodiphenyl trichloroethane)		50-29-3		Fungicide	Intentional addition prohibited		1					x	2	x	x		A-076	
077	aminatior	Chlordane		57-74-9		Fungicide	Intentional addition prohibited		1	D					2	x			A-077	
078	mical Ex	Bis (tri-n-butyltin) oxide		56-35-9	твто	Ink, fungicides, ship bottom paints	Intentional addition prohibited		1	D				x	1	x x	x	JGPSSI	A-078	
121	1 of Che	N,N'-ditril-para-phenylenediamine; N-tryl-N'xylil-para-phenylenediamine		_	PDA-Z	Rubber anti-oxidant, ink	Intentional addition prohibited		1										A-121	
122	Class	2,4,6-tri-tertiary butylphenol		732-26-3	ТТВР	Antioxidants, lubricating oil	Intentional addition prohibited		1										A-122	
126		Polychloro-2,2-dimethyl-3-methylidenebic yclo [2.2.1] heptane		8001-35-2	Toxaphen	Fungicide	Intentional addition prohibited		1					x					New	
127		Dodecachloropentacyclo [5.3.0.0(2,6).0(3,9).0(4,8)] decane		2385-85-5	Mylex	Flame retardantd, fungicides, anti-mold agent	Intentional addition prohibited		1					x				Canada: "Regulations for Prohibition of Specific Hazardous Substances"	New	
128	l Examinatic	Specific organic tin compounds (except for bis(tributyltin)oxide)	*	_	Tributyltin compounds, triphenyltin compounds	Fungicides, ship bottom paints, ink, anti-mold agents	Intentional addition prohibited							x	1	x	x	(Holland), JGPSSI	Illustrative List	
100	Chemica Law	Trichloroehtylene		79-01-6	Trichlene	Solvent, detergent	Intentional addition prohibited		2			v	x	x	1				A-100	
101	ass 2 of	Tetrachloroethylene		127-18-4	Perchlene	Solvent, detergent	Intentional addition prohibited	:	2			v	x	x	1				A-101	
												A	ppli	cab	e L	aws	s ar	nd I	Regulations	
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OC. Substance No. A rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use	Chemical Examination (Class 1,2 Specified Substance)	Safety and Health (Manufacture-prohibited substance)	Poisonous and Deleterious (Specific/Toxic/Deleterious) Dioxins Measure (Dioxins targeted	by the law) Water Pollution Control	(Substances targeted by the law) Global Warming Measure (Substances targeted by the law)	Waste Management Law (Special management substances)	PRTR Law (Specified	substances) Environmental Hormones (specified	76/769/EEC (Use-prohibited	Germany Chemical Prohibition	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (ii)2002/95/EC (RoHS) (iv)Germany: Regulations or Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heav Metals in Packaging Materials	Old OC. Sub-sta nce No.
102	_aw	White phosphorus		7723-14-0		Raw material for matches	Intentional addition prohibited			х	Ρ									A-102
103	& Health I	Benzidine and its salts		_		Raw material for colors	Intentional addition prohibited and to be below 1,000ppm or to be released below 30ppm			х							×	×	(Holland)	A-103
104	er Safety	4-aminodiphenyl and its salts		_		Raw materials for colors	Intentional addition prohibited and to be below 1,000ppm or to be released below 30ppm			x							×	x	(Holland)	A-104
105	ss und	Asbesto (incl. chrysotyle, etc.)	*	1332-21-4	Asbestos	Heat resistant materials	Intentional addition prohibited and to be below 1,000ppm			х				х	x	5	x	x	(Holland), JGPSSI	A-105
106	substance	4-nitrodiphenyl and its salts		_		Raw material for colors	Intentional addition prohibited and to be below 1,000ppm or to be released below 30ppm			x							×	x	(Holland)	A-106
107	anned	Bis(chloromethyl)ether		542-88-1		Methylating agent	Intentional addition prohibited			х					х				Canada: "Regulations for Prohibition of Specific Hazardous Substances"	A-107
108	ufacture-b	β -naphthylamine and its salts		_	2-naphtylamine and its salts	Raw material for colors	Intentional addition prohibited and to be below 1,000ppm or to be released below 30ppm			x						1	×	x	(Holland)	A-108
109	Manı	Benzene		71-43-2		Solvents, adhesives	Intentional addition prohibited and to be below 1,000ppm			x		V		х	x	5	Х	x	(Holland)	A-109
110	and	Octamethyl-pyrophosphoramide		152-16-9	Schradan	Insecticides, moth repellents	Intentional addition prohibited				s			х	х					A-110
111	snou	Tetra-alkyl lead		1762-26-1	Tetraethyl lead	Antiknock agents	Intentional addition prohibited				S	Н		х	х					A-111
112	r Poiso .aw	Diethyl-paranitro-phenyl-thiophosphate		56-38-2	Parathion, Ethyl Parathion	Pesticides, insecticides, organic phosphorus compounds	Intentional addition prohibited				s	Н		х	х					A-112
113	es unde rious L	Dimethylethyl-mercapto-ethyl-thiophosph ate		8022-00-2	Methyldimethone	Pesticide, Organic phosphorus compounds	Intentional addition prohibited				s	Н		х	х					A-113
114	Ibsance Delete	Dimethyl(dimethylamid-1-chlorcrotonyl) phosphate		13171-21-6	Phosphamidon	Pesticide, Organic phosphorus compounds	Intentional addition prohibited				s			х	х					A-114
115	cified su	Dimethyl-paranitrophenyl-thiophosphate		298-00-0	Methyl Parathion	Pesticide, Organic phosphorus compounds	Intentional addition prohibited				s	н		х	х					A-115
116	Spec	Tetraethyl-pyrophosphate		107-49-3	TEPP	Pesticide, Organic phosphorus compounds	Intentional addition prohibited				s			х	х					A-116

											Арр	lica	ole	Lav	vs a	and	l R	egulations	
OC. Substance No. A rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance) Chemical Examination (Class 1.2	Specified Substance) Safety and Health Manufacture-prohibited substance)	Poissonous and Detertious (Specific/Toxic/Deterterious) Dioxins Measure (1) ioxins fameled	by the law) Water Pollution Control (Substances targeted by the law)	(Substances targeted by the law) Waste Management Law (Special	Basel Domestic Law (Specified substances)	PRTR Law (Class 1,2 specified substances)	Environmental Hormones (specified substances)	/ o/ / o9/EEC (Use-pronibited substances)	Germany Chemical Pronibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
117	isonous ces	Monofluoroacetate salts		144-49-0		Insect repellent	Intentional addition prohibited			s			Х						A-117
118	ed Po ostani	Monofluoroacetamide		640-19-7		Insecticide	Intentional addition prohibited			s			х						A-118
119	Specifie Sut	Aluminum phosphide and its decomposition accelerator		-	Phostoxin	Insect repellent	Intentional addition prohibited			s									A-119
120		Dichloromethane		75-09-2	Methylene chloride	Solvent, detergent, solvent of resins	Intentional addition prohibited				V	х	х	1					A-120
129		1,2-dichloroethane		107-06-2	Methylene chloride	Solvent, detergent	Intentional addition prohibited				V	Х	х	1					C-029
130		1,1-dichloroethylene		75-35-4	Vinylidene chloride	Feedstock for PVC	Intentional addition prohibited				V	X	х	1		х	х	(Holland)	C-030
131		1,1,2-trichloroethane		79-00-5		Solvent	Intentional addition prohibited				V	Х	х	1		х	х	(Holland)	C-033
132		1,2-cis-dichloroehtylene		156-59-2		Feedstock for organic synthesis	Intentional addition prohibited				\vee	х	х	1					C-031
133		1,3-dichloropropene		542-75-6	D-D	Solvent, pesticide	Intentional addition prohibited				V	Х	х	1					C-034
134	arbons	Pentachlorophenol		87-86-5	PCP	Pesticide, wood preservative	Intentional addition prohibited and to be below 5ppm			D			х		x	x	х	(Holland)	C-037
135	hydroc	1,1,2,2-tetrachloroethane		79-34-5	Tetrachloroacetylene	Solvent, detergent	Intentional addition prohibited and to be below 1,000ppm						x	2		x	х	(Holland)	C-048
136	enated	1,1,1,2-tetrachloroethane		630-20-6			Intentional addition prohibited and to be below 1,000ppm									x	х	(Holland)	New
137	Halog	Pentachloroethane		76-01-7			Intentional addition prohibited and to be below 1,000ppm						х			х	x	(Holland)	New
138		Hexachloroethane		67-72-1			Intentional addition prohibited									х		(Holland)	New
139		Chloroform		67-66-3	Trichloromethane	Preservative, solvent	Intentional addition prohibited and to be below 1,000ppm			D			x	1		x			D-060
140		Chlorinated paraffin (carbon chain: 10-13)		_	Chloroparaffin	Flame retardant, vulcanization accelerator, pigment, ink	Intentional addition prohibited and to be below 1,000ppm						x			x	x	JGPSSI	F-001
141		Chloromethyl-methylether		107-30-2	Chloromethoxymet hane	Feedstock for ion exchange resins	Intentional addition prohibited						х					Canada: "Regulations for Prohibition of Specific Hazardous Substances"	New

					· · · · · · · · · · · · · · · · · · ·								Appli	cable	e La	ws a	anc	d R	egulations	
OC. Substance No. A rank		Substance (Substance Gr	• Name oup Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safety and Health	(Manufacture-prohibited substance) Poisonous and Deleterious	Dioxins Measure (Dioxins targeted by the law)	(Substance: angeted by the law) Global Warming Measure	Waste Management Law (Special management substances) Basel Domestic Law (Specified	substances) PRTR Law (Class 1,2 specified	Environmental Hormones (specified substances)	/ o/ / o9/EEC (Use-pronibited substances)	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
142		Formaldehyde			50-00-0	Formalin	Preservative, disinfectant, feedstock for resins, surfactant	Wood products and to be released below 0.1ppm			D				1			x	*Not applicable to A-Rank Substances if contained in the substances other than wood products (e.g. molded parts).	C-064
143		Azo dyes and pigmen	ıts	*	_		Textile, fur products, dye for resins, pigment	Such applications prohibited as the substance comes in touch with human bodies continually, or intentional addition prohibited, or to be below 1,000ppm or to be released below 30ppm		>	ĸ			>	(1		x	x	Germany: Regulations on Articles on Daily Use; JGPSSI *Not applicable to A-Rank Substances for the use of long-lasting contact with a human body unless its release exceeds 30ppm.	F-002
144		Polychloroterphenyl			61788-33-8	PCT	Resin additives	Intentional addition prohibited and to be below 50ppm						>	(x	х	Canada: Prohibition of Specified Hazardous Substances, (Holland), JGPSSI	New
145		Monomethyldibromo-o	diphenylmethane		99688-47-8	DBBT		Intentional addition prohibited and to be below 50ppm									х	х	(Holland)	New
146	thers	Monomethyldichloro-c	Jiphenylmethane		_	Ugilec 121	Raw materials for pigments, liquid crvstals	Intentional addition prohibited and to be below 50ppm									x	х	(Holland)	New
147	0	Monomethyltetrachlor	o-diphenylmethane		76253-60-6	Ugilec 141		Intentional addition prohibited and to be below 50ppm									x	х	(Holland)	New
148		Di-µ-oxo-di-n-butyl-sta	anniohydroxyboran		75113-37-0	Dibytyltin borate (DBB)		Intentional addition prohibited and to be below 1,000ppm									х	х	(Holland)	New
149]	Tris(2,3-dibromoprop	yl)phosphate		126-72-7	Tris(dibromopropyl) phosphate, TDBPP	Antiflaming treatment	Intentional addition prohibited						x >	(х	Х	Germany: Regulations on Articles on Daily Use	C-103
150		Tris(1-azilidinyl)phosp	phine oxide		545-55-1	APO	Antiflaming treatment	Intentional addition prohibited						x >	(х		(Holland)	C-104
151		Radioactive substanc	;es	*	_		Fuel, measurement	Intentional addition prohibited											Nuclear Substances Regulation Law, JGPSSI	F-003
152		Vinyl chloride monom	ier		75-01-4	Chloroethylene	Aerosol propellant, vinyl, PVC	Application as a propellant for aerosol prohibited									x	x	(Holland)	C-124
450		Debesies deeblesid	A rank			D) (O	Packing materials	Intentional addition prohibited											Omron Self Control Substances, JGPSSI	C-123
153		Polyvinyl chloride	B rank		9002-86-2	PVC	Other applications (electric wires, tubes, etc.)	_											*PVC used for the Rank-B applications is applicable to B-Rank Substances.	

2. Non-use Substances (A1 rank)

• The substances whose schedule for non-use has been decided by Omron voluntarily. If used currently, such substances must be replaced with the available substitutes by the accelerated deadline for non-use.

												Α	\ppli	cabl	e L	aws	an	d R	egul	lations	
OC. Substance No. Rank	Substance G	≿e Na 3roup	me Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use	Chemical Examination (Class 1,2 Specified Substance)	Safety and Health (Manufacture-prohibited substance) Poisonous and Deleterious	(Specific/ Ioxic/Deleterious) Dioxins Measure (Dioxins targeted by the law)	Water Pollution Control (Substances targeted by the law) Global Warming Measure	(Substances targeted by the law) Waste Management Law (Special	Basel Domestic Law (Specified	PRTR Law (Class 1,2 specified substances)	ETIVITOTIETICAL FOLITIOLIES (Specified substances) 76/769/FFC (Lise-prohibited	Germany, Chemical Prohibition	(Profibited substances) (Profibited substances) ((i)(i)(i)(i)(i)(i)(i)(i) ((i)(i)(i)(i)(i)(i)(i)(i)(i)(i)(i)(i)(i)	her legal regulation (amples) Al/62/EEC (Packaging) Waste Directive) 2002/525/EC (ELV) (2002/95/EC (RoHS)) (Germany: Regulations on Articles for Daily Use Denmark: Chemical Substance Control Law (US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-stan ce No.
	Lead and its compou	inds		*				As shown in the table below					Н	Х	Х	1		x x	As tat	s shown in the below ble / JGPSSI	B-004
	Cadmium and its cor	npou	nds	*				As shown in the table below					н	х	х	1		x x	C As tat	s shown in the below ble / JGPSSI	B-002
	Hexavalent chromiur compounds	n and	d its	*				As shown in the table below					н	х	х	1			As tat	s shown in the below ble / JGPSSI	B-001
	Mercury and its comp	poun	ds	*				As shown in the table below			F	,	н	Х	х	1		x X	As tat	s shown in the below ble / JGPSSI	B-003
	Classificatio	on Ma	anagement of Lea	ıd,	Cadmium, He	exavalent chromiu	m and Mercury and	their compounds by	yА	ppli	catio	n	(1)	vt%	= 1	0,0	00p	pm)		
OC. Sub-st ance No.	Substance Name (Substance Group Name) Illustrative List (listed or not?)	Rank		Ap	plications and	Applicable Condition	ns	Allowable Concentra (Threshold) (ppm or wt%)	atic	on	Dea of n	dline its us nater	for p se in ials (prohi part Note	bitio s or e2)	on		App	plicat	ble Laws and Regula	tions
		А	Packing/packagin materials, tapes, e	g (o etc.	corrugated carc	lboard boxes, boxes	s, bags, cushion	100ppm or less (Note	1)		To be case condit	prohit of non- tions s	oited ir -compl et forti	nmed iance n in (N	iately with lote	r in the 1).	94/6 US mat	62/EE Regu erials	EC (Pa ulation s	ackaging Waste Directins on heavy metal on P	ve) ackaging
	Lead and its compounds	A	Batteries, accumu	lato	ors			When 4,000ppm or le /unit cell, or above 4,000ppm, it bears t marking of a battery is easy to detach.	he an	d	Imm	ediat	tely p	rohi	bite	d.	91/1 Den Not bea deta	157/E Imark appl rs the ach.	EEC (I k: Reg licable e marl	Directive on Batteries) gulations on Batteries. e to A-rank substances rking of a battery and is	vhen it easy to
		А	Paint, ink, stabilize	ers	for plastics, lub	oricants		Intentional addition prohibited and to be 1,000ppm or less			Imm	ediat	tely p	rohi	bite	d.	76/7 Ger	769/E many	EEC (N y: Che	Marketing Restriction D emical Prohibition Law	rective)
		А	Products (parts or (e.g. PVC electric inks, stabilizers fo	ma wir r pl	aterials) covere res and connec astics and rubb	ed by ELV Directive tors containing lead per, etc.	, identification paints,	Intentional addition prohibited and to be 1,000ppm or less			Imm	ediat	tely p	rohi	bite	d.					
А	* Listed in the Illustrative List	A1	Lead "Contained"	in f	free-cutting alu	minum		Lead: ≤1wt%			200	4/4/	1				200)2/5	25/E0	C (ELV Directive)	
154		A1	Stabilizer in rustpr	roof	f paints, pigmei	nt and light resistand	ce agent	Intentional addition prohibited and to be 1,000ppm or less			200	4/4/′	1								
		A1	Carbon brush use approved before J	ed ir July	n electric motor 2003)	rs (in the case that th	ne type was	Intentional addition prohibited and to be 1,000ppm or less			200	4/4/	1								
		A1	Glass of electric la	amp	os			Intentional addition prohibited and to be 1,000ppm or less			200	4/4/	1				Ap	plica	able L	Laws and Regulation	6

OC. Sub-st ance No.	Substance Name (Substance Group Name) Illustrative List (listed or not?)	Rank	Applications and Applicable Conditions	Allowable Concentration (Threshold) (ppm or wt%)	Deadline for prohibition of its use in parts or materials (Note2)	Applicable Laws and Regulations
		A1	Products (parts or materials) covered by RoHS Directive (e.g. PVC electric wire/ connectors, paint, ink, stabilizers for plastics and rubber containing lead)	Intentional addition prohibited and to be 1,000ppm or less	2005/4/1	2002/95/EC (RoHS Directive)
		A1	Products (parts or materials) covered by ELV Directive e.g. lead in solder, lead in solder/solder plating of board or electronic part, lead in glass of electric bulbs, and lead in the stabilizers or additives used for electroless nickel plating and electroless gold plating (Note 4)	Intentional addition prohibited and to be 1,000ppm or less	2005/4/1	2002/95/EC (RoHS Directive) (Note 4: According to the opinion of Omron.)
		С	Lead in solder and solder plating for PCB and electronic parts	-	_	
	Lead and its compound	С	Lead contained in steel products and galvanized steel products	0.35wt% or less	_	
	* Listed in Illustrative List	С	Lead contained in copper alloy	4 wt% or less	_	
А		С	Lead/bronze bearing-shells and bearing battery	_	_	2002/525/EC (ELV Directive)
154		С	Electronic parts with glass/ceramic substrates containing lead (e.g. resistive element, piezoelectric element, other than electric lamp)	_	_	
		0	Solder contained in a single material as an impurity, and lead contained in	Lead in solder: 1,000ppm or less		
		U	aluminum	Lead in aluminum: 4,000ppm or less	-	
		С	Lead in the glass used for CRT, electronic parts and fluorescent lamps	_	_	
		A1	Lead contained in steel products	0.35wt% or less	2005/4/1	
		A1	Lead contained in aluminum alloys	0.4wt% or less	2005/4/1	2002/95/EC (RoHS Directive)
		A1	Lead contained in copper alloys	4wt% or less	2005/4/1	
		A1	Lead contained in high-melting point solder	Pb alloys containing above 85% of lead	2005/4/1	*Applicable to A-1 Rank Substances when the lead content in high-melting point solder is below 85wt%.
		С	Lead contained in electronic ceramic parts (e.g. piezoelectric element, dielectric materials and magnetic materials)	_	_	
		С	Lead contained in solder of servers, storage and storage array systems, and equipment for the network infrastructure for the management of transmission and communication	-	_	
		С	Lead contained in bearing shells and bearings made of lead bronze	_	-	
		С	Lead contained in compliant pin (=compliant pinwith the standards) connector systems	_	_	
		С	Lead contained in the coating materials for thermal conduction module C rings	_	_	
		С	Lead contained in optical glass and filter glass	_	-	
		С	Lead contained in solder for ensuring the sustainable electric connection between the semiconductor die and the carrier in the integrated circuit "Flip Chip" package	-	-	
		A1	Lead contained in solder comprising more than 2 elements for the connection between the pin of a microprocessor and the packages	More than 80wt% and less than 85wt%	2006/4/1	*Applicable to A-1 Rank Substances limited to this application when the lead content is not more than 80% or not less than 85% (If high-melting point solder is used, the application for the high-melting point solder applies.)

OC. Sub-st ance No.	Substance Name (Substance Group Name) Illustrative List (listed or not?)	Rank	Applications and Applicable Conditions	Allowable Concentration (Threshold) (ppm or wt%)	Deadline for prohibition of its use in parts or materials (Note2)	Applicable Laws and Regulations
		А	Packing and packaging materials (corrugated cardboard boxes, boxes, bags, cushioning materials, tapes, etc.)	100ppm or less (Note1)	To be prohibited immediately in case of non-compliance with the conditions set forth in (Note 1).	94/62/EEC (Packaging Waste Directive) US Regulations on heavy metal on Packaging materials
	Cadmium and its	А	Batteries, accumulator	250ppm or less/unit cell	Immediately prohibited.	91/157/EEC (Directive on Batteries) Denmark: Regulations on Batteries.
	compound	А	Stabilizers and pigment for plastics and rubber products, ink, paint, pigment, surface treatment (plating, coating)	Intentional addition prohibited and to be 100ppm or less	Immediately prohibited.	76/769/EEC (Marketing Restriction Directive), (Holland)
А	* Listed in Illustrative List	А	Products (parts or materials) covered by ELV Directive (e.g. electrical contacts, fuse, paints, pigments, and stabilizers for plastics)	Intentional addition prohibited and to be 100ppm or less	Immediately prohibited.	2002/525/EC (ELV Directive)
155		A1	Thick film paste, resistive elements, protective glass of electronic parts	Intentional addition prohibited and to be 100ppm or less	2005/4/1	
		A1	Products (parts or materials) covered by RoHS Directive (e.g. glass and paint and pigment for glass, resistive elements, solder, fuse, etc.)	Intentional addition prohibited and to be 100ppm or less	2005/4/1	2002/95/EC (RoHS Directive) (Note) To cadmium contact, RoHS Directive
		С	Electric contact and cadmium surface treatment (plating, coating) except for the applications prohibited by 76/769/EEC (e.g. Electric contacts on which high reliability is required)	_	_	shall apply by the highest priority (C Rank), among which, however, ELV parts and materials shall be applicable to ELV Directive, and indicate
		С	Optical glass and filter glass	_	-	the Rechs Registration Screen that "The cadmium contact is applicable to ELV Directive and judged to be A-Rank Substance."
	Hexavalent	А	Packing and packaging materials (corrugated cardboard boxes, boxes, bags, cushioning materials, tapes, etc.)	100ppm or less (Note1)	To be prohibited immediately in case of non-compliance with the conditions set forth in (Note 1).	94/62/EEC (Packaging Waste Directive) US Regulations on heavy metal on Packaging materials
A	chromium and its cmpounds	А	Products (parts or materials) covered by ELV Directive (e.g. paints, pigments, ink, catalysts, batteries and others, except for rustproof treatment)	Intentional addition prohibited and to be 1,000ppm or less	Immediately prohibited.	2002/525/EC (ELV Directive)
156	* Listed in Illustrative List	A1	Products (or parts and materials) corresponding to ELV Directive Rustproof treatment (Zinc-chromate treatment, etc.)	Intentional addition prohibited and to be 1,000ppm or less	2004/1/1	
		A1	Products (parts or materials) covered by RoHS Directive (e.g. rustproof treatment, paints, pigments, ink, catalysts, batteries and others)	Intentional addition prohibited and to be 1,000ppm or less	2005/4/1	2002/95/EC (RoHS Directive)
		А	Packing and packaging materials (corrugated cardboard boxes, boxes, bags, cushioning materials, tapes, etc.)	100ppm or less (Note1)	To be prohibited immediately in case of non-compliance with the conditions set forth in (Note 1).	94/62/EEC (Packaging Waste Directive) US Regulations on heavy metal on Packaging materials
		А	Batteries and accumulators	5ppm or less/unit cell	Immediately prohibited.	91/157/EEC (Directive on Batteries) Denmark: Regulations on Batteries.
		А	Water treatment for industrial use, business use and household use, and preservatives for wood	Intentional addition prohibited	Immediately prohibited.	76/769/EEC(Marketing Restriction Directive), (Holland), and Germany's Chemical Prohibition Regulations
А	Mercury and its compounds * Listed in Illustrative List	А	Products (parts or materials) covered by ELV Directive (e.g. paints, pigments, ink, and stabilizers, pigment and dyes for plastics, other than electrical discharge tube)	Intentional addition prohibited and to be 1,000ppm or less	Immediately prohibited.	2002/525/EC (ELV Directive)
157		A1	Products (parts or materials) covered by RoHS Directive (e.g. paints, pigments, ink, and stabilizers, pigment and dye for plastics)	Intentional addition prohibited and to be 1,000ppm or less	2005/4/1	2002/95/EC (RoHS Directive)
		С	Electrical discharge tube (Back light for liquid crystal instrument panel display)	-	-	2002/525/EC (ELV Directive)

OC. Sub-stan ce No.	Substance Name (Substance Group Name) Illustrative List (listed or not?)	Rank	Applications and Applicable Conditions	Allowable Concentration (Threshold) (ppm or wt% or mg/tub)	Deadline for prohibition of its use in parts or materials (Note2)	Applicable Laws and Regulations
		A1	Small fluorescent tube	Mercury: 5mg or less/tube	2005/4/1	
	Mercury and its	A1	Straight fluorescent tubes for general use containing halophosphates	Mercury: 10mg or less/tube	2005/4/1	
А	compounds	A1	Straight fluorescent tubes for general use with ordinary life containing triphosphates	Mercury: 5mg or less/tube	2005/4/1	2002/95/EC (RoHS Directive)
157	* Listed in Illustrative List	A1	Straight fluorescent tubes for general use with long life containing triphosphates	Mercury: 8mg or less/tube	2005/4/1	
		С	Straight fluorescent tubes for special use (e.g. High-pressure mercury lamp, etc.) and other lamps (e.g. Round fluorescent lamp, U-shaped fluorescent lamp, High-Intensity Discharge lamp).	-	-	

(Note 1) For packing and packaging materials, the total content of heavy metals (lead, cadmium, hexavalent chromium and mercury) shall be 100ppm or less.

(Note2) The allowable concentration and the deadline for prohibition of its use in parts or materials are as set by Omron voluntarily. After the deadline, the delivery of non-compliant part or material shall be in principle shut off, provided, however, that if a part or material containing Non-use Substance is delivered after the deadline, such deadline shall be set on consultation with the Omron's department in charge.

3. Substitution Accelerating Substances (B rank)

• Substances that are currently used and whose regulations are expected to be tightened further both in Japan and in foreign countries, so that the allowance may be reduced or the use may be prohibited. We have to study or promote the acceleration of substitution.

											Ap	plic	abl	e La	aw	s ai	nd F	Regulations	
OC. Substance No. B rank	Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance)	Safety and Health (Manufacture-prohibited substance)	Poisonous and Deleterious (Specific/Toxic/Deleterious) Dioxins Measure (Dioxins targeted	by the law) Water Pollution Control (Substances targeted by the law)	Global Warming Measure (Substances targeted by the law)	Waste Management Law (Special management substances) Basel Domestic Law (Specified	PRTR Law (Class 1,2 specified	substances) Environmental Hormones (specified	substances) 76/769/EEC (Use-prohibited	substances) Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
005	Polycyclic aromatic hydrocarbons	*	-	PAH	Oils	-													B-005
010	Global warming substances (HFCs)	*	-	Hydro-fluorocarb on	Refrigerant, aerosol, detergent	-						х							Illustrative List
011	Global warming substances (PFCs)	*	-	Perfluorocarbon	Etching, detergent	—						х							Illustrative List
012	Global warming substances (SF6)		2551-62-4	Sulfur hexafluoride	Refrigerant, insulating agent	_						х							C-009
013	Brominated flame retardants (except the specific brominated flame retardants such as PBB and PBDE)	*	_		Flame retardant for plastics, PCB, etc.	_												2002/96/EC WEEE Directive, JGPSSI	New

4. Self Control Substances (C rank)

• The substances whose use has not been prohibited by regulations home and abroad, but on which we are going to grasp the status of application and to reduce the consumption, recycle or treat appropriately.

												App	olica	ble	e La	ws	and	d R	legulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safety and Health	(Manufacture-prohibited substance) Poisonous and Deleterious	Dioxins Measure (Dioxins targeted by the law)	Water Pollution Control (Substances targeted by the law)	(Substances targeted by the law) Waste Management Law (Special	management substances) Basel Domestic Law (Specified	PRTR Law (Class 1,2 specified	substances) Environmental Hormones (specified substances)	76/769/EEC (Use-prohibited substances)	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
010		Beryllium and its compounds	*	_		Alloys, ceramic, optical glass	_							×	k s	;			JGPSSI	C-010
011		Inorganic fluorine compounds (except for CFCs, fluorocarbons, and fluororesins)	*	_		Hydrogen fluoride and its salts (resolvability)	_					х			1					C-011
012		Manganese and its compounds	*	_		Batteries, oxidizing agent, alloys	_								1					C-012
013		Cobalt and its compounds	*	_		Magnet, plating, pigment	_	Ì							1					C-013
014	ds	Nickel		7440-02-0		Alloys, plating, batteries (Note) Such application as it keeps contact with human bodies are prohibited.	_								1		x		76/769/EC and (Holland) prohibited the applications where the substance keeps contact with human bodies.; JGPSSI	C-014
015	oun	Nickel compounds	*	_		Same as Nickel	-								S		Х			C-015
016	npo	Zinc		7440-66-6		Copper rolled products	-													C-016
017	ir cor	Zinc compounds	*	-		Galvanizing, vulcanization accelerator	_			D					1					C-017
018	Metals and the	Arsenic and its compounds	*	_		Semiconductor, photoreceptor, glass (Note) The applications for water treatment and wood preservative are prohibited.	_			Ρ		x	×	<	k s		x	x	76/769/EC, (Holland) and German Chemical Prohibition Regulations prohibited the applications for water treatment and wood preservative.; JGPSSI	C-018
019		Selenium and its compounds	*	_		Semiconductor, pigment, catalyst	_			Р		Х		>	K 1				JGPSSI	C-019
020		Antimony and its compounds	*	_		Flame retardant, pigment, alloy, resistive element	_			D				×	K 1				JGPSSI	C-020
021		Alkyl mercury compounds				Pesticide, organic synthesis	-					х		>	×					C-021
022		Inorganic cyanides except their complex salts	*	-		Plating	-			Ρ		х		X	K 1					C-022
023		Boron and its compounds	*	_		Ceramic, catalyst	-					Х			1					C-023

												Appli	cab	e L	aws	s ar	nd R	Regulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Cremical Examination (Class 1,2 Specified Substance) Safety and Health	(Manufacture-prohibited substance) Poisonous and Deleterious	Dioxins Measure (Dioxins targeted by the law)	(Substances targeted by the law)	Waste Management Law (Special management substances)	PRTR Law (Class 1.2 specified	substances) Environmental Hormones	(specified substances) 76/769/EEC (Use-prohibited	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
024		Molybdenum and its compounds	*	-		Lubricants, alloys, catalysts	_								1				C-024
025		Indium and its compounds	*	_		Solder additives, semiconductors	_							:	2				C-025
130		Silver and its compounds	*	_		Contacts, plating, photosensitive agents	-			D					1				D-040
131	ds	Copper and its compounds	*	-		Copper rolled products, plating	-			D					1				D-134
132	bonud	Chromium and trivalent chromium compounds	*	_		Plating, alloys	-			D			х		1				D-044
133	neir com	Vanadium pentoxide		1314-62-1		Catalysts, feedstock for fluorescent materials	_			D					1				D-063
134	and th	Barium and its compounds	*	_		Pigments, rubber additives	_			D					1				D-159
135	als a	Thallium and its compounds	*	-		Fluorescent additives	_			D	1			X	2				E-043
136	Meta	Tellurium and its compounds (except hydrogen telluride)	*	_		Catalysts, rubber vulcanization accelerator	-							x	2				E-048
137		Bismuth and its compounds	*	-		Solder additives, fuses	_											JGPSSI	F-004
138		Gold and its compounds		-		Plating, contacts	_												New
139		Palladium and its compounds		-		Plating, contacts	_												New
140		Magnesium		7439-95-4		Alloys	_												New
026	S	Toluene		108-88-3		Solvent	_			D	,				1				C-026
027	atic	Xylene		1330-20-7		Solvent	_			D					1				C-027
028	Arom hvdroca	Styrene (monomer, dimmer and trimer)		100-42-5		Feedstock for synthetic resin, paint	_							x	1				C-028

												Α	ppli	cab	le l	Lav	vs a	and	Re	egulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance)	(Manufacture-prohibited substance)	Cosorious and Deleterious (Specific/Toxic/Deleterious) Dioxins Measure (Dioxins targeted	by the law) Water Pollution Control	(Substances targeted by the law) Global Warming Measure	Waste Management Law (Special management substances)	Basel Domestic Law (Specified substances)	PRTR Law (Class 1,2 specified substances)	Environmental Hormones (specified substances)	/6//69/EEC (Use-pronibited substances) Germany Chemical Prohibition	(Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
035		Epichlorohydrin		106-89-8		Raw material for epoxy resins	_				D				х	1					C-035
036		Polychlorophenols (Cl: 1-4)		_		· ·	_								Х						C-036
040		α,α,α-trichlorotoluene		98-07-7	Benzotrichloride	Antioxidant, dyestuff	_								Х	S					C-040
041	suoc	1,3-Dichloro-2-propanol		96-23-1		Solvent, synthesis intermediate	_									1					C-041
042	cart	1,2-Dichloropropane		78-87-5		Solvent, insecticides	_								Х	1					C-042
043	hydro	o-Dichlorobenzene		95-50-1		Insecticides, flame retardant	_								х	1					C-043
044	ated	p-Dichlorobenzene		106-46-7		Insecticides, deodorant	-								х	1					C-044
045	Halogen	Chloroethane		75-00-3	Chloroethyl	Feedstock for synthesis, processing agent	_				D				x	1					C-045
046	_	Methyl chloride		74-87-3	Chloromethane	Feedstock for synthesis, processing agent	-				D					1					C-046
047		Chlorobenzene		108-90-7		Feedstock for synthesis, solvent	-								х	1					C-047
141		Phthalates	*	_		Plasticizer for plastics	-								х	1	х		•	JGPSSI	Illustrative List
142	ganic	Ethylene glycol ethers and its salts	*	_		Feedstock for synthesis, solvent	-								х	1					Illustrative List
063	ng or ds	Vinyl acetates		108-05-4		Feedstock for polymers	-								х	1					C-063
065	ntainii Ipoun	Acetaldehyde		75-07-0		Feedstock for synthesis, preservative	_								х	1					C-065
066	ygen-cor com	Benzaldehyde		100-52-7		Feedstock for synthesis, processing agent	_									1					C-066
067	ố	Glycidylphenylether		122-60-1	2,3-Epoxypropy I-phenylether	Stabilizer, processing agent, diluent for epoxy reaction	_								x	1					C-067

												Ар	olic	able	e La	aws	an	nd F	Regulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safety and Health	(Manufacture-prohibited substance) Poisonous and Deleterious	(Specific/Toxic/Deleterious) Dioxins Measure (Dioxins targeted	Water Pollution Control (Substances targeted by the law)	(Substances targeted by the law)	waste management substances) Basel Domestic Law (Specified	substances) PRTR Law (Class 1,2 specified	Substances) Environmental Hormones (specified	76/769/EEC (Use-prohibited substances)	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
068		Propylene oxide		75-56-9	1,2-Epoxy propane	Feedstock for synthesis, pigment, insecticides	-							>	K 1	I				C-068
069		Ethylene oxide		75-21-8		Feedstock for synthesis, insecticides	-			C	D				5	6				C-069
070		Acrylic acid		79-10-7		Feedstock for synthesis, processing agent	_			۵	þ				1	1				C-070
071		Ethyl acrylilate		140-88-5		Feedstock for synthesis, processing agent	_								1	1				C-071
072	unds	2-(Dimethylamino)ethyl acrylate		2439-35-2		Feedstock for synthesis (adhesives, flocculant)	_								1	1				C-072
073	odmo	Methyl acrylate		96-33-3		Feedstock for synthesis, processing agent	_								1	1				C-073
074	nic co	Metacrylic acid		79-41-4		Feedstock for synthesis, processing agent	-			C)				1	1				C-074
075	ng orgai	2-Ethylhexyl metacylate		688-84-6		Feedstock for synthesis, processing agent, adhesives	_								1	1				C-075
076	ontainir	2,3-Epoxypropyl metacrylate		106-91-2	Gycidyl methacrylate	Feedstock for synthesis, processing agent, adhesives	_								1	1				C-076
077	en -c	2-(Diethylamino)ethyl metacrylate		105-16-8		Feedstock for synthesis, stabilizer (rubber)	_								1	1				C-077
078	Oxyg	2-(Dimethylamino)ethyl metacrylate		2867-47-2		Feedstock for synthesis, stabilizer (rubber)	_								1	1				C-078
079		n-Butyl methacrylate		97-88-1		Feedstock for synthesis, plasticizer	_								1	1				C-079
080		Methyl metacrylate		80-62-6		Feedstock for synthesis, adhesives	_								1	1				C-080
081		Terephthalic acid		100-21-0		Feedstock for synthesis (PBT, etc)	_								1	1				C-081
082		Dimethyl terephthalate		120-61-6		Feedstock for synthesis (PBT, etc.)	_								1	1				C-082

												Ар	olica	able	эL	aw	s a	nd F	Regulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safetv and Health	(Manufacture-prohibited substance) Poisonous and Deleterious	(Specific/Toxic/Deleterious) Dioxins Measure (Dioxins targeted	by the law) Water Pollution Control (Substances targeted by the law)	Clobal warming measure (Substances targeted by the law) Waste Management I aw (Snecial	Basel Domestic Law (Specified	BBTB Law (Class 1.7 specified	Environmental Hormones (specified	substances) 76/769/EEC (Use-prohibited	Substances) Germany Chemical Prohibition	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (iii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
083		Dimethylamine		124-40-3		Rubber vulcanization accelerator	_			I	D									C-083
084		Diethylamine		109-89-7		Rubber vulcanization accelerator	-)	x					C-084
085		N-nitrosodimethylamine		62-75-9			_													C-085
086	-	N-nitrosodiethylamine		55-18-5			_													C-086
087		N-nitrosodiethanolamine		1116-54-7			_													C-087
088	spun	Nitrosamides		_			_													C-088
089	odw	N-methylformamide		123-39-7	NMF		_													C-089
090	ic co	N-methylacetamide		79-16-3	NMA	Pesticides, fungicides	-													C-090
091	organ	N,N-dimethylacetamide		127-19-5	DMA	Solvent, gas absorber	-													C-091
092	ing c	N,N-dimethylformamide		68-12-2	DMF	Solvent, gas absorber	-)	x	1				C-092
093	ntair	Methylisocyanate		624-83-9		Adhesives	_			1	D	х		x	x					C-093
094	su-co	Toluene-2,4-diisocyanate		584-84-9	TDI	Adhesives	_			I	D	х		x	x	1				C-094
095	trog€	Hydrazine		302-01-2		Catalyst, pesticides	_			I	D					1				C-095
096	ÏN	Picric acid		88-89-1		Fireworks, pesticides, dyestuffs	_			I	D)	x	1				C-096
097		Isophoron diisocyanate		4098-71-9		Feedstock for synthesis, adhesives	_					х		x	x	1				C-097
098		Methylene bis(4.1-dichlorohexylene)diisocyanate		5124-30-1		Feedstock for synthesis (polyurethane resins)	_									1				C-098
099		Hexamethylene-diisocyanate		822-06-0		Feedstock for synthesis (paints, adhesives)	_				D	x		x	×	1				C-099
100		Methyl isothiocyanate		556-61-6		Pesticides	-			I	D	Х		X X	x	1				C-100

												Ар	plic	able	e La	aws	s an	ld F	Regulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safetv and Health	(Manufacture-prohibited substance) Poisonous and Deleterious	(Specific/Toxic/Deleterious) Dioxins Measure (Dioxins targeted	by the law) Water Pollution Control (Substances targeted by the law)	Global Warming Measure (Substances targeted by the law)	Waste Management Law (Special management substances) Basel Domestic Law (Specified	substances) PRTR Law (Class 1,2 specified	substances) Environmental Hormones (specified	substances) 76/769/EEC (Use-prohibited substances)	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
101	c rus	EPN		2104-64-5		Pesticides	-			[D	х		X >	K 1					C-101
102	Drgani ospho mpour	Bis(2,3-dibromopropyl)phosphate		5412-25-9		Fireproofing agent, textile	-													C-102
105	о чо С	Hexamethylphosphortriamide		680-31-9			-							x	<					C-105
106		Simazine		122-34-9	CAT	Pesticides (week killer)	_					Х		>	۲ ۱	Х	(C-106
107	s	Thiuram		137-26-8		Rubber vulcanization accelerator, insecticide	-					х			1					C-107
108	side	Benthiocarb		28249-77-6	Thiobencarb	Pesticides (week killer)	—					Х			1					C-108
112	stic	2,4-Dichlorophenoxyacetate		94-75-7	2,4-D, 2,4-PA	Pesticides	_								1	Х	(C-112
114	Pe	Kelthane		115-32-2		Pesticides	—							>	〈 1	Х	(C-114
115		Marathion		121-75-5	Marathon	Pesticides (insecticide)	-							>	〈 1	Х	(C-115
116		Manneb		12427-38-2		Pesticides (fungicide)	_								1	Х	(C-116
117		Bishenol-A		80-05-7		Flame retardant	_								1	Х	(C-117
118	tal	Bisphenol-A type epoxy resin (liquid)		25068-38-6		Feedstock for resin	_)	〈 1	Х	(C-118
119	ner	4-Octyl phenol		1806-26-4		Surfactant	_								1	Х	(C-119
120	ironn ormo	Nonylphenol		25154-52-3		Surfactant, auxiliary agent for rubber	_							>	K 1	Х	C			C-120
121	ч Ш	Alkylbenzene sulfonate and its salts (linear type, C: 10-14)		_		Surfactant	-								1					C-121
122		Bis(2-ethylhexyl) adipate		103-23-1		Plasticizer for plastics	_								1	Х	(C-122

												Appl	icat	ole L	aw	's a	nd R	Regulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safety and Health	(Manufacture-prohibited substance) Poisonous and Deleterious (Snecific/Toxic/Deleterious)	Dioxins Measure (Dioxins targeted by the law)	Water Pollution Control (Substances targeted by the law) Global Warming Measure	(Substances targeted by the taw) Waste Management Law (Special management substances)	Basel Domestic Law (Specified substances)	PKTR Law (Class 1,2 specified substances) Environmental Hormones (specified	76/769/EEC (Use-prohibited	substances) Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
125	Monomers	Acrylonitrile		107-13-1		Feedstock for synthesis (acrylic derivatives, synthetic rubber)	_		D				x	x	1				C-125
126		Metal carbonyl		_		Catalysts	_							Х	2				C-126
143	ers	9-Methoxy-7H-furo[3,2-g][1]benzopyran-7 -one		298-81-7	Methoxsalen	Pharmaceuticals	-								s				D-230
144	Oth	Sodium azide		26628-22-8		Airbags	-			Ρ									New
145	Ŭ	Nitrites		-		Color developer	-			D									New
146		Polycyclic aromatic nitro compounds	*			Unintentional products	-												New
201	(Acrylamide		79-06-1		Feedstock for synthesis, processing agent	_			D					1				D-001
202	I Specified	Acrolein		107-02-8	Acrylaldehyde	Feedstock for synthesis (pharmaceuticals), processing agent (textile)	_			D				x	1				D-002
203	SS ,	2-Imidazolidinethion		96-45-7		Cross-linking agent	-								1				D-018
204	/ (Cla	Ethylbenzene		100-41-4		Synthetic intermediates, solvent	-								1				D-025
205	Law	Ethylene glycol monoethylether		110-80-5	Cellosolve	Solvent, others	-							Х	1				D-027
206	RTR	2,3-Epoxy-1-propanol		556-52-5		Stabilizer, processing agent	_							х	1				D-036
207	Р	ε-Caprolactam		105-60-2		Feedstock for synthesis	-								1				D-038
208		2.6-Xylenol		576-26-1		Feedstock for synthesis	_							Х	1				D-039

												Ap	opli	cabl	e L	aw	s a	nd F	Reç	gulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance)	Manufacture-prohibited substance)	(Specific/Toxic/Deleterious)	by the law) Water Pollution Control (Substances	Global Warming Measure (Substances targeted by the law)	Waste Management Law (Special management substances)	PRTR Law (Class 1.2 specified	substances) Environmental Hormones (specified	substances) 76/769/EEC (Use-prohibited	substances) Germany Chemical Prohibition	(Pronibiled substances)	Other legal regulation examples) i)94/62/EEC (Packaging Waste Directive) ii)2002/525/EC (ELV) iii)2002/525/EC (RoHS) iv)Cermany: Regulations on Articles for Daily Use v)Denmark: Chemical Substance Control Law vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
209		Glyoxal		107-22-2		Processing agent, feedstock for synthesis	_								х	1					D-041
210		Glutaraldehyde		111-30-8		Reagents, cross-linking agent	-									1					D-042
211		Cresol		1319-77-3		Feedstock for synthesis (resin)	-				D					1					D-043
212	(p	o-chloroaniline		95-51-2		Synthesis intermediate, cross-linking agent	-				D				х	1					D-046
213	ecifie	1,4-dioxane		123-91-1		solvent (synthetic leather, paint)	_								х	1					D-070
214	s 1 Sp	Cyclohexylamine		108-91-8		Rustproofing agent, rubber chemicals	_				D				х	1					D-071
215	Class	N-Cyclohexyl-2-benzothiazol-sulfenamid		95-33-0		Cross-linking agent	-									1					D-072
216	aw (C	3-(3,4-dichlorophenyl)-1,1-dimethylurea		330-54-1	Diuron or DCMU	Pesticides	_								х	1					D-079
217	RTR L	1,3,5,7-Tetraazatricyclo(3.3.1.1(3,7))decan e		100-97-0	Hexamethylene-t etramine	Hardeners, cross-linking agents	-									1					D-130
218	ΡF	Tetrahydromethyl phthalic anhydride		11070-44-3		Feedstock for synthesis, hardeners	-									1					D-132
219		Tetrafluoroethylene		116-14-3		Feedstock for synthesis (fluororesin)	-									1					D-133
220		1,3,5-tris(2,3-epoxypropyl)-1,3,5-triazine-2, 4,6(1H,3H,5H)-trione		2451-62-9		Hardeners, processing agents, stabilizers	-									1					D-139
221		Hydroquinone		123-31-9		Photographic supplies, stabilizers	_								x	1					D-167

												Арр	ical	ble	La	ws	an	d R	legulations	
OC. Substance No. C rank		Substance Name (Substance Group Name)	Illustrative List (*=listed)	CAS No.	Another Names	Sample Application	Allowable Concentration (threshold) (ppm)	Ozone Layer Protection (Non-use Substance)	Chemical Examination (Class 1,2 Specified Substance) Safety and Health	(Manufacture-prohibited substance) Poisonous and Deleterious (Specific/Toxic/Deleterious)	Dioxins Measure (Dioxins targeted by the law)	Water Pollution Control (Substances targeted by the law) Global Warming Measure	(Substances targeted by the law) Waste Management Law (Special management substances)		PRTR Law (Class 1,2 specified	Environmental Hormones (specified substances)	76/769/EEC (Use-prohibited substances)	Germany Chemical Prohibition (Prohibited substances)	Other legal regulation (examples) (i)94/62/EEC (Packaging Waste Directive) (ii)2002/525/EC (ELV) (iii)2002/95/EC (RoHS) (iv)Germany: Regulations on Articles for Daily Use (v)Denmark: Chemical Substance Control Law (vi)US: Regulations on Heavy Metals in Packaging Materials	Old OC. Sub-sta nce No.
222	()	m-Phenylenediamine		108-45-2		Feedstock for synthesis and others	-			D					1					D-177
223	scifiec	Phenol		108-95-2	Carbolic acid	Feedstock for synthesis and others	_			D				х	1					D-179
224	1 Spe	1,3-Butadiene		106-99-0		Feedstock for synthesis (synthetic rubber)	_								1					D-181
225	Class	Poly(oxyethylene)-nonylphenylether		9016-45-9		Surfactant	-								1					D-207
226	-aw ((Phthalic anhydride		85-44-9		Feedstock for synthesis, paint	-								1					D-208
227	RTR I	α-Methylstylene		98-83-9		Processing agent (resin modifier)	-								1					D-223
228	₽.	Tri-n-butyl phosphate		126-73-8		Catalysts, stabilizers, plasticizers	-						х	х	1					D-240
229	fied)	Acetamide		60-35-5		Solvent (for organic compounds)	-								2					E-001
230	Speci	m-Dinitrobenzene		99-65-0		Feedstock for synthesis (dyestuff)	-								2					E-034
231	ass 2	p-Bromophenol		106-41-2		Pesticides	_								2					E-064
232	Law (Cla	Methylenebis(4,1-phenylene)-diiscyanat e		101-68-8	4,4'-diphenylm ethanediisocya nate	Feedstock for synthesis (adhesives, paints)	_			D			x	x	2					E-075
233	PRTR	Tris(2-ethylhexyl)phosphate		78-42-2		Plasticizer (brittle resistance at low temperature)	_						x	x	2					E-078

Attachment 3. Illustrative List of Regulated Chemical Substances

1. Prohibited Substances (A rank)

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
A-123	Ozone layer de substances in t Montreal Protoc	pleting he					
	Annex A	01	CFC11	75-69-4	Trichlorofluoromethane		A-001
	Group I, II	02	CFC12	75-71-8	Dichlorodifluoromethane		A-002
	Substances	03	CEC113	76-13-1	Trichlorotrifluoroethane		A-003
		04	CEC114	1320-37-2	Dichlorotetrafluoroethane		A-004
		05	CFC115	76-15-3	Chloropentafluoroethane		A-005
		06	Halon1211	353-59-3	Bromochlorodifluoromethane		A-006
		07	Halon1301	75-63-8	Bromotrifluoromethane		A-007
		08	Halon2402	124-73-2	Dibromotetrafluoroethane		A-008
		09	R502(HCFC22+CFC115)	-			A-009
	Annex B	10	CFC13	75-72-9	Chlorotrifluoromethane		A-010
	Group I	11	CFC111	354-56-3	Pentachlorofluoroethane		A-011
	Substances	12	CFC112	28605-74-5	Tetrachlorodifluoroethane		A-012
		13	CFC211	135401-87-5	Heptachlorofluoropropane		A-013
		14	CFC212	3182-26-1	Hexachlorodifluoropropane		A-014
		15	CFC213	2354-06-5	Pentachlorotrifluoropropane		A-015
		16	CFC214	2268-46-4	Tetrachlorotetrafluoropropane		A-016
		17	CFC215	1652-81-9	Trichloropentafluoropropane		A-017
		18	CFC216	661-97-2	Dichlorohexafluoropropane		A-018
		19	CFC217	422-86-6	Chloroheptafluoropropane		A-019
	Annex B Group II Substances	20	Carbon tetrachloride	56-23-5	Tetrachloromethane		A-020
	Annex B Group III Substances	21	1,1,1-trichloroethethane	71-55-6			A-021
	Annex C	22	HCFC21	75-43-4	Dichlorofluoromethane		A-022
	Group I	23	HCFC22	75-45-6	Chlorodifluoromethane		A-023
	substances	24	HCFC31	593-70-4	Chlorofluoromethane		A-024
		25	HCFC121	134237-32-4	Tetrachlorofluoromethane		A-025
		26	HCFC122	41834-16-6	Trichlorodifluoroethane		A-026
		27	HCFC123	306-83-2	2,2-dichloro-1,1,1-trifluoro ethane		A-027
		28	HCFC124	2837-89-0	2-chloro-1,1,1,2-tetrafluoro ethane		A-028
		29	HCFC131	134237-34-6	Trichlorofluoroethane		A-029
1		30	HCFC132	25915-78-0	Dichlorodifluoroethane		A-030
		31	HCFC133	75-88-7	Chlorotrifluoroethane		A-031
		32	HCFC141	1717-00-6	1,1-dichloro-1-fluoroethane; HCFC-141b		A-032
		33	HCFC142	75-68-3	1-chloro-1,1-difluoroethane; HCFC-142b		A-033
		34	HCFC151	1615-75-4	Chlorofluoroethane		A-034
		35	HCFC221	134237-35-7	Hexachlorofluoropropane		A-035
		36	HCFC222	134237-36-8	Pentachlorodifluoropropane		A-036
		37	HCFC223	134237-37-9			A-037
		38	HCFC224	134237-38-0			A-038
		39			Chloroboxafluoropropane		A-039
		40		134308-72-8	Dentechlorofluoropropane		A-040
		41		124027 20 4	Tetrachlorodifluoropropono		A-041
1		42		134237-39-1	Trichlorotrifluoropropane		A-042
1		43		107561 92 4	Dichlorotetrafluoronronane		A-043
1		44	HCEC235	134227-11 5	Chloropentafluoropropane		Δ_044
		46	HCFC241	134100_40_1	Tetrachlorofluoropropane		Δ_046
		47	HCFC242	134237-42-6	Trichlorodifluoropropane		Δ_040
		48	HCFC243	134237-43-7	Dichlorotrifluoropropane		A-048
		40	HCFC244	134190-50-4	Chlorotetrafluoropropane		A-040
		50	HCFC251	134190-51-5	Trichlorofluoropropane		A-050

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
		51	HCFC252	134190-52-6	Dichlorodifluoropropane		A-051
		52	HCFC253	134237-44-8	Chlorotrifluoropropane		A-052
		53	HCFC261	134237-45-9	Dichlorofluoropropane		A-053
		54	HCFC262	134190-53-7	Chlorodifluoropropane		A-054
		55	HCFC271	134190-54-8	Chlorofluoropropane		A-055
		56	TP5R(HCFC22+HCFC142+PFC218)	-			A-056
		57	TP5R2(HCFC22+PFC218)	_			A-057
	Annex C	58	Bromodifluoromethane	1511-62-2	HBFC-22B1		
	Group II, III	59	Bromofluoromethane	373-52-4			
	substances	60	Dibrmofluoromethane	1868-53-7			
		61	Tetrabromofluoroethane	306-80-9			
		62	Tribromodifluoroethane	-			
		63	Dibromotrifluoroethane	354-04-1			
		64	Bromotetrafluoroethane	124-72-1			
		65	Tribrmofluoroethane	-			
		66	Dibromodifluoroethane	75-82-1			
		67	Bromotrifluoroethane	421-06-7			
		68	Dibromofluoroethane	358-97-4			
		69	Bromodifluoroethane	-			
		70	Bromofluoroethane	762-49-2			
		71	Hexabromofluoropropane	-			
		72	Pentabromodifluoropropane	-			
		73	Tetrabromotrifluoropropane	-			
		74	Tribromotetrafluoropropane	-			
		75	Dibromopentafluoropropane	431-78-7			
		76	Bromohexafluoropropane	2252-79-1			
		77	Pentabromofluoropropane	_			
		78	Tetrabromodifluoropropane	_			
		79	Tribromotrifluoropropane				
		80	Dibromotetrafluoropropane	_			
		81	Bromopentafluoropropane	460-88-8			
		82	Tetrabromofluoropropane	-			
		83	Bromotetrafluoropropane	679-84-5			
		84	Dibromotrifluoropropane	70192-83-5			
		85	Tribromodifluoropropane	70192-80-2			
		86	Triboromofluoropropane	75372-14-4			
		87	Dibromodifluoropropane	460-25-3			
		88	Bromotrifluoropropane	421-46-5			
		89	Dibromofluoropropane	51584-26-0			
		90	Bromodifluoropropane	-			
		91	Bromofluoropropane	352-91-0			
		92	Bromochloromethane	74-97-5			ļ
	Annex E substances	93	Methyl bromide	74-83-9	Bromomethane		

A-125 Dioxins 01 2.3.7.8.4ertachioro.p-disenzolixin 1746-01-6 V 1.2.3.4.7.8.hexachioro.p-disenzolixin 4021 1.2.3.4.7.8.hexachioro.p-disenzolixin 4021-7.6.4 V 1.2.3.4.7.8.hexachioro.p-disenzolixin 30227-28.6	OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver-s ion Factor	Old OC. Sub- stance No.
1 12.3.7.8-pentachioro-p-dibenzodioxin 4021-76-4 1 03 12.3.4.7.8-becachioro-p-dibenzodioxin 35822-46-9 1 04 1.2.3.4.6.7.8-becachioro-p-dibenzodiuxin 35822-46-9 1 05 1.2.3.4.7.8-becachioro-p-dibenzodiuxin 55127-31-9 1 06 2.3.7.8-betachioro-p-dibenzoduran 57117-31-4 1 07 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 08 2.3.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 1 10 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 1 11 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 1 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 1 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 1 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72018-21-9 1 1 1.2.3.4.7.8-becachicoro-p-dibenzoduran 72014-21-21-21 1 1 1.2.3.4.7.8-becachicoro-p-dibenzoduran 1 1.2.3.4.4.5-becachicoro-p-dibenzoduran 1 1 1.2.3.4.4.5-becachicorobphenyi 1	A-125	Dioxins	01	2,3,7,8-tetrachloro-p-dibenzodioxin	1746-01-6			
A-128 Specified organic 12.3.4.7.8-hexachioro-p-diberzodioxin 39227-28-6			02	1,2,3,7,8-pentachloro-p-dibenzodioxin	40321-76-4			
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A-128 Specified 07 12.3.7.8-pentachloro-p-dibenzofuran 57117-41-6 12.3.4.7.8-pentachloro-p-dibenzofuran 77048-26.9 1 10 12.3.4.7.8-pentachloro-p-dibenzofuran 77048-26.9 1 1 11 12.3.6.7.8-hexachloro-p-dibenzofuran 77048-26.9 1 1 12 12.4.6.7.8-heptachloro-p-dibenzofuran 67762.394 1 1 12 12.4.6.7.8-heptachloro-p-dibenzofuran 57017-44.9 1 1 13 12.4.4.7.8-textachlorobphenyl 1			06	2,3,7,8-tetrachloro-p-dibenzofuran	51207-31-9			
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A-128 Specified organic tin compounds 0.1 76.37.4.4.5.pentachicrobiphenyl -			14	1,2,3,4,6,7,8,9-octachloro-p-dibenzofuran	39001-02-0			
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A-128 Specified organic tin compounds, triphenyltin 0.33, 4.4, 5-pentachlorobiphenyl -			16	3,3',4,4'-tetrachlorobiphenyl	_			
A-128 Specified organic tin compounds triphenytin organic tin compounds 18 3.3.4.4'.5.5'-hexachlorobiphenyl - <td></td> <td></td> <td>17</td> <td>3.3',4,4',5-pentachlorobiphenyl</td> <td>-</td> <td></td> <td></td> <td></td>			17	3.3',4,4',5-pentachlorobiphenyl	-			
A-128 Specified organic tin compounds triphenyl tin compounds 19 2:3.4:4:5-pentachlorobiphenyl - <t< td=""><td></td><td></td><td>18</td><td>3,3,4,4',5,5'-hexachlorobiphenyl</td><td>-</td><td></td><td></td><td></td></t<>			18	3,3,4,4',5,5'-hexachlorobiphenyl	-			
A-128 Specified organic tin compounds (tributy tin non-pounds to the normal tributy tin non-pounds to the normal tributy tin non-pounds (tributy tin non-pounds to the normal tributy tin non-pou			19	2',3,4,4',5-pentachlorobiphenyl	-			
A-128 Specified organic tin compounds (riphenyl tin compounds do not include tin m 12, 3, 3, 4, 4; 5, -hexachlorobiphenyl -			20	2,3'4,4',5-pentachlorobiphenyl	-			
A-128 Specified organic tin compounds, tin perspective do not include tin compounds, tin penytin compounds do not include tin compounds tin 22 2,3,4,4',5-hexachlorobiphenyl -			21	2,3,3',4,4'-pentachlorobiphenyl	-			
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A-128 Specified organic tin compounds (ribulyt tin compounds tin her organic tin compounds (ciphenyt tin compo			23	2,3',4,4',5,5'-hexachlorobiphenyl	-			
A-128 Specified organic tin compounds (tibutyl tin compounds triphenyl tin compounds do not include do not include d			24	2,3,3',4,4',5-hexachlorobiphenyl	-			
A-128 Specified organic tin compounds, triphenyl tin compounds 0 1,2,3,7,8-tetrabromodibenzodioxin -			25	2.3.3'.4.4'.5-hexachlorobiphenvl	-			
A-128 Specified organic tin compounds, triphenyl tin compounds, di tinut tin compounds 2 2,3,7,8-tetrabromodibenzofuran -			26	2.3.3'.4.4'.5'-hexachlorobiphenyl	-			
A-128 2.3,7,8-tetrabromodibenzodioxin - - 30 1,2,3,7,8-pentabromodibenzofuran - - 31 2,3,4,7,8-pentabromodibenzofuran - - 32 1,2,3,7,8-pentabromodibenzofuran - - 32 1,2,3,7,8-pentabromodibenzofuran - - 33 1,2,3,7,8-bexabromodibenzodioxin - - 34 1,2,3,6,7,8-bexabromodibenzodioxin - - 34 1,2,3,6,7,8-bexabromodibenzodioxin - - 35 1,2,3,6,7,8-bexabromodibenzodioxin - - 36 1,2,3,6,7,8-bexabromodibenzodioxin - - 37 Triphenytin-NN-dimethyldithicalbamate 1803-12-9 0.252 A-079 03 Triphenytin-Choride 639-58-7 0.308 A-082 0.252 A-085 07 Triphenytin-choricacetate 709-94-2 0.268 A-085 07 Triphenytin-metacrylate 2155-70-6 0.316 A-085 07 Triphenytin-floride 1983-10-4			27	2.3.3'.4.4'.5.5'-heptachlorobiphenvl	-			
A-128 Specified organic tin compounds, triphenyl tin and dibutyl tin and tiphenyl tin and tiphen			28	2.3.7.8-tetrabromodibenzodioxin	-			
A-128 Specified organic tin compounds, triphenyl tin compounds do not include other organic tin 1,2,3,7,8-pentabromodibenzodivan - A-128 Specified organic tin compounds (tributyl tin compounds) 01 Triphenyltin-Rhoride 339-52-2 0.322 A-079 *The specified organic tin compounds (tributyl tin compounds) 01 Triphenyltin-Rhoride 379-52-2 0.322 A-081 *The specified organic tin compounds (tributyl tin compounds) 03 Triphenyltin-Chloride 639-58-7 0.308 A-082 *The specified organic tin compounds (diphenyl tin and dibutyl tin and dibutyl tin compounds (ciphenyl tin and dibutyl tin and tiphenyl tin 13 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.1316 A-082 10 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.1340 A-090 11 Tributyltin-acetate 56-36-0 0.340 A-091 13 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.136 A-082 14 Tributyltin-alurate 6517-25-5 0.307 A-094			29	2.3.7.8-tetrabromodibenzofuran	-			
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32 1,2,3,7,8-pentabromodibenzofuran - - 33 1,2,3,7,8-pentabromodibenzodioxin - - 34 1,2,3,7,8-phexabromodibenzodioxin - - 35 1,2,3,6,7,8-hexabromodibenzodioxin - - 36 1,2,3,6,7,8-hexabromodibenzodioxin - - 37 1,2,3,6,7,8-hexabromodibenzodioxin - - 36 1,2,3,6,7,8-hexabromodibenzodioxin - - 37 52,2 0,322 A-080 03 Triphenyltin-foride 639-58-7 0,308 A-083 04 Triphenyltin-chloride 76-87-9 0,323 A-083 05 Triphenyltin-chloracetate 7094-94-2 0.268 A-085 07 Triphenyltin-metacrylate 2155-70-6 0.316 A-086 *The specified organic tin compounds 09 Tributyltin-foride 1983-10-4 0.384 A-088 10 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-089 11 Tributyltin-acetate </td <td></td> <td></td> <td>31</td> <td>2.3.4.7.8-pentabromodibenzofuran</td> <td>_</td> <td></td> <td></td> <td></td>			31	2.3.4.7.8-pentabromodibenzofuran	_			
A-128 Specified organic tin compounds, (tributyl tin compounds, triphenyl tin compounds, triphenyl tin compounds, triphenyl tin compounds, 1,2,3,4,7,8-hexabromodibenzodioxin - A-128 Specified organic tin compounds, (tributyl tin compounds, triphenyl tin compounds, triphenyl tin compounds, 01 Triphenyltin-N,N-dimethyldithicalbamate 1803-12-9 0.252 A-079 02 Triphenyltin-floride 379-52-2 0.322 A-080 03 Triphenyltin-chloride 639-58-7 0.308 A-082 05 Triphenyltin-chloriace 7094-94-2 0.268 A-085 06 Triphenyltin-metacrylate 2155-70-6 0.316 A-086 *The specified organic tin compounds do not include other organic tin and dibutyl tin compounds, etc.) than tributyltin-aurate 10 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-081 13 Bis(tributyltin)-phthalate 4782-29-0 0.160 A-092 14 Tributyltin-naphthenate 6517-25-5 0.307 A-094 15 Bis(tributyltin)-2,3,4,4,4,b,5,6,10,10a-decah tributyl tin and triphenyl tin compounds 18 Tributyltin-1,2,3,4,4,4,b,5,6,10,10a-decah tributyl tin and tributyl tin			32	1.2.3.7.8-pentabromodibenzofuran	_			
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35 1,2,3,6,7,8-hexabromodibenzodioxin - A-128 Specified organic tin compounds (tributyl tin compounds, triphenyl tin compounds, triphenyl tin compounds, 01 Triphenyltin-N,N-dimethyldithicalbamate 1803-12-9 0.252 A-079 02 Triphenyltin-N,N-dimethyldithicalbamate 900-95-8 0.290 A-081 10 Triphenyltin-chloride 639-58-7 0.308 A-082 04 Triphenyltin-chloride 639-58-7 0.322 A-083 05 Triphenyltin-chloride 76-87-9 0.322 A-083 06 Triphenyltin-chloroacetate 7094-94-2 0.268 A-085 07 Triphenyltin-metacrylate 2155-70-6 0.316 A-086 *The specified organic tin compounds do not include other organic tin compounds, (diphenyl tin and dibutyl tin compounds, etc.) than tributyltin and triphenylt tin and triphenylt tin and dibutyl tin compounds, etc.) than tributyltin and triphenylt tin compounds 13 Bis(tributyltin)-phthalate 6517-25-5 0.307 A-094 18 Bis(tributyltin-larate 6517-25-5 0.307 A-094 16 Tributyltin-naphthenate 85409-17-2			34	1.2.3.7.8.9-hexabromodibenzodioxin	_			
A-128 Specified organic tin compounds (tributyl tin compounds, triphenyl tin compounds) OI Triphenyltin-NN-dimethyldithicalbamate 1803-12-9 0.252 A-079 02 Triphenyltin-NN-dimethyldithicalbamate 379-52-2 0.322 A-080 03 Triphenyltin-chloride 639-58-7 0.308 A-082 05 Triphenyltin-chloride 639-58-7 0.308 A-082 05 Triphenyltin-chloride 76-87-9 0.323 A-083 06 Triphenyltin-netacrylate 2155-70-6 0.316 A-086 07 Triphenyltin-floride 1983-10-4 0.384 A-088 09 Tributyltin-floride 1983-10-4 0.340 A-099 11 Tributyltin-acetate 56-36-0 0.340 A-092 12 Tributyltin-sulfamate 6517-25-5 0.307 A-092 12 Tributyltin-sulfamate 6517-25-5 0.307 A-094 13 Bis(tributyltin)-phthalate 472-2-9 0.365 A-096 12 Tributyltin-sulfamate 65			35	1 2 3 6 7 8-hexabromodibenzodioxin	-			
organic tin compounds (tributyl tin compounds, triphenyl tin compounds) 02 Triphenyltin-floride 379-52-2 0.322 A.080 03 Triphenyltin-floride 379-52-2 0.322 A.080 03 Triphenyltin-acetate 900-95-8 0.308 A-082 04 Triphenyltin-chloride 639-58-7 0.308 A-082 05 Triphenyltin-chloroacetate 7094-94-2 0.268 A-085 06 Triphenyltin-metacrylate 2155-70-6 0.316 A-086 07 Triphenyltin-floride 1983-10-4 0.384 A-088 09 Tributyltin-floride 1983-10-4 0.340 A-089 01 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-089 11 Tributyltin-acetate 56-36-0 0.340 A-090 12 Tributyltin-sulfamate 6517-25-5 0.307 A-094 13 Bis(tributyltin)-phthalate 4782-29-0 0.160 A-092 14 Tributyltin-sulfamate 6517-25-5 0.307 <	A-128	Specified	01	Triphenvltin-N.N-dimethvldithicalbamate	1803-12-9		0.252	A-079
compounds (tributyl tin compounds, triphenyl tin compounds) 03 Triphenyltin-acetate 900-95-8 0.290 A-081 04 Triphenyltin-chloride 639-58-7 0.308 A-082 05 Triphenyltin-chloride 639-58-7 0.308 A-082 05 Triphenyltin-chloroacetate 7094-94-2 0.268 A-083 06 Triphenyltin-chloroacetate 7094-94-2 0.268 A-085 07 Triphenyltin-metacrylate 2155-70-6 0.316 A-086 07 Triphenyltin-foride 1983-10-4 0.384 A-088 09 Tributyltin-foride 1983-10-4 0.384 A-089 01 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-098 01 Bis(tributyltin)-2,3-dibromosuccinate 3090-36-6 0.243 A-091 11 Tributyltin-sufamate 6517-25-5 0.307 A-094 15 Bis(tributyltin)-phthalate 14275-57-1 0.171 A-095 16 Tributyltin-naphthenate 85409-17-2 A-0		organic tin	02	Triphenyltin-floride	379-52-2		0.322	A-080
Image: compounds, triphenyl tin compounds, triphenyl tin compounds) Image: compounds of the compounds		compounds	03	Triphenyltin-acetate	900-95-8		0.290	A-081
compounds, triphenyl tin compounds) int phenyltin-intervence		(tributyl tin	04	Triphenyltin-chloride	639-58-7		0.308	A-082
triphenyl tin compounds) Offention of penyltin-phono cetate 7094-94-2 0.268 A-085 * The specified organic tin compounds 08 Bis(tributyltin-metacrylate 2155-70-6 0.316 A-086 09 Triphenyl tin-metacrylate 6454-35-9 0.171 A-087 09 Tributyltin-floride 1983-10-4 0.384 A-088 10 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-089 11 Tributyltin-acetate 56-36-0 0.340 A-090 12 Tributyltin-laurate 3090-36-6 0.243 A-091 13 Bis(tributyltin)-phthalate 4782-29-0 0.160 A-092 14 Tributyltin-maleate 14275-57-1 0.171 A-095 16 Tributyltin-laride(tributylchlorotin(IV)) 1461-22-9 0.365 A-097 17 Tributyltin-naphthenate 85409-17-2 A-097 A-097 18 ydro-7-isoplopyl-1,4a-dimethyl-1-phenant 26239-64-5 0.201 A-099 99 Others 99		compounds,	05	Triphenyltinhydroxide	76-87-9		0.323	A-083
Compounds) Off Triphenyltin-metacrylate 1100 12 0.100 12 *The specified organic tin compounds do not include other organic tin 08 Bis(tributyltin)fumalate 6454-35-9 0.171 A-087 09 Tributyltin-floride 1983-10-4 0.384 A-088 10 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-089 11 Tributyltin-acetate 56-36-0 0.340 A-090 12 Tributyltin-laurate 3090-36-6 0.243 A-091 13 Bis(tributyltin)-phthalate 4782-29-0 0.160 A-092 13 Bis(tributyltin)-maleate 14 Tributyltin-sulfamate 6517-25-5 0.307 A-094 15 Bis(tributyltin)-maleate 14275-57-1 0.171 A-095 16 Tributyltin-naphthenate 85409-17-2 A-097 17 Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah ydro-7-isoplopyl-1,4a-dimethyl-1-phenant 26239-64-5 0.201 A-099 99 Others 99 Others 0 0		triphenyl tin	06	Triphenyltin-chloroacetate	7094-94-2		0.268	A-085
*The specified organic tin compounds do not include other organic tin compounds do not include other organic tin compounds (diphenyl tin and dibutyl tin and dibutyl tin and triphenyl tin compounds 08 Bis(tributyltin)fumalate 6454-35-9 0.171 A-087 10 Bis(tributyltin)fumalate 1983-10-4 0.384 A-088 10 Bis(tributyltin)-2,3-dibromosuccinate 31732-71-5 0.139 A-089 11 Tributyltin-acetate 56-36-0 0.340 A-090 12 Tributyltin-laurate 3090-36-6 0.243 A-091 13 Bis(tributyltin)-phthalate 4782-29-0 0.160 A-092 14 Tributyltin-sulfamate 6517-25-5 0.307 A-094 15 Bis(tributyltin)-maleate 14275-57-1 0.171 A-095 16 Tributyltin-loride(tributylchlorotin(IV)) 1461-22-9 0.365 A-097 17 Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah tributyltin 26239-64-5 0.201 A-099 99 Others 99 Others 0 0 0 0		compounds)	07	Triphenyltin-metacrylate	2155-70-6		0.316	A-086
The specified organic tin compounds do not include other organic tinOr bit of the specified to the specifiedOr the specified to the specified <td></td> <td>*The energified</td> <td>08</td> <td>Bis(tributyItin)fumalate</td> <td>6454-35-9</td> <td></td> <td>0.010</td> <td>A-087</td>		*The energified	08	Bis(tributyItin)fumalate	6454-35-9		0.010	A-087
Organic till compounds do not include other organic tin tin compounds (diphenyl tin and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds10Bis(tributyltin)-2,3-dibromosuccinate31732-71-50.139A-08910Bis(tributyltin)-2,3-dibromosuccinate31732-71-50.139A-08911Tributyltin-acetate56-36-00.340A-09012Tributyltin-laurate3090-36-60.243A-09113Bis(tributyltin)-phthalate4782-29-00.160A-09214Tributyltin-sulfamate6517-25-50.307A-09415Bis(tributyltin)-maleate14275-57-10.171A-09516Tributyltin-naphthenate85409-17-2A-09717Tributyltin-naphthenate85409-17-2A-09718ydro-7-isoplopyl-1,4a-dimethyl-1-phenant hrencarboxylate26239-64-50.20199Others99Others0		organic tin	09		1983-10-4		0.384	A-088
do not include other organic tin compounds (diphenyl tin and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds11Tributyltin-acetate0.1100A-09011Tributyltin-acetate3090-36-60.243A-09112Tributyltin-laurate3090-36-60.243A-09113Bis(tributyltin)-phthalate4782-29-00.160A-09214Tributyltin-sulfamate6517-25-50.307A-09415Bis(tributyltin)-maleate14275-57-10.171A-09516Tributyltinchloride(tributylchlorotin(IV))1461-22-90.365A-09617Tributyltin-naphthenate85409-17-2A-09718Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah hrencarboxylate26239-64-50.201A-099		compounds	10	Bis(tributyltin)-2.3-dibromosuccinate	31732-71-5		0 139	A-089
other organic tin compounds (diphenyl tin and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds11Inbutyltin dotate totate000000 0000000000000 000000012Tributyltin-laurate3090-36-60.243A-09113Bis(tributyltin)-phthalate4782-29-00.160A-09214Tributyltin-sulfamate6517-25-50.307A-09415Bis(tributyltin)-maleate14275-57-10.171A-09516Tributyltinchloride(tributylchlorotin(IV))1461-22-90.365A-09617Tributyltin-naphthenate85409-17-2A-09718Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah hrencarboxylate26239-64-50.201A-099		do not include	11	Tributy/tin-acetate	56-36-0		0.340	A-090
tin compounds (diphenyl tin and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds13Bis(tributyltin)-phthalate4782-29-00.160A-09214Tributyltin-sulfamate6517-25-50.307A-09415Bis(tributyltin)-maleate14275-57-10.171A-09516Tributyltinchloride(tributylchlorotin(IV))1461-22-90.365A-09617Tributyltin-naphthenate85409-17-2A-09718Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah hrencarboxylate26239-64-50.201A-099		other organic	12	Tributyltin-laurate	3090-36-6		0.243	A-091
compounds (diphenyl tin and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds10Distributyl fin and printicate0.100Reosz14Tributyltin-sulfamate6517-25-50.307A-09415Bis(tributyltin)-maleate14275-57-10.171A-09516Tributyltinchloride(tributylchlorotin(IV))1461-22-90.365A-09617Tributyltin-naphthenate85409-17-2A-09718Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah hrencarboxylate0.201A-09999Others000		tin	13	Bis(tributy)tin)-phthalate	4782-29-0		0 160	A-092
(diphenyl tin and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds141110.007A-09415Bis(tributyltin)-maleate14275-57-10.171A-09516Tributyltinchloride(tributylchlorotin(IV))1461-22-90.365A-09617Tributyltin-naphthenate85409-17-2A-09718ydro-7-isoplopyl-1,4a-dimethyl-1-phenant hrencarboxylate26239-64-50.201A-099		compounds	14	Tributyltin-sulfamate	6517-25-5		0.307	A-094
and dibutyl tin compounds, etc.) than tributyl tin and triphenyl tin compounds10Distributyl finaleate14273-07-10.171A-09316Tributyltinchloride(tributylchlorotin(IV))1461-22-90.365A-09617Tributyltin-naphthenate85409-17-2A-09718Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah hrencarboxylate0.201A-09999Others000		(diphenyl tin	15	Ris(tributyltin)-maleate	14275-57-1		0.171	A_005
compounds, etc.) than tributyl tin and triphenyl tin compounds10Industributyl tin distributyl tin conductive in brite (in butyl tin conductive in brite (in butyl tin conductive in brite i		and dibutyl tin	16		1461_22_0		0.365	Δ_006
etc.) trian 17 Inscription dependence 00405-17-2 14-057 tributyl tin and triphenyl tin compounds 18 Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah ydro-7-isoplopyl-1,4a-dimethyl-1-phenant hrencarboxylate 26239-64-5 0.201 A-099 99 Others 0 0 0 0 0 0		compounds,	17	Tributyltin-nanhthenate	85400-17-2		0.000	A_097
compounds Inclusion polynate 99 Others		etc.) than tributyl tin and triphenyl tin	18	Tributyltin-1,2,3,4,4a,4b,5,6,10,10a-decah ydro-7-isoplopyl-1,4a-dimethyl-1-phenant brencerboxydae	26239-64-5		0.201	A-099
		compounds	99	Others				

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
A-105	Asbestos	01	Actinolite	77536-66-4			
		02	Amosite	12172-73-5			
		03	Anthophyllite	77536-67-5			
		04	Chrysotile	12001-29-5			
		05	Crocidolite	12001-28-4			
		06	Tremolite	77536-68-6			
		99	Others				
A-143	Azo dyes &	01	4-aminoazobenzene	60-09-3			
	pigments	02	Ortho-anisidine	90-04-0			D-006
		03	2-Naphthylamine (duplicate)	91-59-8	β-naphthylamine		A-108
		04	3,3'-dichlorobenzidine	91-94-1			
		05	Benzidine (duplicate)	92-87-5			A-103
		06	4-Aminobiphenyl (duplicate)	92-67-1			A-104
		07	Orth-toluidine	95-53-4			D-146
		08	4-Chloro-2-methylaniline	95-69-2			
		09	2,4-Toluenediamine	95-80-7			D-148
		10	Orth-aminoazotoluene	97-56-3			
		11	5-Nitro-o-toluidine	99-55-8			
		12	3-3'-Dichloro-4,4'-diaminodiphenylmethan e	101-14-4			D-073
		13	4,4'-Methylenedianiline	101-77-9			
		14	4,4'-Diaminodiphenyl ether	101-80-4			
		15	p-chloroaniline	106-47-8			D-047
		16	3,3'-Dimethoxybenzidine	119-90-4	Dianisidine		
		17	3,3'-Dimethylbenzidine	119-93-7	Ortho-tolidine		
		18	2-Methoxy-5-methylanimine	120-71-8			
		19	2,4,5-Trimethylaniline	137-17-7			
		20	4,4'-Diaminodiphenylsulfide	139-65-1			
		21	2,4-Diaminoanisol	615-05-4			
		22	4,4'-Diamino-3,3'-dimethyldiphenylmethan e	838-88-0			
A-151	Radioactive	01	Uranium	7440-61-1	U		
	substances	02	Plutonium	-	Pu		
		03	Radon	-	Rn		
		04	Americium	-	Am		
		05	Thorium	7440-29-1	Th		
		06	Cesium	7440-46-2	Cs		
		07	Strontium	7440-24-6	Sr		
		99	Others				

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
A-154	Lead and its	01	Lead (II) chromate	7758-97-6		0.641	
	compounds	02	Lead (II) acetate	301-04-2		0.637	
		03	Lead (II) oxide	1317-36-8	Lead monoxide (II)	0.928	
		04	Lead (IV) oxide	1309-60-0	Lead dioxide (VI)	0.866	
		05	Trilead tetraoxide	1314-41-6		0.907	
		06	Lead hydroxide	1311-11-1		0.836	
		07	Lead (II) carbonate	598-63-0		0.775	
		08	Lead	7439-92-1		1.000	
		09	Lead (II) carbonate basic	1319-46-6		0.801	
		10	Lead stearate	1072-35-1		0.268	
		11	Lead titanate	12060-00-3		0.686	
		12	Dibasic lead stearate	56189-09-4		0.410	
		13	Lead sulfate	15739-80-7		1.000	
		14	Lead (II) zirconate	12060-01-4		0.600	
		15	Tribasic lead sulfate	12202-17-4		0.850	
		16	Lead (II) sulfide	1314-87-0		0.866	
		17	Lead (II) sulfate	7446-14-2		0.683	
		18	Lead (II) phosphate	7446-27-7		0.766	
		19	Lead hydroxicarbonate	1344-36-1		0.825	
		99	Others				
A-155	Cadmium	01	Cadmium chloride (anhydride)	10108-64-2		0.613	
	and its	02	Cadmium	7440-43-9		1.000	
	compounds	03	Cadmium oxide	1306-19-0		0.875	
		04	Cadmium nitrate (anhydride)	10325-94-7		0.475	
		05	Cadmium hydroxide	21041-95-2		0.768	
		06	Cadmium selenide	1306-24-7		0.587	
		07	Cadmium carbonate	513-78-0		0.652	
		08	Cadmium telluride	1306-25-8		0.468	
		09	Cadmium fluoride	7790-79-6		0.747	
		10	Cadmium sulfide	1306-23-6		0.778	
		11	Cadmium (II) sulfate (anhydride)	10124-36-4		0.539	
		12	Cadmium selenide sulfide	12214-12-9		0.670	
	ļ	99	Others				
A-156	Hexavalent	01	Potassium chromate	7789-00-6	Potassium chromate	0.268	
	chromium	02	Calcium chromate	13765 10.0	(VI) Calcium chromate (VI)	0 333	
	and its	02	Strontium chromate	7789-06-2		0.335	
	compounds	04	Lead (II) chromate	7758-97-6		0.200	
		05	Barium chromate	10294-40-3		0.101	
		06	Chromic anhydride (V1)	1333-82-0	Chrome oxide	0.520	
		07	Potassium bichromate	7778-50-9	Potassium dichromate	0.354	
		08	Sodium bichromate	10588-01-9		0.397	
		09	Bichromic acid	13530-68-2		0.480	
		10	Copper chromate	12053-18-8		0.330	
		99	Others				
A-157	Mercurv and	01	Mercury (II) chloride	7487-94-7		0.739	
	its	02	Mercury (II) oxide	21908-53-2		0.926	
	compounds	03	Mercury (I) oxide	15829-53-5		0.960	
	-	04	Dimethyl Mercury (II)	593-74-8		0.870	
		05	Mercury	7439-97-6		1.000	
		06	Mercury (I) chloride	10112-91-1		0.850	
	1	99	Others				

2. Non-use Substances (A1 rank, but A rank by application included)

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
B-005	Polycyclic	01	Benz(a)anthracene	56-55-3			
	aromatic	02	Benz(a)pyrene	50-32-8			
	hydro-carbo	03	Dibenz(a)anthracene	53-70-3			
	ns	04	Benzo(b)fluoranthene	205-99-2			
		05	Benzo(k)fluoranthene	207-08-9			
		06	Indino-[1,2,3-cd]pyrene	193-39-5			
		07	5-methyl chrysene	3697-24-3			
		08	Benzo(j)fluoranthene	205-82-3			
		09	Dibenzo(aj)acridine	224-42-0		-	
		10	7H-dibenzo(c,g)carbazol	194-59-2		-	
		11	Dibenzo(a,h)acrydine	224-36-8		-	~
		12	Dibenzo(a,j)pyrene	189-55-9		-	
		13	Dibenzo(a,h)pyrene	189-55-9		-	
		14	Dibenzo(a.l)pyrene	191-30-0		_	
		15	Dibenzo(a.e)pyrene	192-65-4			
		16	Chrysene	218-01-9			
		99	Others				
B-010	Global	01	HFC-23	75-46-7		-	C-001
	warming	02	HFC-32	75-10-5		_	
	substances	03	HFC-41	-		-	~
	(HFCs)	04	HFC-123	-		_	C-002
		05	HFC-125	354-33-6		-	
		06	HFC-134	-			
		07	HFC-134a	811-97-2		_	
		08	HFC-143	430-66-0		_	
		09	HFC-143a	420-46-2		_	
		10	HFC-152a	75-37-6			
		11	HFC-227ea	431-89-0		-	
		12	HFC-236fa	690-39-1		-	
		13	HEC = 245cc	679.86.7		_	
		00	Othoro	079-00-7		_	
P 011	Global	99	Derflueromethane	75 73 0		-	
D-011	warming	07	Perfluereethane	76 14 0	DEC 116	_	C 003
	substances	02	Perflueropropago	76 10 7	DEC 218	-	C-003
	(PFCs)	03	Periluoropiopane	255 25 0	DEC 21 10	_	0-004
	(04	Periluorocyclobutane	115_25_3	PFC-0318	-	
		06	Perfluoronentane	678-26-2	PFC-41-12	_	
		07	Perfluorobevane	355-12-0	DEC-51-14	-	
		07	Hydrofluoroethers	555-42-0	HEE_7100	_	C 005
		00	Fluorinert		FC-3283	_	C-006
		10	Galden		SV-135	_	C-007
		11	PRT3=HFC23+PFC116	_	01100	_	C-008
		99	Others			-	0 000
B-013	Brominated	01	Poly(2 6-dibromophenyleneoxide)	69882-11-7			
5 010	flame	02	Tetra-decabromo-diphenoxy-benzene	58965-66-5		_	
	retardants	03	1.2bis(2.4.6-tribromophenoxy)benzene	37853-59-1		-	
		04	3.5.3'.5'-tetrabromobisphenolA	79-94-7	TBBP-A		
		05	Tetrabromobisphenol-A (structure not specified)	30496-13-0			
		06	Tetrabromobisphenol-A (epichlorohydrin oligomer)	40039-93-8		-	
		07	Tetrabromobisphenol-A (TBBA-diglycidylether oligomer)	70682-74-5			
		08	Tetrabromobisphenol-A (carbonate oligomer)	28906-13-0			
		09	BC-52 tetrabromobisphenol-A	94334-64-2			
		10	BC-58 tetrabromobisphenol-A	71342-77-3		1	

3. Substitution Accelerating Substance (B rank)

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
B-013	Brominated	11	TBBA-bisphenol-a-phosgene polymer	32844-27-2			
	flame retardants	12	Brominated epoxy resin end-capped with tribromophenol	139638-58-7			
		13	Brominated epoxy resin end-capped with tribromophenol	135229-48-0			
		14	Tetrabromobisphenol-A-bis(2-hydroxyethy lether)	4162-45-2			
		15	Tetrabromobisphenol-A-bis(allylether)	25327-89-3			
		16	Tetrabromobispheno-A-dimethylether	37853-61-5			
		17	Bis(4-hydroxy,3,5-dibromophenyl)sulfone	39635-79-5			
		18	Bis(3,5-dibromo-4-dibromopropyloxyphen yl)sulfone	42757-55-1			
		19	2,4-Dibromophenol	615-58-7			
		20	2,4,6-Tribromophenol	118-79-6			
		21	Pentabromophenol	608-71-9			
		22	2,4,6-Tribromophenylallylether	3278-89-5			
		23	Mono(-Tetra)bromo(or chloro) phenylalkyl(C=2-8)(or allylglycidyl)ether	26762-91-4			
		24	1,2,5,6,9,10-hexabromocyclododecane	3194-55-6			
		25	Brominated or chlorinated cyclo(7-12-membered ring) hydrocarbons (Cl or Br: 4-12)	31454-48-5			
		26	1,2-dibromo-4-(1,2-dibromoehtyl)cyclohex an	3322-93-8			
		27	TBPA Na salt	25357-79-3			
		28	Tetrabromophthalic anhydride	632-79-1			
		29	Dimethyl tetrabromophthalate	55481-60-2			
		30	Dialkyl (C=6-23) tetrabromophthalate	26040-51-7			
		31	2-(2-hydroxyethoxy)ethyl-2-hydroxypropylt etrabromophthalate	20566-35-2			
		32	TBPA glycol-and propylene-oxide esters	75790-69-1			
		33	N,N'-ethylene bis-(tetrabromophthalimide)	32588-76-4			
		34	Ethylene-bis85,6-dibormo-norbornane-2,3 -dicarboximide	52907-07-0			
		35	2,3-dibromo-2-butene-1,4-diol	3234-02-4			
		36	Dibromoneopentyl glycol	3296-90-0			
		37	2,3-dibromo propanol	96-13-9			
		38	Tribromo-neopentyl alcohol	36483-57-5			
		39	Polytribromostyrene	57137-10-7			
		40	Tribromostyrene	61368-34-1			
		41	Dibromostyrene grafted PP	171091-06-8			
		42	Polydibromostyrene	31/80-26-4			
		43	Bromo/chlorostyrene	68955-41-9			
		44	Bromo/cnioro-α-oletin	82600-56-4			
		45		593-60-2			
		40	Tris(2,4, dibromophony())socyanulate	32434-90-9			
		4/	Tris(z,4-ubromophenyl)phosphate	49090-03-3			
		40	Chloringted and bromingted phosphate	125007 20 9			
		50	Pentabromoalkyl (C=1-2)benzene	87-83-2			

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
B-013	Brominated	51	Pentabromobenzylbromide	38521-51-6			
	flame	52	1,3-Butadiene homopolymer brominated	68441-46-3			
	retardants	53	Perbromo(phenyl)methyl-acrylate	59447-55-1			
		54	Pentabromobenzylacrylate polymer	59447-57-3			
		55	Decabromodiphenylethane	61262-53-1			
		56	Tribromo-bisphenyl-maleinimide)	59789-51-4			
		57	Brominated trimethylphenyl-lindane)	59789-51-4			
		58	1,1,2,2-tetrabromoethane	79-27-6	Tetrabromoethane		
		59	Tris (2-Chloroehtyl) phosphate	115-96-8	Bromo (Chloro) alkylphosphate		
		60	Hexabromobenzene	87-82-1	HBB		
		61	3-chloro-1,2-dibromopropan	96-12-8	DBCP		
		99	Other brominated flame retardants				

OC. Metal Old OC llustrative Substance Sub-Substance Conver-Subå CAS No. Illustrative Substance Name Another Name stance stance Group Name sion Factor No. No. C-010 Beryllium Beryllium 7440-41-7 1.000 01 and its Beryllium oxide 1304-56-9 02 0.360 compounds 99 Others C-011 Inorganic 01 Hydrogen fluoride (fluoric acid) 7664-39-8 0.383 fluorine 02 Sodium fluoride 7681-49-4 0.452 compounds 03 Fluosilicic acid 16961-83-4 0.791 04 Sodium fluosilicate 16893-85-9 0.606 05 Bromine pentafluoride 7789-30-2 0.543 06 7647-19-0 0.754 Phosphorous pentafluoride 07 7790-91-2 Chlorine trifluoride 0.617 08 Phosphorous trifluoride 7783-55-3 0.648 09 Sulfur tetrafluoride 7783-60-0 0.703 10 Silicon tetrafluoride 7783-61-1 0.730 11 Boron trifluoride 7637-07-2 0.841 12 Fluoroboric acid 16872-11-0 0.866 13 Tin fluoroborate 3814-97-6 0.520 14 Sodium fluoroborate 13755-29-8 0.692 99 Others C-012 Manganese 01 Manganese 7439-96-5 1.000 Potassium permanganate and its 02 7722-64-7 0.347 compounds Manganese (II) acetate 638-38-0 0.318 03 04 Manganese (IV) oxide 1313-13-9 Manganese dioxide (VI) 0.632 05 Manganese (II) carbonate 598-62-9 0.478 99 Others C-013 Cobalt and 01 7440-48-4 1.000 Cobalt its 02 Cobalt hydrocarbonyl 16842-03-8 0.343 compounds Cobalt (II) carbonate 03 513-79-1 Basic cobalt carbonate 0.495 Cobalt (II) oxide 1307-96-6 0.786 04 05 Tricobalt tetraoxide 1308-06-1 0.734 06 Cobalt (II) acetate tetrahydrate 6147-53-1 0.236 Cobalt (II) nitrate hexahydrate 10026-22-9 0.202 07 Others 99 C-015 Nickel 01 Nickel (II) chloride 7718-54-9 Nickel dichloride 0.453 compounds 02 Nickel (II) oxide 1313-99-1 0.786 03 Anhydrous Nickel (II) carbonate 3333-67-3 0.495 04 Nickel (II) sulfate 7786-81-4 0.379 99 Others C-017 Zinc 7646-85-7 0.480 01 Zinc chloride compounds 16871-71-9 Zinc hexafluorosilicate 02 Zinc fluorosilicate 0.315 03 5970-45-6 0.298 Zinc acetate dihydrate 04 Zinc oxide 1314-13-2 0.803 557-20-0 05 Diethyl zinc 0.530 06 Dimethyl zinc 544-97-8 0.686 07 Zinc nitrate 7779-88-6 0.345 08 Zinc fluoride 7783-49-5 0.632 Zinc sulfide 09 1314-98-3 0.671 Zinc sulfate 10 7733-02-0 0.405 99 Others C-018 Arsenic and 7440-38-2 01 Arsenic 1.000 Gallium monoarsenide its 02 1303-00-0 Garium arsenide 0.518 compounds 03 Diarsenic pentaoxide 1303-28-2 Pyroarsenic acid 0.652 04 Diarsenic trioxide 1327-53-3 Arsenous acid 0.757 99 Others

4. Self Control Substance (C rank)

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
C-019	Selenium and	01	Selenium	7782-49-2		1.000	
	Its	02	Selenium dioxide	7446-08-4		0.712	
	compounds	03	Selenous acid	7783-00-8		0.612	
0.000	A	99	Others	7440.00.0		4 000	
C-020	Antimony	01	Antimony	7440-36-0	Antina any strict lanida	1.000	
	and its	02	Antimony (III) chloride	10025-91-9	Antimony trichloride	0.534	
	compounds	03	Antimony (V) chionae	/04/-18-9	Antimony pentachionue	0.407	
		04	Antimony (III) Oxide	1309-64-4	Diantimony pontaoxido	0.830	
		05	Anumony (v) oixue	1514-00-9		0.755	
		00	Others	10432-00-0		0.032	
C-022	Inorganic	01	Potassium ovanide	151-50-8		0 300	
0-022	svanides	07	Hydrogen cyanide	74-90-8		0.399	
	excluding	02	Copper (I) cyanide	544-92-3		0.000	
	metal	04	Sodium cvanide	143-33-9		0.531	
	complex	99	Others	110 00 0		0.001	
C-023	Boron and its	01	Boron	7440-42-8		1.000	
	compounds	02	Sodium peroxometaboronate	7632-04-4	Sodium perborate	0.132	
	-	03	Sodium peroxometaboronate	10486-00-7	Sodium perborate	0.070	
			tetrahydrate		tetrahydrate		
		04	Diboron trioxide	1303-86-2	Boron oxide	0.310	
		05	Boron tribromide	10294-33-4		0.043	
		06	Diborane	19287-45-7	-	0.780	
		07	Sodium borate decahydrate	1303-96-4	Borax	0.113	
		08	Sodium borate	1330-43-4		0.215	
		09	Boric acid	10043-35-3		0.175	
		10	Boric ammonium	12007-89-5		0.270	
C 024	Molyhdonum	99	Molybdonum	7420 09 7		1 000	
0-024	and ite	01	Molybdenum (III) chloride	12/79 19 7		0.474	
	compounds	02	Molybdenum (IV) chloride	13320-71-3	Molydbenum	0.474	
	oompoundo	05	Nolybuenum (IV) chlonde	15520-71-5	tetrachloride	0.403	
		04	Molybdenum (VI) oxide	1313-27-5	Molybdenum trioxide	0.666	
		05	Molybdenum disilicate	12136-78-6		0.631	
		06	Molybdenum (VI) fluoride	7783-77-9	Molybdenum hexafluoride	0.457	
		07	Zinc molybdate	61583-60-6		0.426	
		99	Others				
C-025	Indium and	01	Indium	7440-74-6		1.000	
	Its	02	Ttriethyl indium	923-34-2		0.568	
	compounds	03	I rimethyl indium	3385-78-2		0.718	
0 100		99	Others	7440 00 4		1 000	
C-130	Silver and its	01	Silver chloride	7440-22-4		1.000	
	compounde	02	Silver (I) chlorate	7783-02-0		0.753	
	compounds	03	Silver (I) oxide	20667-12-3		0.004	
		05	Silver bromide	7785-23-1		0.574	
		06	Silver (I) nitrite	7761-88-8		0.635	
		07	Silver iodide	7783-96-2		0.459	
		08	Silver iodate	7783-97-3		0.381	
		09	Silver sulfate	10294-26-5		0.692	
		99	Others				

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
C-131	Copper and	01	Copper (I) chloride	7758-89-6		0.642	
	its	02	Copper chlorate	14721-21-2		0.276	
	compounds	03	Oxin copper	10380-28-6		0.181	
		04	Copper (I) oxide	1317-39-1		0.888	
		05	Copper (II) oxide	1317-38-0		0.799	
		06	Copper (II) chloride anhydrous	7447-39-4	Cupric chloride anhydrous	0.473	
		07	Copper (II) sulfate anhydrous	7758-98-7	Cupric sulfate anhydrous	0.398	
		99	Others				
C-132	Chromium	01	Chromium	7440-47-3		1.000	
	and trivalent	02	Cromium (III) acetate	1066-30-4		0.227	
	chromium	03	Cromium (III) oxide	1308-38-9		0.684	
	compounds	04	Basic chromium (III) sulfate	64093-79-4	Chromium (III) hydroxysulfate	0.315	
		99	Others				
C-134	Barium and	01	Barium	7440-39-3		1.000	
	Its	02	Barium sulfite	//8/-39-5		0.632	
	compounds	03	Barium chloride anhydride	10361-37-2		0.659	
		04	Barium chloride dinydrate	10326-27-9		0.562	
		05	Barium acetate	543-80-0		0.538	
		00	Banum Oxide	10022 21 9		0.690	
		07	Barium hydroxido octohydrato	10022-31-0		0.525	
		00	Barium carbonate	513 77 0		0.435	
		10	Barium azida	18810-58-7		0.090	
		11	Barium fluoride	7787-32-8		0.020	
		12	Barium sulfide	21109-95-5		0.811	
		13	Barium sulfate	7727-43-7		0.588	
		99	Others				
C-135	Thallium	01	Thallium	2440-28-0		1.000	
	and its	02	Thallium nitrate	10102-45-1		0.767	
	compounds	03	Thallium acetate	563-68-8		0.775	
		04	Thallium sulfate	7446-18-6		0.810	
		99	Others				
C-136	Tellurium	01	Tellurium	139494-80-9		1.000	
	and its	02	Dimethyl tellurium	593-80-6		0.809	
	compounds	03		7700.00.4		0.500	
	(except	04	Iellurium hexafluoride	7783-80-4		0.528	
	telluride)	99	Others				
C-137	Bismuth and	01	Bismuth	7440-69-9		1.000	
	its	02	Bismuth trioxide	1304-76-3		0.897	-
	compounds	03	Bismuth nitrate	10361-44-1		0.431	
		99	Others				
C-146	Polycyclic	01	5-nitroacenaphthene	602-87-9			
	aromatic	02	2-nitrofuluorene	607-57-8			
	nitro	03	1-nitropyrene	5522-43-0			
	compounds	04	6-nitrochrysene	7496-02-8			
		05	1,6-dinitropyrene	42397-64-8			
		06	1,8-dinitropyrene	42397-65-9			
		99	Others				

OC. Sub- stance No.	Substance Group Name	Illustrative Substance No	Illustrative Substance Name	CAS No.	Another Name	Metal Conver- sion Factor	Old OC. Sub- stance No.
C-141	Phthalates	01	Dibutyl phthalate	84-74-2	DBP		C-049
		02	Diisobutyl phthalate	84-69-5	DIBP		C-050
		03	Diheptyl phthalate	3648-21-3	DHP		C-051
		04	Dioctyl phthalate	117-84-0	DOP		C-052
		05	Bis(2-ethylhexyl) phthalate	117-81-7	Di-2-ethylhexyl phthalate, DEHP		C-053
		06	Butylbenzyl phthalate	85-68-7	BBP		C-054
		07	Diethyl phthalate	84-66-2	DEP		C-055
		08	Dipropyl phthalate	131-16-8	DprP		C-056
		09	Dicyclohexyl phthalate	84-61-7	DCHP		C-057
		10	Dipentyl phthalate	131-18-0	DPP		C-058
		11	Dihexyl phthalate	84-75-3			C-059
		99	Others				
C-142	Ethylene	01	Ethyleneglycol-ethyl	107-21-1			C-060
	glycol	02	2-methoxyethyl acetate	110-49-6			C-061
	ethers and	03	2-ethoxyethyl acetate	111-15-9			C-062
	their acetic acid salts	99	Others				

Attachment 4. Supplementary Material 1 (Statutory and Regulatory Reference Relating to Prohibited Substances)

1. Prohibited Substances

1.1 Ozone layer depleting substances

- 1) Japan: "The Law Concerning The Protection of The Ozone Layer Through The Control of Specified Substances and Other Measures" (Ozone Layer Protection Law)
 - Montreal Protocol, Annex A-I, II: CFC11, CFC113, Halon 1211, Halon 130I, etc.
 - Montreal Protocol, Annex B-I: CFC13, CFC111, CFC112, CEC212, etc.
 - Montreal Protocol, Annex B-II&III: Carbon tetrachloride, 1,1,1-trichloroethane
 - Montreal Protocol, Annex C-I: HCFC21, HCFC22, HCFC141, HCFC225, etc.
 - Montreal Protocol, Annex C-II&III: Bromodifluoromethane, bromofluoromethane, etc.
 - Montreal Protocol, Annex E: Methyl bromide
 - * Legal regulations: Prohibition of use: Montreal Protocol, Annex A-I, B-I&II, C-II&III Prohibition of consumption: Montreal Protocol, Annex C-I, E
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - Carbon tetrachloride, 1.1.1-trichloroethane
 - * Legal regulations: Prohibited the use at the concentration exceeding 0.1wt%.
- 3) United States: Clean Air Act
 - Class I: All the CFCs (CFCXXX), halon, carbon tetrachloride, 1,1,1-trichloroethane
 - Class II: All the HCFCs (HCFCXXX)
 - * Legal regulations:

Labeling is mandate. Class I are in operation (Washing of manufacturing processes when any substances is contained in the products)

Class II is scheduled to come into operation on January 1, 2015.

- \Rightarrow Omron's Allowable Concentration (hereinafter referred to as "Allowable Concentratin"):
 - Some of Ozone layer depleting substances are allowed to be used in reduced amount or by labeling. However, Omron shall prohibit the washing of parts or materials with any of those ozone layer depleting substances.

1.2 Specific brominated flame regardants

- 1) Japan: No legal regulation. ("Legal regulations" in this Attachment 4 means such regulations as prohibition of use and reduction of consumption.)
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: The use of PBB for the textile products such as clothes and underwear that get in touch with the skin is prohibited.
- 2) Germany's Chemical Substances Prohibition Law
 - PBB, PBD, PBBO, PBBE, PBDO, PBDE, and DBDPO are not covered by this law. However, it is likely to produce dioxins when burned, so that the intentional addition of those substances is prohibited.
- 3) Germany: Regulations on Articles for Daily Use
 - Legal regulations: Prohibited the use of PBB in textile products.
- 4) Canada: Regulations for Prohibition of Specific Hazardous Substances
- * Legal regulations: The manufacture, processing, and marketing of PBB are Prohibited5) EU RoHS Directive
 - PBB, PBDE (provided that Deca-BDE is an exception.: as of 10/13/05)
 - * Legal regulations: Proposed prohibition of use above 1,000ppm

We shall prohibit the intentional addition of the specific brominated flame retardants (PBBs and PBDES including Deca-BDE) in our parts or materials and shall not accept those containing any of them not 1,000 ppm or less an impurity.

1.3 Dioxins

- 1) Japan: Law Concerning Special Measures Against Dioxins
 - 2,3,7,8-tetrachloro-p-dibenzodioxin, 2,3,7,8-tetrachloro-p-dibenzofuran, 3,4,4',5-tetrachlorobiphenyl, etc
 - * Legal regulations: Environmental quality standard for soil: Not to exceed 1,000 pg-TEQ/g $(pg=10^{-12}g)$
- 2) Germany's Chemical Substances Prohibition Law
 - 2,3,7,8-tetrachloro-p-dibenzodioxin, 2,3,7,8-tetrachlorodibenzofuran, 1,2,3,7,8-pentachloro-p-dibenzodioxin, 2,3,4,7,8-pentachlorodibenzofuran 2,3,7,8-tetrabromo-p-dibenzodioxin, 2,3,7,8-tetrabromodibenzofuran, 1,2,3,7,8-pentabromo-p-dibenzodioxin, 2,3,4,7,8-pentabromodibenzofuran
 - * Legal regulations: If the concentration of any of the above substances exceeds 1µg/kg, such use is to be prohibited.
 - \Rightarrow Allowable concentration:
 - We shall prohibit their intentional addition in our parts or materials, and shall not accept those containing any of them as an impurity.

1.4 PCB, etc.

- 1) Japan: Class 1 Specified Chemical Substances under the "Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances" (Chemical Examination Law)
 - * Legal regulations: The use of PCB is prohibited (The main transformers and main rectifiers for railway cars are an exception.)
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substances
 - PCB, PCT, monomethyldibromodiphenylmethan, monomethyldichlodiphenylmethane, monomethyltetrachlorodiphenylmethane
 - * Legal regulations: The marketing and use of the preparations or products containing any of the above substances are prohibited.
- 3) Germany: Chemical Substances Prohibition Law
 - PCB, PCT, monomethyldibromodiphenylmethane, monomethyldichlorodiphenylmethane, monomethyltetrachlorodiphenylmethane
 - * Legal regulations: The marketing of preparations containing not less than 50mg/kg of the aggregate of the above substances and products containing such preparations is prohibited.
 - \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of PCB, PCT,

monomethyldibromodiphenylmethane, monomethyldichlorodiphenylmethane, and monomethyltetrachlorodiphenylmethane in our parts or materials, and shall not accept those containing them not less than 50 ppm as impurities.

1.5 Polychloronaphthalene (CI: 3 or more), hexachlorobenzene, aldrin, dieldrin, endrin, DDT, chlordane, bis(tributyltin)-oxide, N.N'-ditryl-p-phenylenediamine,

N-tryl-N'xylir-p-phenylenediamine, 2,4,6-tri-tertiarybutylphenol, toxaphene, mylex

- 1) Japan: Class 1 Specified Chemical substances under "Chemical Examination Law"
 - * Legal regulations: The manufacture, import and use of the above-cited Class 1 Specified Chemical Substances are prohibited.

- 2) Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The marketing of the preparations with DDT added is prohibited.
- 3) Canada: "Regulations for Prohibition of Specific Hazardous Substances"
 - * Legal regulations: Manufacture, processing and marketing of Mirex are prohibited.

We shall prohibit the intentional addition of the above substances in our parts or materials.

1.6 Specified organotin compounds (tributyltin compounds and triphenyltin compounds), trichloroethylene and tetrachloroethylene

- 1) Japan: Class 2 Specified Chemical Substances under Chemical Examination Law
 - * Legal Regulations: To comply with the technical guidelines for the manufacture, storage, and use of the above cited substances.
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: The use of organotin compounds in the substance or preparations as antifouling paints and biocides for the prevention of biologically fouling ship bottoms.
- 3) Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The use of organotin compounds for antifouling coating on the ship bottoms and water treatment of industrial and business uses are prohibited.
 - \Rightarrow Allowable concentration:

Although those specified organotin compounds are allowed to be used for some limited applications, there is a likelihood that they are regarded as an "environmental hormone". Trichloroethylene and tetrachloroethylene are highly toxic, and if not managed properly, they may very likely contaminate soils and ground water. Therefore, we shall prohibit the intentional addition of the specified organotin compounds, trichloroethylene and tetrachloroethylene in our parts or materials.

1.7 White phosphorus, benzidine and its salts, asbestos, etc.

- 1) Japan: Manufacture-prohibited substances under "Industrial Safety and Health Law"
 - White phosphorus, benzidine and its salts, 4-aminodiphenyl and its salts, asbestos (amosite, crocidolite), 4-nitrodiphenyl and its salts, bis (chloromethyl)ether, β-naphthylamine and its salts, and benzene contained in rubber cement in the concentration of not less than 5%.
 - * Legal regulations: Manufacture, import and use of the above substances are prohibited. Also, the manufacture, import and use of the products (adhesives, extruded cement products, etc.) containing not less than 1wt% of asbestos other than amosite and crocidolite (e.g. chrysotile) are prohibited.
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - benzidine and its salts, 4-aminodiphenyl and its salts, 4-nitrodiphenyl and its salts, β-naphthylamine (2-naphthylamine) and its salts, and benzene.
 - * Legal regulations: Marketing of substances or preparations containing not less than 0.1wt% of any of the above substances is prohibited, and in the case that any of 4 groups of substances except for benzene is released in the amount exceeding 30ppm as the specific amines, such use is prohibited.

- Asbestos (Amosite, Crocidolite, Anthophyllite, Actinolite, Tremolite and Chrysotile)
 - * Legal regulations: The marketing and use of the above substances and the products to which any of the above substances is intentionally used are prohibited.
- 3) Germany: Chemical Substances Prohibition Law
 - benzidine and its salts, 4-aminodiphenyl and its salts, 4-nitrodiphenyl and its salts, β-naphthylamine (2-naphthylamine) and its salts, and benzene.
 - * Legal regulations: The marketing of the preparations containing the above substances and the products containing not less than 0.1wt% of them is prohibited.
 - Asbestos (Amosite, Crocidolite, Anthophyllite, Actinolite, Tremolite and Chrysotile)
 - * Legal regulations: The marketing of the above substances and the preparations containing not less than 0.1wt% of the above substances on aggregate are prohibited.
 - \Rightarrow Allowable concentration:
 - (i) We shall prohibit the intentional addition of benzidine and its salts, 4-aminodiphenyl and its salts, 4-nitrodiphenyl and its salts, β -naphthylamine and its salts in our parts or materials, and shall not accept those containing them not less than 1,000ppm as impurities, and, if not less than 30ppm as a specific amine is released, such use shall be prohibited.
 - (ii) We shall prohibit the intentional addition of yellow phosphorus and bis(chloromethyl)ether into our parts or materials.
 - (iii) We shall prohibit the intentional addition of benzene and all the asbestos into our parts or materials, and shall not accept those containing not less than 1,000ppm as impurities.
- 1.8 Octamethylpyrophosphoramide, tetraalkkyl lead, diethylparanitrophenylthiophosphate, dimethylmercaptoethylthiophosphate, dimethyl(diethylamid-1-chlorocrotonyl)phosphate, dimethylparanitrophenylthiophosphate, tetraethylpyrophosphate, monofluoroacetates, monofluoroacetamide, aluminum phosphide and its decomposition accelerator
 - 1) Japan: Specified poisonous substances under "Poisonous and Deleterious Substances Control Law"
 - * Legal regulations: The use of the above substances are prohibited for other applications than provided in the Ordinance (Enforcement Ordinance of the Poisonous and Deleterious Substances Control Law".)
 - 2) Foreign countries: No regulation.
 - \Rightarrow Allowable concentration:
 - We shall prohibit the intentional addition of the above substances in our parts or materials.
- 1.9 Dichloromethane, 1,2-dichloroethane, 1,1-dichloroethylene, 1,1,2-trichloroethane, 1,2-cis-dichloroethylene and 1,3-dichloropropene
 - 1) Japan: Underground infiltration-prohibited substances (volatile organic compounds) under "Water Pollution Control Law"
 - * Legal regulations: Release of the above substances into soil is prohibited (There are the allowances for release stipulated for each substance in the range of 0.002-0.04 mg/L).
 - 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - 1,1-dichloroethylene, 1,1,2-trichloroethane
 - * Legal regulations: It is prohibited that any of substances or preparations to be put on the market contains the above substances not less than 0.1wt%.

- 3) Germany: Chemical Substance Prohibition Law
 - 1,1-dichloroethylene, 1,1,2-trichloroethane
 - * Legal regulations: The marketing of the materials, preparations and products containing any of the above substances not less than 0.1wt% is prohibited.

Unless the above substances are subject to appropriate control, they are likely to contaminate the soil and ground water. We shall prohibit the intentional addition of them in our parts or materials.

1.10 Pentachlorophenol

- 1) Japan: No regulation.
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: It is prohibited that any of substances or preparations to be put on the market contains the above substances not less than 0.1wt%
- 3) Germany: Chemical Substance Prohibition Law
 - Legal regulations: The marketing of the product whose part treated by the preparations containing the above substance contains such substance not less than 5 ppm is prohibited.
 - \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of them in our parts or materials, and shall not accept those containing not less than 5 ppm as an impurity.

1.11 1,1,2,2-tetrachloroethane, 1,1,1,2-tetrachloroethane and pentachloroethane

- 1) Japan: No regulation.
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: (Regulations on Environmental Hazardous Substance)
 - * Legal regulations: It is prohibited that any of substances or preparations to be put on the market contains the above substances not less than 0.1wt%.
- 3) Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The marketing of preparations and products containing the above substance not less than 0.1wt% is prohibited.

 \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of them in our parts or materials and shall not accept those containing not less than 1,000 ppm as an impurity.

1.12 Hexachloroethane

- 1) Japan: No regulation.
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: The use of the above substances in the manufacture and processing of nonferrous metals is prohibited.

 \Rightarrow Allowable concentration: We shall prohibit the intentional addition of them in our parts or materials

1.13 Chloroform and chlorinated paraffin (carbon chain length: 10-13)

- 1) Japan: No regulation
- 2) EU 76/769/EEC (Marketing Restriction Directive)
 - * Legal regulations: It is prohibited that any substance or preparation put on the market contains chloroform not less than 0.1wt% and chlorinated paraffin not less than 1wt%.

- 3) Germany: Chemical Substance Prohibition Law, and Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: The marketing of preparations containing chlorinated paraffin not less than 1wt% is prohibited.

We shall prohibit the intentional addition of them in our parts or materials, and shall not accept those containing chloroform not less than 1,000 ppm as an impurity and those containing chlorinated paraffin not less than 10,000 ppm as an impurity.

1.14 Chloromethylmethylether

- 1) Japan: No regulation
- 2) Canada: "Regulations for Prohibition of Specific Hazardous Substances"
 - * Legal regulations: The manufacture, use, processing, marketing or import of the above substance is prohibited.

 \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of the above substance in our parts or materials.

1.15 Formaldehyde

- 1) Japan: No regulation.
- 2) Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The marketing of wood and furniture containing the substance with the concentration exceeding 0.1ppm is prohibited.

 \Rightarrow Allowable concentration:

The release of the substance from the wood of our parts or materials shall be less than 0.1ppm. (Its intentional addition is not prohibited.)

1.16 Azo dyes, pigment (22 substances including benzidine - for detail, see the attachment 3 "Illustrative List of Regulated Chemical Susbstances")

- 1) Japan: Manufacture-prohibited substances under "Industrial Safety and Health Law"
 - Benzidine and its salts, 4-aminodiphenyl and its salts, 4-nitrodiphenyl and its salts,
 - $\beta\text{-naphthylamine}$ (2-naphthylamine) and its salts
 - * Legal regulations: The manufacture, import and use of the above substances are prohibited.
- 2) EU 76/769/EEC (Marketing Restriction Directive)
 - * Legal regulations: The use of azo dyes and pigments (22 substances), which emission rate exceeds 30ppm, in such textiles and leather products as is likely to contact the skin or mouth cavity directly and for long time is prohibited.
- 3) Germany: Chemical Substance Prohibition Law
 - * Legal regulation: The marketing of the preparations containing the same substances as Japan not less than 0.1wt% is prohibited.
- 4) Germany: Articles for Daily Use
 - * Legal regulations: The manufacture, import and marketing of clothes and ornaments next to the skin that contain such azo dyes and pigments as produce any of 20 amines including benzidine but excluding 4-aminoazobenzene and 4-anisidine listed in the Illustrative List due to splitting of one or multiple azo groups are prohibited.
 - \Rightarrow Allowable concentration:

We shall prohibit their use where they contact human bodies sustainably, and

shall not accept those containing not less than 1,000 ppm as an impurity. If their release rates are not less than 30ppm, such use is prohibited.

1.17 Di-µ-oxo-di-n-butyl-stanniohydroxyboran (DBB)

- 1) Japan: No regulation
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: It is prohibited that any of substances or preparations to be put on the market contains the above substance not less than 0.1wt%.
- 3) Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The marketing of the preparations containing the above substance not less than 0.1wt% is prohibited.

 \Rightarrow Allowable concentration:

We shall prohibit its intentional addition in our parts or materials, and shall not accept those containing not less than 1,000 ppm as an impurity.

1.18. Tris-(2,3-dibromopropyl)phosphate, Tris(1-azilidinyl)phosphine oxide

- 1) Japan: No regulation
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance
 - * Legal regulations: The use of PBB for the textile products such as clothes and underwear that get in touch with the skin is prohibited.
- 3) Germany: Articles for Daily Use
 - * Legal regulations: The use of Tris-(2,3-dibromopropyl)phosphate in textiles is prohibited.

1.19 Radioactive substances (Uranium, Plutonium, Radon, Americium, Thorium, Cesium, and Strontium)

- 1) Japan: Nuclear substances under the "Law for the Regulations of Nuclear Source Material, Nuclear Fuel Material and Reactor" (Nuclear Substances Control Law)
 - * Legal regulations: The use of any of the above substances is subject to the approval of the Ministry of Education, Culture, Sports, Science and Technology.

 \Rightarrow Allowable concentration:

We shall prohibit the use of the above substances in our parts or materials because they bring significant effects on human bodies.

1.20 Vinyl chloride (monomer)

- 1) Japan: No regulation
- 2) EU 76/769/EEC (Marketing Restriction Directive), Holland: Regulations on Environmental Hazardous Substance, and German "Chemical Substance Prohibition Law"
 - * Legal regulations: The use of vinyl chloride as a propellant for aerosol is prohibited.
 - \Rightarrow Allowable concentration: We shall prohibit the use of vinyl chloride as a propellant for aerosol.

1.21 Polyvinyl chloride

- 1) Japan and overseas: No regulation
- \Rightarrow Allowable concentration:

As an Omron's self-regulatory substance, we shall prohibit the use of PVC for packing and packaging since improper treatment in incineration would produce dioxins.

2. Regulation on the substances whose applications are listed in Prohibited Substance and Non-use Substances alike (e.g. lead)

2.1 Lead, cadmium, hexavalent chromium, and mercury

- 1) Japan: No regulation
- 2) EU 94/62/EC (Packaging Waste Directive)
 - * Legal regulations: The total weight ratio of the above substances contained in packing and packaging materials must not exceed 100ppm.
- 3) United States: "Regulations on Heavy Metals in Packaging Materials"
 - * Legal regulations: The total weight ratio of the above substances contained in packing and packaging materials must not exceed 100ppm.
 - \Rightarrow Allowable concentration:
 - The total weight ratio of the above substances contained in packing and packaging materials must be 100ppm or less.

2.2 Lead

- 1) Japan: No regulation.
- 2) EU Battery Directive (91/157/EEC)
 - * Legal regulations: The marketing of batteries and accumulators containing lead exceeding 0.4wt% per unit cell is prohibited, provided, however, that those which bear the marking of batteries and are easy to detach and whose instruction manuals carry how to detach may be marketed.
- 3) Denmark's "Regulations on Batteries"
 - * Legal regulations: The import and marketing of batteries containing lead exceeding 0.4wt% is prohibited, provided, however, that those which bear the marking of batteries and are easy to detach and whose instruction manuals carry how to detach may be marketed.
 - \Rightarrow Allowable concentration:
 - The content of lead per unit cell shall be 4,000ppm or less, but not limited when they bear the marking of batteries and are easy to detach.
- EU 76/769/EEC (Marketing Restriction Directive); Germany: Chemical Substance Prohibition Law
 * Legal regulations: The use of lead in paints is prohibited.
- 2) Denmark's Chemical Substance Control Law
 - * Legal regulations: The marketing of such products containing more than 100ppm of lead in the homogeneous element as stabilizers and lubricants for paints and plastics is prohibited.

3) EU:2002/525/EC (ELV Directive)

- * Legal regulations: The intentional addition of lead as stabilizers for paints, inks, plastics and rubber and lead-containing PVC electric wires is prohibited. The content as an impurity is allowable up to 0.1wt%.
- \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of lead for the use of paints, inks, stabilizers for plastics, and solder etc. Besides, the content of lead as an impurity shall be 1,000ppm or less.

2.3 Cadmium

- 1) Japan: No regulation.
- 2) EU Batteries Directive (91/157/EEC)
 - * Legal regulations: The marketing of batteries and accumulators containing cadmium more than 0.025wt% per unit cell is prohibited.
- 3) Denmark's Regulations on Batteries
 - * Legal regulations: The import and sale of batteries and accumulators containing cadmium more than 0.025wt% per unit cell is prohibited.

 \Rightarrow Allowable concentration:

- The content of cadmium in batteries and accumulators shall be 0.025wt% (250ppm) or less per unit cell.
- 1) EU 76/769/EEC (Marketing Restriction Directive), Holland Environmental Hazardous Substance Regulation, Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The marketing of resins, paints and PVC insulating materials containing cadmium above 0.01wt% is prohibited. The use of cadmium plating on the manufacturing machines of foods, for cooling or refrigeration, printing and book-binding, and articles for daily use, furniture, etc. is prohibited.
- 2) EU:2002/525/EC (ELV Directive)
 - * Legal regulations: The intentional addition of cadmium in paints, inks, stabilizers for plastics and rubber, and PVC electric wires is prohibited. The allowable concentration as an impurity is 0.01wt%.
- 3) Denmark's Chemical Substance Control Law
 - * Legal regulations: The marketing of products using the surface treatment (cadmium plating), coloring pigment, and stabilizers for plastics as a homogeneous element in which cadmium is contained more than 75ppm is prohibited.
 - \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of cadmium for the use of stabilizers for plastics and/or rubber, and of pigments, inks, paints, surface treatment (plating, coating) etc. Besides, the content of cadmium as an impurity shall be 100ppm or less.

2.4 Hexavalent chromium

- 1) Japan; No regulation
- 2) EU:2002/525/EC (ELV Directive)
 - * Legal regulations: The intentional addition of hexavalent chromium in paints, pigments, inks, catalysts and batteries is prohibited. The allowable concentration of hexavalent chromium is less than 0.1wt% as an impurity.

 \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of hexavalent chromium for the use of paints, pigments, inks, catalysts, batteries etc. Besides, the content of hexavalent chromium as an impurity shall be 1,000ppm or less.

2.5 Mercury

- 1) Japan: No regulation.
- 2) EU Battery Directive (91/157/EEC)
 - * Legal regulations: The marketing of batteries and accumulators (both including those mounted with equipment or machines) containing mercury not less than 0.0005wt% is prohibited, provided that button batteries and button cell batteries containing mercury not more than 2wt% are not covered by this prohibition.

- 3) Denmark's "Regulations on Batteries"
 - * Legal regulations: The import and marketing of batteries and accumulators (both including those mounted with equipment or machines) containing not less than 0.0005wt% are prohibited, provided that button batteries and button cell batteries containing mercury not more than 2wt% are not covered by this prohibition.
 - \Rightarrow Allowable concentration: The allowable concentration of mercury shall be 5ppm or less.
- 1) EU 76/769/EEC (Marketing Restriction Directive), Holland Environmental Hazardous Substance Regulation, and Germany: Chemical Substance Prohibition Law
 - * Legal regulations: The intentional addition of mercury for wood preservative, industrial textiles, and water treatment for industrial, business and home use is prohibited.
- 2) Denmark's Chemical Substance Control Law
 - * Legal regulations: The marketing of products with a homogeneous elements containing mercury more than 100ppm is prohibited, provided that the relay for data communication, common thermometers for calibration, fluorescent character display tube, and light sources for image processing are not covered by this prohibition.
- 3) EU:2002/525/EC (ELV Directive)
 - * Legal regulations: The intentional addition of mercury in paints, pigments, inks and stabilizers and pigments for plastics is prohibited. The allowable concentration of mercury is less than 0.1wt% as an impurity.
 - \Rightarrow Allowable concentration:

We shall prohibit the intentional addition of mercury for the use of paints, pigments, inks, stabilizers & pigments for plastics etc. Besides, the content of mercury as an impurity shall be 1,000ppm or less.

Attachment 5. Supplementary Material 2 (Analytical Methods for RoHS Directive Substances) -- As A Reference

1. Lead, cadmium and their compounds

- 1) Screen analysis (X-Ray Fluorescent analysis)
 - (i) Perform a simple treatment of samples such as cutting or grinding as the pretreatment to obtain the necessary amount of sample for analysis, and set it to the analytical equipment, so that the analysis of whether lead or cadmium is "Contained" and the "Order Analysis" or semi-quantitative analysis (a method where content ratio is determined from a qualitative analysis) can be performed easily.
 - (ii) This is suitable for the analysis of such materials as plastics, rubber, metals, glass, ceramics, etc.
 - (iii)The content ratios of lead or cadmium is determined using the semi-quantitative analysis software and the quantitative analysis software (calibration curve method) that are built in the equipment.
 - (iv)Employ Energy Dispersive X-Ray Fluorescent Analytical equipment.
- 2) Quantitative analysis (ICP emission spectrophotography --Can determine the content ratio accurately)
 - (i) Subject the sample to wet decomposition (including pressurized decomposition) with sulfuric acid, nitric acid, hydrochloric acid, fluoric acid or hydrogen peroxide, or to decomposition by incineration in the presence of sulfuric acid, or decomposition by low-temperature ashing with oxygen plasma irradiation, to prepare a solution sample.
 - (ii) When any precipitate is produced, redissolve the precipitant by fluoric acid decomposition or alkali fusion decomposition to solubilize it, and then perform the analysis.
 - (iii)Set the prepared solution sample to ICP emission spectrophotometer, determine the concentration of lead or cadmium in the sample using the calibration curb separately prepared with a standard solution, and convert the content ratio of lead or cadmium in the solid sample.
 - (iv)There is another method where a solid sample is directly set to the analytical equipment for frameless atomic absorption spectrometry that is capable of quantitative analysis.
 - (v) ICP emission spectrophotometer (ICP-OEC), ICP mass spectroscope (ICP-MS) and atomic absorption spectrometer(AAS, FLAAS) are the standard analytical equipment.

2. Mercury and its compounds

- 1) Screen analysis (X-Ray Fluorescent analysis)
 - (i) Perform a simple treatment of samples such as cutting or grinding as the pretreatment to obtain the necessary amount of sample for analysis, and set it to the analytical equipment, so that the analysis of whether mercury is "Contained" and the "Order Analysis" or semi-quantitative analysis (a method where content ratio is determined from a qualitative analysis) can be performed easily.
 - (ii) This is suitable for the analysis of such materials as plastics, rubber, metals, glass, ceramics, etc.
 - (iii) The content ratios of mercury is determined using the semi-quantitative analysis software and the quantitative analysis software (calibration curve method) that are built in the equipment.(i) Finally, Fina
- (iv)Employ Energy Dispersive X-Ray Fluorescent Analytical equipment.2) Quantitative analysis (ICP emission spectrophotography --Can determine the content ratio
- accurately) (i) Perform a pressurized decomposition or prepare a decomposition flask equipped with reflux
 - condenser, and subject the sample to decomposition with sulfuric acid or nitric acid to make a

solution sample taking care to avoid volatilization of mercury.

- (ii) Set the prepared sample solution to a reduced vaporization atomic absorption-photometer, determine the concentration of mercury in the sample using the calibration curb separately prepared with a standard solution, and convert the content ratio of mercury in the solid sample.
- (iii)Reduced vaporization ICP emission spectrophotometer (ICP-OES), reduced vaporization atomic absorption spectrometer(AAS, FLAAS) and ICP mass spectroscope (ICP-MS) are the standard analytical equipment.

3. Hexavalent chromium and its compounds

There are X-ray diffraction analysis and X-ray photoelectron spectroscopy for the analysis of whether any hexavalent chromium compound is contained in a solid sample, but it is unable to determine the content ratio of it by those methods. Therefore, the content ratio of chromium is measured by X-ray fluorescent analysis method tentatively, to check the possibility of existence of hexavalent chromium.

- 1) Screen analysis (X-Ray Fluorescent analysis)
 - (i) Perform a simple treatment of samples such as cutting or grinding as the pretreatment to obtain the necessary amount of sample for analysis, and set it to the analytical equipment, so that the analysis of whether chromium is "Contained" and the "Order Analysis" or semi-quantitative analysis can be performed easily.
 - (ii) This is suitable for the analysis of such materials as plastics, rubber, metals, glass, ceramics, etc.
 - (iii) The content ratios of chromium is determined using the semi-quantitative analysis software and the quantitative analysis software (calibration curve method) that are built in the equipment.
 (iii) Further Energy Discourse of Apple tised equipment.
 - (iv)Employ Energy Dispersive X-Ray Fluorescent Analytical equipment.
- 2) Quantitative analysis (Absorptiometer, ion chromatograph analysis--Can determine the content ratio accurately)
 - (i) Subject the sample to extraction by boiling water as the pretreatment, and analyze the extracted solution. Or, subject it to decomposition with alkali solution, and dilute it with ion-exchanged water to perform the analysis.
 - (ii) Determine hexavalent chromium selectively using a diphenylcalbazide absorptiometry or an ion chromatographic analysis.
 - (iii)Determine the concentration of hexavalent chromium in the sample using the calibration curb separately prepared with a standard solution, and convert the content ratio of hexavalent chromium in the solid sample.
 - (iv)Absorptiometer or ion chromatograph analytical equipment are the standard analytical equipment.

4. PBBs and PBDEs

- 1) Quantitative analysis (high-resolution gaschromatograph mass analysis)
 - (i) Freeze the sample as pretreatment, subject it to cryo-milling at a light-shielded place, and dissolve it with organic solvent to extract the substance.
 - (ii) Add ¹³C¹² internal standard to the sample solution, and analyze it with a high-resolution double-focusing mass spectrometer (HRGC/HRMS)
 - (iii)High-resolution gaschromatograph mass spectrometer (HRGC/HRMS) is the standard analytical equipment.

To: Omron Corporation

Certificate of Non-inclusion for Regulated Substances

Company name :	
Job description :	
Signature :	
Date :	
Tel :	

Based on "Investigation Manual for the Regulated Chemical Substances" version 1.2 of Omron Corporation, we hereby certify that the chemical substances cited below are not contained in our products, parts or materials listed below (including accessories, packing/packaging materials, and other articles accompanying them) that are supplied Omron Corporation (including its subsidiary and affiliated companies) by the company (including its subsidiary and affiliated companies):

- 1. Chemical substances not contained:
 - (1) Omron's Prohibited Substances (A rank): 64 substance groups
 - (2) Omron's Non-use Substances (A1 rank): 4 substance groups
 - * For the name of a substance, refer to "Investigation Manual for the Regulated Chemical Substances" version 1.2

2. Target products, parts or materials

	Product Number (no number: manufacturer's name)	Category Name	Catalog Number
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

* If the form is not enough for listing, please add the separate paper for listing.

Declaration for Phase-out of Regulated Substances

Company name:	
Job description:	
Signature:	
Date:	
Tel:	

We hereby pledge that we are committed to attaining the goal for phase-out of Non-use Substances contained in our products, parts or materials listed below (including accessories, packing/packaging materials, and other articles accompanying them) that are supplied the Omron Corporation (including its subsidiary and affiliated companies) by the company (including its subsidiary and affiliated companies) by the deadline listed below:

- 1. Omron's Non-use Substances (A 1 rank):
 - Lead, cadmium, hexavalent chromium, and mercury
 - * For A1-rank in each substance, refer to Attachment 2. of "Investigation Manual for the Regulated Chemical Substances".

	Product Number	Category Name	Catalog Number	Deadline for Non-use (MM/ YYYY)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

2. Target products, parts or materials

* If the form is not enough for listing, please add the separate paper for listing.

Attachment 8 PROCESS CHANGE REPORT(PCR)

OMRON

		Date	No.		
ТО			From(Company nar	me)	
10	If it is a co enter its p	mmercial product, roduct number.	Written:	Checked:	
Туре	Part name	Pa	arts code No.(drawing No	o.)	
Change classification Change in manufacture place Reason Change of material of a part Change of material of an ink the like. Includes the change of subs materials (adhesives, solder	Change in ma or material , paint and sidiary rs, etc.)	anufacture method Effective date of change Lot No. Change in QA standers	Renewal or modifica	ation of die ds 1ple	
Present method		Method after change			
		The attached following: • Survey Fo Chemical • Results o • Results o Quality check points & r	d materials contain orm for the Regulate Substances f evaluation of relia f evaluation of perfo	the ed bility ormances	
Opinion & requirement				Checked:	
For OMRON use					

Indications for receiving inspection	indicator	Result of receiving inspection

Attachment 9

Survey Form for the Regulated Chemical Substances (Sheet 1)

Reason for	New part or Change of existing
submission	material part or material

[Part Information]

Product Number (English one byte characters)	
Category Name	
Catalog Number	
Manufacturer	
Mass of Part or Material (g) (English one byte characters)	
Note	

(Note)
If the target part or
material is a cable, paint
and the like, enter the
mass per unit length or
unit volume and note its
unit in the "Note" column.

	Omron's factory-in- charge		Site ID (English one byte characters)	
	Section-in-charge		Survey form ver.	2006/4/1
	Person-in-charge		Standard	Manual ver 1.2
-	[Supplier Information]	_	
	Date			
	Company			
	Supplier Code No. (English one byte characters)			
	Section			
	Person in charge			
	TEL (English one byte characters)			
	FAX (English one byte characters)			
	E-mail (English one byte characters)			

	Survey Item	Answer						Remarks
Q1	Whether any of Omron's defined Prohibited	O Contained		A substance "	Contained	" →Q3		*For the definition of "Contained", see Manual for Survey.
	Substances (A) or Non-use Substances (A1)			A1 substance	"Containe	<mark>d"</mark> →Q2		*If A substance is contained, report it to Omron and exclude
	is contained of Not contained	Not Contained	→Prepare the certified	cation of "Not (Contain	ed"		it promptly.
Q2	(If "A1 substance Contained" is the answer in Q1) Whether Non-use Plan has been established or not	O Have a plan	→Deadline for phase- out and substitution	year	•	month	▼	* If "Not Contained" is the answer in Q1, no need to answer here.
			Complete the submit it to C	e Commitment o Omron.	f Non-us	e and		If "Have a plan" is your answer in Q2, enter "the deadline for phase-out". If "Have a substitution" is your answer in Q3, enter "the deadline for completion of preparation for substitution".
		O No plan	→Reason					* If needed, you may be required to produce its detailed schedule.
Q3	(If A substance is Contained in Q1, or no	Have a substitute	→Type of substitute for non-use					If "Have a plan" is your answer in Q2, enter the "Type of the part or material containing the Non-use Substance".
	substitute or not.	Have no substitute	→Reason					If "Have a substitution" is your answer in Q3, enter the "Type of the substitute part or material".

Survey Form for the Regulated Chemical Substances (Sheet 2)

[Part Information]				
Product Number				
Category Name				
Catalog Number				
Manufacturer				
Mass of Part or Material (g)				
Note				

Omron's factory-		Site ID	
in-charge			
Section-in-charge		Survey form ver.	2006/4/1
Person-in-charge		Standard	Manual ver 1.2
Supplier Informa	ition]		
Date	Supplier Code No.		
Company			
Section			
Person in charge			
TEL			
FAX			
E-mail			

Substance No.	Substance Name	CAS No.	Part Component Where Regulated Chemical Substance is Contained	Purpose of Addition	Mass of the Part (g)	Content (g)	Content Ratio (ppm)	Type of Data	Judgment of Whether the Substance is "Contained or Not"	Reserve 1
-	-							Analytic Design al data Specificatio	Contained" Contained" (B/C) Contained Contained Contained Contained Contained	1
	•							Analytic Design al data Specificatio	Contained" Contained" (B/C) Contained Contained Contained Contained Contained	5
-	-							Analytic Design al data Specificatio	Contained" Contained" (B/C) Contained Contained Contained Contained	1
-	-							Analytic Design al data Specificatio	Contained" Contained" (B/C) Contained Contained Contained Contained Contained	1
-	-							Analytic Design al data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained Contained	1
-	-							Analytic Design al data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained Contained	1
-	-							Analytic Design Jal data Specificatio	Contained" Contained" not (B/C) Contained	
-	-							Analytic Design Jal data Specificatio	Contained" Contained" not (B/C) Contained	
-	-							Analytic Design al data Specificatio	Contained" Contained" not (A/A1) (B/C) (Contained" Contained	
	•							Analytic Design al data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained Contained	
								Analytic Design al data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained Contained	
	•							Analytic Design Specificatio	Contained" Contained" not (A/A1) (B/C) Contained	
-	-							Analytic Design Specificatio	Contained" Contained" not (A/A1) (B/C) Contained Contained	
-	-							Analytic Design Jal data Specificatio	Contained" Contained" not (A/A1) (B/C) (Contained" Contained	
-	-							Analytic Design Jal data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained	
-	-							Analytic Design Jal data Specificatio	Contained" Contained" not (A/A1) (B/C) (Contained" Contained (B/C)	
-	-							Analytic Design al data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained Contained	
-	-							Analytic Design al data Specificatio	Contained" Contained" Contained" Contained" Contained Contained Contained Contained	1
								Analytic Design al data Specificatio	"Contained" "Contained" "not (B/C) "not Contained"	
								Analytic Design al data Specificatio	"Contained" "Contained" "not (B/C) "not Contained"	
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-	-							Analytic Design Specificatio	"Contained" "Contained" "not (A/A1) (B/C) Contained" Contained	

Survey Form for the Regulated Chemical Substances (Sheet 3)

[Part Information]					
Product Number					
Category Name					
Catalog Number					
Manufacturer					
Mass of Part or Material (g)					

Omron's	Site ID	
factory-in-		
Section-in-charge	Survey form ver.	2006/4/1
Person-in-charge	Standard	Manual ver 1.2

 [Supplier Information]

 Date

 Company

 Section

 Person in

 charge

 TEL

 FAX

 E-mail

[Content of Regulated Chemical Substance]

Substance No.	Substance Name	Listed or not	No. in PRTR Law	CAS No	Whether "Contained or Not" "Contained"=1/"No t Contained"=blank	Content Ratio (ppm) (English one byte characters)	Part component	Purpose of Addition	Old Substance No.
A-154	Lead and its compounds	\bullet	1-230	_					B-004
A-155	Cadmium and its compounds		1-060						B-002
A-156	Hexavalent chromium and its compounds		1-069	_					B-001
A-157	Mercury and its compounds		1-175	_					B-003
A-058	PBB (polybrominated biphenyls)			_					A-058~059
A-063	PBDE (polybrominated diphenylethers)			_					A-060~063,A-124
A-153	Polyvinyl chloride			9002-86-2					C-123
B-013	Brominated flame retardants			_					-
A-123	Ozone layer depleting substances			_					A-001~057
A-125	Dioxins		1-179	-					A-064~069
A-070	PCB (Polychlorobiphenyl)		1-306	1336-36-3					A-070
A-071	Polychloronaphthalene			70776-03-3					A-071
A-072	HCB (Hexachlorobenzene)			118-74-1					A-072
A-073	Aldrin			309-00-2					A-073
A-074	Dieldrin			60-57-1					A-074
A-075	Endrin			72-20-8					A-075

(This Survey Form for Sheet 3 comprises 6 sheets in total.)

Attachment 10. Q & A

No.	Item	Question	Answer
1	Inquiry	When there arise any question, whom can we inquire of it?	For how to enter and the deadline for submission, please contact Omron's section-in-charge. For technical questions such as substitute technologies, measurement methods and analytical value, we are going to open a new corner for questions in our Website early December, 2003. Please pose your question to its corner for question.
2	Purpose	Does our answer on the hazardous substances affect the future business with Omron?	The purpose of this survey is to collect the basic information for Omron's compliance, and its goal is for Omron to comply with the relevant laws and regulations by substitution of parts and materials. We think it is necessary for both you and us to study further and improve the situation as a partner.
3	Purpose	Does your survey on the hazardous substances bring us any benefit?	The major purpose of this survey is to comply with the European environmental regulations. However, we think that the information on hazardous materials will be an important factor for our business relation in the coming future.
4	Purpose	Is there any penalty if we fail to follow your rules?	This is the fact-finding survey. There may possibly occur replacements with another substitute and trading halts in the future.
5	Purpose	Does the target regulated chemical substances mean the prohibition of their use?	We have classified them into Prohibited Substances, Non-use Substances and Self Control Substances and are going to manage them according to these categories. We will give priority to those substances with which the substitution of Prohibited Substances and Non-use Substances has been technologically established.
6	Survey	Do we not need to answer on our products supplied to Omron that are not covered by your parts list for this survey?	In principle not. However, if it is a substitute for Omron's specified part, please inform our person in charge to that effect and obtain the consent to it.
7	Survey unit	How far do we need to segment a part into part components for our investigation?	Please investigate the chemical substances subject to this survey for each part and each part or material composed of Omron's designated part components whose names are listed in Separate Volume; Detail Part Name. If you can't judge the segmentation, please contact the corner for question in our new Website.
8	Survey unit	We are supplying Omron with the parts such as motors and board units that are composed of a number of component parts. Do we need to answer on all the component parts and materials of them?	Please answer for each part and each part or material composed of the part components listed in Separate Volume; Detail Part Name. Note, however, that the content and content ratio on a part component basis should be entered in Sheet 2 as for the chemical substances included in RoHS Directive 6 substances and polyvinyl chloride and brominated flame retardants, and further that the aggregation of contents of each part component divided by the total weights of the part should be entered in the content ratio column of Sheet 3. In that case, answer on the part component used principally and its main purpose.
9	Target sub- stances	We have the information on the similar type of the parts we are supplying Omron, but not enough on the parts for Omron. Do we need to investigate them?	This survey goes so far as to target such substances whose consumption is a very small quantity (around 0.1mg). To this end, please investigate substances of any different part and part or material, including such subsidiary materials as adhesives, if any.
10	Target subsidiary materials	Do we need to investigate such subsidiary materials as adhesives, scews and tapes?	Yes. For example, if you employ any subsidiary material not specified in the processing drawing, please give us the information on the substances "Contained" in the parts, including that of such subsidiary material.

No.	Item	Question	Answer
11	Target raw materials	How should we answer on such raw materials as molding compounds and metals?	In case of raw materials, leave the "content ratio" column and the "mass of part or mateial" column in Sheet 3 blank since the content ratio is calculated as the ratio on a unit weight basis. Example: For the content of lead in aluminum, enter the composition rate in its Inspection Certifcate or the content ratio measured by you. Note that, if none of Non-use Substance is contained in the plating or other surface treatment, you need not enter anything in Sheet 2.
12	Residue subject to this survey	We put a chemical containing the regulated chemical substance in our manufacturing process, but remove it by washing. Do we need to inquire our supplier of its constituents?	If it is completely removed, no need to investigate further. However, if there is bare possibility of remaining, investigate it and answer the results.
13	Target trace constituent	As for "Cadmium and its compounds", is the cadmium contained in silver solder subject to this survey? (JIS 23261 Bag-1)	As the constituents of the silver solder is attached to the part, it is subject to the survey as a subsidiary material "Contained" in the part. If you cannot figure out the amount remained on the part, answer the cadmium content in silver solder per investigation unit.
14	Packaging materials subject to this survey	Are the packing materials used for packing Omron's products subject to the survey?	Those used for marketing the products are subject to this survey, but those used in delivering your products to Omron and recovered by you, such as returnable trays or boxes are not covered.
15	Packaging materials subject to this survey	Is the packing materials used in delivering the parts to you covered by this survey?	Not covered, provided, however, that those used as such in marketing Omron's product are subject to this survey.
16	Content	We have obtained MSDS for the substances from our suppliers. Can we answer based on the data of MSDS?	MSDS does not carry the content of chemicals below 1 wt%. In this survey, you are required to answer the content ratio in the order of 0.0005wt% (5ppm) or so. Please inquire your supplier of it. Also, please investigate the subsidiary materials that are likely to remain on the parts or materials.
17	Content	With metals, can we answer the content based on the Inspection Certifcate of the metal manufacturer?	Inspection Certifcate issued by metal manufacturers (data of substances stipulated under JIS) don't cover the target regulated chemical substances. The allowable concentrations (threshold) are also different from those required by this survey. Take a copy of this Survey Materials and inquire the metal manufacturer of it. Also, please investigate the subsidiary materials that are likely to remain on the parts or materials.
18	Content / Confiden- tiality	How can we answer base on the information supplied by an upstream supplier? If the content is confidential, how should we handle it?	This survey don't request you to disclose the composition, but ask you if the regulated chemical substance is "Contained" or not for the purpose of compliance with legal regulations and environmental protection. Please limit your answer to the listed chemical substances. The contents of your answer are for the internal use of Omron only. In case that we are requested to publicize it from outside of the company, we may comply with the request in some cases, in which case we will never disclose the name of the company in question and the type of products supplied to us. Taking the above into account, we would request you to disclose the constituent. If a confidentiality agreement is necessary, please communicate with our section in charge.

No.	Item	Question	Answer
19	Content	We can't find the metal conversion rate. In what manner can we find it?	You will find the metal conversion factors given in Attachment 3 "Illustrative List of Regulated Chemical Substances". When the metal conversion factor of any metal compound is not included in the List, consult the Chemical Handbook or other references for its atomic mass, and then refer to 5.2 "Instructions for the Survey".
20	Content	We intentionally use the target regulated chemical substance, but it is difficult to find its content. How should we investigate and answer it?	First, investigate the intentionally used chemical substance and enter the value (maximum). If you can't find it, please perform its analysis for the value. If the column is left blank, we judge that it means no use of the regulated chemical substances. Please submit us the "Certificate of Non-inclusion for Regulated Substances" for Prohibited Substances and Non-use Substances.
21	Regulated chemical sub- stances	We cannot find the illustrative substance.	With regard to the part or material in which any of the target chemical substances is "Contained", we request you to investigate them with your supplier in reference to Attachment 3 "Illustrative List", but you need not write down the name of the illustrative substance in the Survey Forms.
22	Analysis	We are ready to answer the results of analysis. Is there any specified analytical method on your side?	Although we have described the analytical methods of RoHS target 6 substances for your information, there is not limitation to analytical methods. However, if you perform an analysis, please employ an analytical method capable of determining the content in the order of the specified allowable concentration (threshold).
23	Entry	Is it necessary to perform the investigation to sub-sub-contractors, sub-sub-sub- contractors, and so on? Likewise, how should we enter the results of investigation in the Survey Forms?	Please perform the investigation to sub-sub-contractor, etc. in your own discretion. After aggregation of the results of investigation, enter them in the Survey Forms and return the filled form to us. We don't mind your disclosing our company name as the client for this survey in the process of investigation.
24	Entry	We are dealing in materials, and the contents of answer for all the parts are the same data. Do we need to enter the answer to the individual guestions?	Even if the same contents, please enter them on a part basis. (If the column for answer remains blank, it is regarded as "Not Contained".) For materials, the answer should be made by content ratio.
25	Dis-tribu tion	We want to approach overseas suppliers in English and Chinese to follow the investigation. Do you have the survey manuals of English version and Chinese version?	The survey manuals of English version and Chinese version are posted in the Rechs of our Websites. Please inform your ID and password to the person-in-charge of <u>Central Purchasing Department of Omron's Headquarters</u> , and download.
26	Response	We have collected the information for 80% of items to be answered, but not for 20%. Is it better for us to submit the response with the answers for 80% ?	Please return the completed forms for 100% in principle by the deadline. If the response is likely to be late for the deadline, please contact our section-in-charge.
27	Response	If we can't respond to this survey on the regulated chemical substances, what shall we do?	All suppliers are required to respond to this survey because it is the basic information for compliance with legal regulations. If you have any difficulty to answer, do not hesitate to inquire us of the specific problems for the questions and the answers.
28	Sub- stitution	We want to propose for substitution. In what part should we write down it?	For the schedule of substitution, first check "Have a substitute", and then put the (name and) type of the substitute in the column for information on the substitute in "Survey Form for the Regulated Chemical Substances (Sheet 1).

No.	Item	Question	Answer
29	Sub- stitution	Ours will be the type to be excluded, and we have proposed for a substitute to your company. Can we answer the question based on the substitute?	Since this survey aims principally to grasp the current status, please answer on the type to be excluded. For the substitute, please submit the electric file for new proposal to us.
30	Sub- stitution	What do you, Omron, think about the difference in properties of the substance that is proposed as the one not containing the regulated chemical substances, for example, corrosion resistance?	As for the products in compliance with the European environmental regulations, you are kindly requested to use the separate electric file for the proposal for the substitution. In response to the proposal, we will consider on the adoption in the same manner as is the existing way of new parts.
31	Future outlook	Is it likely that the target regulated chemical substances will increase in number?	We will discuss it in view of the status of regulation and social situations. It is possible that the target regulated chemical substances will increase in number in the future.
32	Future outlook	Is there any effect of this survey on the terms of transaction?	As Omron has decided the corporate policy to make product development considering the European environmental regulations, there may possibly be the effect on the terms of transaction. We are going to discuss the substitution from now on taking into due consideration the proposals from the suppliers.

Investigation Manual for the Regulated Chemical Substances Ver. 1.2

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