



*Creative Links to World Electronics*

Hirose Electric Group

# Green Procurement Guideline

16th Edition

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Hirose Electric Co., Ltd.

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## 1. Purpose

Hirose Electric Co., Ltd., is promoting environment conservation activities and biodiversity conservation activities based on the basic policy of the environment and promotes the procurement of parts, material, and raw materials with low environmental load (hereafter, green procurement) as part of these activities.

Furthermore, to comply with related domestic and overseas laws and regulations, management of chemical substances covering raw materials and products is required. For this purpose, the cooperation of suppliers and raw material manufacturers is necessary, and it is mandatory that the requirements stated later in the Guidelines be satisfied.

To promote green procurement, the Guidelines aim to define the requirements to the suppliers and preferentially procure products from the suppliers who satisfy the requirements, and the list is provided for that purpose stating the requirements to the suppliers and the prohibited substances and the controlled substances of Hirose Electric.

It should be noted that, when the requirements are not satisfied, future transactions may be held off.

Also, the requirements to the suppliers and the prohibited substances and the controlled substances of Hirose Electric are subject to change according to the status of the future laws and regulations and social trends.

### **Hirose Electric Basic Environmental Policy**

As is fitting for a company whose slogan is "A Small Company Connecting Wisdom" the Hirose Electric Group recognizes the importance of preserving the global environment as one of the basic business challenges associated with its global ambitions. We will therefore promote corporate activities that give full consideration to conservation of the environment and biodiversity.

Connectors, which are our main products, help to save energy because their detachability enhances the users' productivity and facilitates transportation of their products. They are used in environmentally friendly products, such as electric vehicles and LED lights. Through the utilization of our connectors, we will contribute to the realization of a low-carbon society, preservation of the environment, and conservation of biodiversity.

Recognizing that in an endeavor to preserve the environment it is important to adopt environmental management that both is effective and conforms to the relevant environmental management system standards. Hirose Electric and its group companies are committed to conforming to the international standard ISO 14001 and are implementing the following environmental protection activities.

1. We will ensure that we understand the conditions surrounding our company, the needs of our stakeholders, and the impact of our activities and products on the environment. Based on these findings, we will identify what we must do to protect the environment, ensure that we meet our conformance obligations, and determine the risks and opportunities associated with undertaking such activities. We will promote environmental protection and prevention of pollution by planning and implementing our activities accordingly.
2. We will comply with environment-related laws, regulations, ordinances, and external requirements that we subscribe to.
3. We will promote the following activities as priorities in our business activities:
  - Design, production, and marketing of products those are environmentally friendly
  - Promotion of energy conservation through effective utilization of resources, streamlining of operations and reduction of waste
  - Promotion of reduction of industrial waste such as metal chips and waste plastic, and promotion of recycling and reuse through segregation.
4. We will provide in-company training on preservation of the environment and conservation of biodiversity, and raise the awareness of, support, and ask for cooperation from our business partners and clients.
5. We will continuously improve our environment management system in order to enhance the results that our environmental preservation activities will deliver

May 18, 2023

President Hirose Electric Co., Ltd.

## 2. Scope

1) This Guideline applies to suppliers (suppliers and subcontractors of articles).

2) This Guideline applies to the following items purchased by Hirose Electric Group.

①Articles that comprise the Hirose Electric products, all articles that are delivered (including those that are likely to be delivered) to customers of Hirose Electric along with the Hirose Electric products, and sub-materials used for the above-stated articles.

(Examples)

- Raw materials
- Adhesive agents, lubricants, solder
- Flux
- Paints, inks
- Cleaning agents, release agents, processing solvents
- Piece parts, units
- OEM products
- Jigs and tools (to be sold to customers)
- Attachments to products including Operating Instruction Manual
- Wrapping materials, packing materials (including inks of prints on the materials, glues, and staplers)
- Indication labels (labels that are attached to products and labels that are attached to packing materials to be delivered to customers)

②Packing materials that are not delivered to Hirose Electric customers

Packing materials that are used for transportation and protection of articles delivered to Hirose Electric (including inks of prints on the materials, glues, and staplers).

③Articles that exist at the assembly sites of the products and the piece parts manufacturing sites of Hirose Electric that are in contact with or possibly in contact with the piece parts.

(Examples)

- Writing instruments, gloves, finger stalls, etc., brought into the manufacturing sites.

④Manufacturing equipment

Equipment used for manufacturing products and piece parts of Hirose Electric that are in contact with or possibly in contact with the piece parts.

## 3. Operation

1) Operation for individual products, etc., shall be done by completely observing the necessary requirements of treaties, laws, ordinances, industrial guidelines, and others. The Guidelines shall also be observed, since chemical substances are stipulated based on major laws and regulations, and do not cover all the substances.

2) Information of chemical substances to be submitted shall basically follow this Guideline, but this will not be applied when different operation needs to be made as requested by the department of Hirose Electric.

3) Concerning Exhibits 1 to 5, the forms may be different from those that will be actually requested by Hirose Electric and those that are stipulated by the Guidelines as a result of version upgrades. If this is the case, the forms that are actually requested by Hirose Electric shall take precedence.

#### 4. Definition of Terms Used

##### 1) JAMP

The Joint Article Management Promotion-consortium (JAMP) is a conference that establishes and disseminates specific tools to adequately manage information on chemical substances contained in articles (other name of piece parts, molded parts, etc.) and to efficiently disclose and deliver the information.

At present, the following tools are provided:

- Guidelines for the Management of Chemical Substances in Products
- MSDSPlus, Article Information Sheet (AIS)
- chemSHERPA
- List of Controlled Substances [JAMP chemSHERPA Controlled Substances]

The above-stated tools are available from <https://chemsherpa.net/>

☆ When obtaining the above-stated tools, be sure to obtain the information on interpretation and how to fill in the framework at the same time. (They can be obtained from the General Menu).

##### 2) Guidelines for the Management of Chemical Substances in Products

This is one of the tools provided by JAMP. The Guidelines summarize the management points of chemical products for organizations in order to assure that the provision and reception of information on chemical substances contained are adequate and secured.

##### 3) Guidelines for the Management of Chemicals in Products Check Sheet

This check sheet is provided together with the Guidelines for the Management of Chemical Substances in Products and is taken along with the requirements of the Guidelines.

##### 4) MSDSPlus, Article Information Sheet (AIS)

This is one of the tools provided by JAMP which is used to deliver information on chemical substances, etc., contained in chemical substances, preparations and article.

Be sure to use the latest version available on the URL from which you obtain the information.

##### 5) Inclusion

The term implies that, whether it is intentional or not, a substance is contained as an ingredient or content in an article that is stipulated in the Scope. It includes cases where the substance is unintentionally mixed in or attached to a product in the manufacturing process.

##### 6) Intentional Adding

Intentional Adding is defined as the inclusion of a chemical substance in a part or raw material, regardless of whether or not it is below the regulated value, with the recognition of its inclusion.

If the inclusion or adhesion of "the chemical substances unintentionally generated in the manufacturing process" (by-products) is recognized, it shall be regarded as Intentional Adding..

##### 7) Inclusion except for intentional adding

Inclusion/adhesion other than "Intentional Adding" as described above

Cases such as the following

A case in which the inclusion of the substance in a natural material cannot be known even by appropriate investigation.

A case in which the substance is unintentionally mixed in or adhered to the product despite appropriate management in the manufacturing process.

##### 8) Use

The term implies that, whether the substance is included in the article stipulated in the Scope or not, the substance in question, or a cleaning agent, a processing solvent, etc., that contain the substance in question is used.

## 9) Prohibited substance

The term refers to chemical substances that are prohibited for inclusion in articles and for use in the manufacturing process as stipulated in the Scope.

Level 1: To be prohibited immediately

Level 2: Use of new parts and materials that contain such substance is prohibited. Use of such parts and materials currently in use shall be phased out by the specified time.

## 10) JAMP Controlled Substances

The term refers to the List of Controlled Substances [JAMP chemSHERPA Controlled Substances] as provided by JAMP. In the Guidelines, the term implies the latest version of the List of Controlled Substances [JAMP chemSHERPA Controlled Substances] provided by JAMP.

## 11) Controlled substance

The term refers to the chemical substances to be controlled regarding their inclusion in articles as stipulated. The controlled substances shall be those that are obtained by excluding the prohibited substances from JAMP Controlled Substances

## 12) Substances prohibited in manufacturing process

The term refers to the chemical substances that are prohibited for use in the manufacturing process, whether they are contained in articles stipulated in the Scope or not.

## 13) CAS No.

This is the number granted to a chemical substance in the chemical documents (theses, patents, etc.) registered by the Chemical Abstracts Service (CAS), a division of the American Chemical Society (ACS) on the chemical substance registration system introduced in 1965.

## 14) Homogeneous material

The term refers to a material that cannot be mechanically decomposed into different materials. For example, for a case where three layers of plating, copper, nickel, and gold are plated on the base material (single metal), it can be assumed that the part is configured with four homogeneous materials made up with the homogeneous materials consisting of plating layers (3) and the base material (1). As for details, refer to the definition of terms in the "Creation Procedures of AIS" provided by JAMP.

## 15) SDS

SDS is the safety data sheet that fulfills the Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, Poisonous and Deleterious Substances Control Act and the Industrial Safety and Health Act. The SDS is an information sheet concerning the properties and handling of the object substances.

## 16) Mill sheet

The term refers to the inspection certificate of metallic materials.

## 17) IMDS

The IMDS (International Material Data System) is the system for collecting information on substances of environmental concern, which is the universal automotive industry standard.

## 5. Requirements to Supplier

### 1) Establishment of Environmental Management System

- ① The supplier shall have established systems such as the Environmental Management System (ISO 14001).  
Alternatively, the supplier shall be in a process of establishing such system under the acquisition plan.
- ② The supplier shall have executed the following actions concerning the environmental preservation:
  - Establishment of the environment management promotion organization such as the environment task force;
  - Positioning and definition of functions of the above-stated promotion organization;
  - Participation of top management with the above-stated organization;
  - The supplier shall not have received any guidance or punishment from the control authorities concerned in the past five years;  
(If a guidance or penalty is received, it shall be communicated to Hirose Electric.)
  - **Implementation of education for employees on chemical substance management, environmental conservation, and biodiversity conservation, and confirmation and recording of its effectiveness;**
  - Energy-saving promotion activities;
  - Observation of environment-related laws and regulations including the Air Pollution Control Law and the Water Pollution Control Law;
  - Proactive activities for reduction and recycling of waste;
  - Employment of used paper for the paper in packaging materials as much as possible; and
  - Promote supply chain management that considers biodiversity while striving for environmental conservation
- ③ The Exhibit 5: Form of Supplier Environmental Conservation System Assessment List shall be submitted.

### 2) Ensure to fulfill the requirements of prohibited substances by quality control system.

- ① The requirements regarding the prohibited substances in products must be explicitly included in the products requirements of the established quality control system.
- ② With respect to the prohibited substances, in each process of design and development, purchasing, and production and service provision, all required matters are decided, implemented, and recorded in compliance with ISO9001 standards.

### 3) Establishing a system to inform correctly of chemical substances contained in products.

- ① A survey system for reportable products must be established based on information traced back to raw material manufacturers.
- ② Chemical substance management shall be executed according to the JAMP Guidelines for the Management of Chemical Substances in Products.
- ③ To be accepted according to JAMP "Guidelines for the Management of Chemicals in Products Check Sheet"  
Acceptance criteria: No nonconformity shall be found after item 5.4.  
Additionally, submission of the corrective action plan shall be complete for the items that are provisionally accepted.

6. Request for submission of chemical substance information for the purchased articles  
Hirose Electric will separately request submission of the information of the following chemical substance for advance confirmation of new articles adopted or for confirmation of purchased articles, and it is appreciated that the suppliers promptly submit the response when such request is made.

In the List of Documents to be submitted below,

those referred with (Exhibit XX) shall use the format of Hirose Electric,  
those referred with (JAMP) shall use the format of JAMP,  
and those without any reference may use any format.

### 1) List of Documents to be submitted

#### a) When the article is under the categories of chemical substance and preparations in Table 1 below

- ① Guarantee of Prohibited Substances (Exhibit 3)
- ② Non-inclusion Guarantee of Halogens (Exhibit 4)
- ③ chemSHERPA-CI (JAMP) (Note7)
- ④ Table of All Ingredients of Preparation (Exhibit 1)
- ⑤ SDS (Note 1 & Note 2), and High-precision Analysis Data of Ten Substances designated by the RoHS Directive (Note 2 & Note 3)
- ⑥ Guidelines for the Management of Chemicals in Products Check Sheet (JAMP) (Note 4 & Note 5)

- ⑦ Evaluation List of Environmental Preservation at Suppliers (Exhibit 5) (Note 4)
- b) When the article is under the category of an Article (other name of piece parts and molded parts) in Table 1 below.
- ① Guarantee of Prohibited Substances (Exhibit 3)
- ② Non-inclusion Guarantee of Halogens (Exhibit 4)
- ③ chemSHERPA-AI in which total ingredients constitute 100% (JAMP)  
When the requirement of 100% above cannot be fulfilled;  
chemSHERPA-AI (JAMP) + Table of All Ingredients of Preparation for each homogeneous material (Exhibit 1)
- ④ Configuration Table (Exhibit 2) (Note 6)
- ⑤ SDS (Note 1 & Note 2) of each raw material and High-precision Analysis Data of Ten Substances designated by the RoHS Directive (Note 2 & Note 3)
- ⑥ Guidelines for the Management of Chemicals in Products Check Sheet (JAMP) (Note 4 & Note 5)
- ⑦ Evaluation List of Environmental Preservation at Suppliers (Exhibit 5) Note 4

Note 1) When preparation of the SDS by the manufacturer of the raw material is not regulatorily required and submission is impossible, the Table of Ingredients issued by the manufacturer shall be submitted.

Note 2) To be submitted in English, if possible both in English and Japanese.

Note 3) Analysis data produced within one year as a rule and details of analysis method (Pretreatment method/analysis method, description of total dissolution of the sample, analysis flowchart) shall be also submitted. In case of a metal, data for PBB and PBDE may be omitted.

Note 4) These documents are required only when a new transaction is made or when specifically requested.

Note 5) Acceptance in the evaluation of the Guidelines for the Management of Chemicals in Products Check Sheet is required for a new transaction. <see Paragraph 5.3) Establishing a system to inform correctly of chemical substances contained in products ③>

Note 6) Only required for the material consisting of multiple homogeneous materials.

Table 1

Category	Chemical Substance/Prepared Drug	Article (other name of piece parts, molded parts, etc.)
Metals	Solder	Metallic materials (plate material, rod stock, wire rods)
	Ingot (casting material)	Metallic parts (screws, stamped articles, cast parts, etc.)
	Welding rod	Plating
Resins	Resin for molding (pellet, monomer before being cured)	Molded resin, molded parts
	Adhesive agent	Resin film
Others	Grease, oil, gases	Paper
	Simple element or compound and its mixture	Battery, electric wire
	Lead oxide, ink, paint, etc.	Electronic parts (PCB, connectors, etc.)
		Unit, OEM product, jigs and tools, etc.

★The booklet Guide of Submitted Documents for Each Delivered Product shall be referenced, which describes the data to be submitted based on the example of delivered articles. (However, the booklet Guide of Submitted Documents for Each Delivered Product is not a part of this Guideline.)

2) Precautions for Table of All Ingredients of Preparations, chemSHERPA Configuration Table, and SDS

a) Common Precautions for Table of All Ingredients of Preparations and chemSHERPA  
The chemical substances to be reported shall be all substances stated in the “JAMP chemSHERPA Controlled Substances.”

b) Precautions for Preparing chemSHERPA-CI

A case where a substance to be controlled is contained and the substance in question is likely to vaporize and react under general operating conditions shall be stated in the Remarks for the substance on the chemSHERPA-CI.



## c) Precautions for Preparing Table of All Ingredients of Preparations (Note 4)

- The answer shall be made in a manner that all ingredients including a case where the drug composition includes substances exempted from the JAMP chemSHERPA Controlled Substances shall be stated so that the total rate of content will be 100%.
- If the ingredients cannot be disclosed by necessity, for a case where the drug contains the substances prohibited by Hirose Electric or the JAMP chemSHERPA Controlled Substances, disclosure of the ingredients shall be mandatory. For other ingredients, the 10% rule of IMDS (substances not disclosed should be 10% or less) may apply.

Note 4) When can be accessed via the IMDS (Hirose Electric User ID 23616), preparation of this document is not required by reporting the IMDS number. (This procedure may not be used depending on the location, and shall be confirmed before submission.)

- If volatilization or chemical reaction occurs, describe the substances after drying and reaction as much as possible.

## d) Precautions for Preparing chemSHERPA-AI and AIS

- The AIS shall be prepared for each homogeneous material.
- The answer shall be made in a manner that all ingredients including a case where the drug composition includes substances exempted from the JAMP chemSHERPA Controlled Substances shall be stated so that the total rate of content will be 100%.
- If the ingredients cannot be disclosed by necessity, for a case where the drug contains the substances prohibited by Hirose Electric or the JAMP chemSHERPA Controlled Substances, disclosure of the ingredients shall be mandatory. For other ingredients, the 10% rule of IMDS (substances not disclosed should be 10% or less) may apply.
- All ingredients, including substances that are not controlled in JAMP, shall be stated so that the total contents should become 100%..
- When the requirement of 100% contents above is not met, the Table of All Ingredients of Preparation under above c) shall be submitted additionally.

## e) Precautions for Preparing Configuration Table

- The configuration table shall be prepared when the article to be investigated comprises multiple homogeneous materials.
- SDS and High-precision analysis data of homogeneous material should be attached for each homogeneous material.
- The configuration table shall not be prepared when the article to be investigated comprises a simple homogeneous material.

## f) Precautions on SDS

- Requirements in the PRTR Act, Poisonous and Deleterious Substances Control Act, and Occupational Safety and Health Act shall be met.

## 3) Precautions for Prohibited Substance Guarantee,

- As for the prohibited substances and the prohibited substance in manufacturing process, refer to Appendices 1 and 2, respectively.
- In addition, for details of the prohibited substances, Appendix 4 “List of [RoHS Exemptions](#)” shall be referenced.
- For prohibited substances in Appendix 3, if you receive notification that the use of the target product falls under the usage of Appendix 3, you must guarantee the usage of Appendix 3.

From the viewpoint of expanding opportunities for new recruitment even when not receiving notification, it is desirable to include it in the guarantee if it can be guaranteed.

## 4) Precautions for Non-inclusion Guarantee of Halogens (Exhibit 4)

Exhibit 4 “Halogen Substance Non-Inclusion Guarantee” shall be submitted.

If the guarantee is not available, the fact shall be described on the guarantee card and submitted (description method: select 6: Cannot guarantee for the Scope of Guarantee and describe the reason in the column of reason briefly).

## 5) Precautions for Supplier Environmental Conservation System Assessment List (Exhibit 5)

In "(2) Confirmation of Chemical Substance Management System," there is a question regarding the implementation and recording of education in the implementation item 5.4.2. The effectiveness of education should be checked and recorded, since it will be heard at the time of confirmation of the supplier's chemical substance management system.

In addition, if there is no nonconformity or quasi-conformity in the implementation item 5.4.2 or later, a correction plan should be submitted.

If there is an item with a score of 0 in "(3) Checking the quality control status of prohibited substances," a correction plan should be submitted.

The form of the correction plan should be optional.

## 6) Precautions for Analysis Data etc. of respective homogeneous material

① High-precision analysis data of Ten Substances designated by RoHS Directive (ICP data, etc.)

- Pre-processing method/analysis method, complete dissolution statement and analysis flow chart shall also be attached.
- Analysis should be done in conformity with IEC 62321 at a measurement organization that has acquired ISO17025 certification.
- Data that were analyzed within last one year, in principle.

★ As for metallic materials, analysis data of PBBs and PBDEs shall not be required.

★ To Suppliers: The material shall be managed by suppliers for one year or less, in principle.

- If the material can be guaranteed to be halogen-free, analysis of chlorine and bromine should be included in the analysis data as much as possible.  
(If not guaranteed, or if metal or plating, halogen-free analysis is not required)

## 7) Prior report for a case where contained chemical substance may transform

In case the contained chemical substance in 2 Scope (2) may transform, required documents as stated in (4) to (7) shall be submitted again according to Attached Table 1 Table A "List of Documents to be Submitted" and Table B "Detailed Information on Chemical Substances" at the time of submitting the process change notification.

(Note) Transformation of contained chemical substance includes changes in the ratio of chemical substance in addition to changes in ingredients of chemical substance.

## 8) The renewal timing and retention period of the submitted data

As per Table 2.

The retention period shall start as of the data when the supply of the articles is terminated or the data are no longer required due to updating etc.

Table 2

Documents	Renewal Timing	Retention Period	Destination of Submittals
chemSHERPA-CI(JAMP)	a change is made	25 years since the suspension of parts or materials	Requester
List of All Ingredients of Preparations (Form: Exhibit 1)	Same as above	Same as above	Requester
chemSHERPA-AI (JAMP)	Same as above	Same as above	Requester
Configuration Table (Not required when the constituent is only one homogeneous material.)	Same as above	Same as above	Requester
SDS	Same as above	Same as above	Requester
Prohibited Substance Guarantee, (Form: Exhibit 3)	Same as above	Same as above	Requester
High-precision analysis data of Ten Substances designated by RoHS Directive	Every year	Same as above	Requester
Halogen-Free Guarantee (Form: Exhibit 4)	a change is made	Same as above	Requester
Guidelines for the Management of Chemicals in Products Check Sheet	Same as above	Same as above	Requester
Evaluation List of Environmental Preservation at Suppliers(Form: Exhibit 5)	Same as above	Same as above	Requester

- 9). Contact address concerning the Guidelines  
 Environment Management Office  
 Hirose Electric Co., Ltd.  
 +81-45-620-3563

## 7. Revision History

Version	Revision Date	Description
1	2006.12.11	First edition
1.1	2007.10.31	<p>1. Addition of supplements  Note added to 28) 2 * 3 was added.  * 3 3.1 Scope: Concerning articles that fall under 2), submission shall not be required unless otherwise specially required.</p> <p>2. Change in expression  Expression in 25) ② was changed.  In case no prohibited substance is used →  In case the prohibited substance is not contained and the prohibited substance in manufacturing process is not used  Change in expression of 25) ③  In case a prohibited substance is used →  In case the substance does not fall under ②</p> <p>3. Correction of error in writing  3.3 3)  In case the substance is contained → In case the substance is used</p> <p>4. As a result of the JIG revision to Appendix 1, threshold values of asbestos and ozone depleting substances were changed.  Prohibition of intentional adding → Prohibition of inclusion irrespective of the amount</p> <p>5. Appendices 1 and 2 medium-chain, long-chain chlorinated paraffin: as a result of revision of the customer requirement, prohibited substances were changed to controlled substances</p> <p>6. PFOS was added to Appendix 2 controlled substances</p> <p>7. PFOA was added to Appendix 2 controlled substances</p> <p>8. Appendix 2 Regulation of reference laws of controlled substances: For the portion stated as domestic laws and overseas laws, specific laws were stated.</p> <p>9. Submission of Evaluation List of Environmental Preservation at Suppliers (Exhibit 4) was added to 1-③ List of Documents to be Submitted.</p>
2.0	2009.6.25	<p>1. Contents  Deleted: Appendix 2 List of Controlled Substances, Exhibit 1 Form of Investigation Sheet of Inclusion  Added: Attached Table 1 List of Documents to be Submitted, Form of Exhibit 1 Table of All Ingredients of Preparations, Form of Exhibit 2 Configuration Table, Form of Halogen Substance Non-Inclusion Guarantee  Change in document configuration: Paragraph 3 Chemical Substance Management was deleted. Scope, Operation, and Definitions of Term were allocated and inserted into Paragraphs 2, 3, and 4, respectively.</p> <p>2. Paragraph 1 Objective  Added: The following sentence was added.  The Evaluation List of Environmental Preservation at Suppliers and the List of Items to be Executed and Check Sheet are tools for suppliers to check the satisfaction level of the requirement and implement activities for improvement.</p> <p>3. Paragraph 2 Scope &lt;Previous Paragraph 3.1&gt;  1) Added: ① Apply to suppliers (suppliers and subcontractors of articles).  ② (including those that are likely to be delivered) (for selling to customers), to be delivered to customers  2) Revised: Explanation was revised to be easier to understand (The meaning remains same.)</p>

2.0	2009.6.25 Continued	<p>3), 4), and 5)  Added: Items 3), 4), and 5) were added to Scope.</p> <p>4. Paragraph 3 Operation  Added: The present item was added.</p> <p>5. Paragraph 4 Definitions of Term  1. Terms were added.  Paragraphs 1) to 5)  Paragraphs 11), 15), 16), 17), and 18)</p> <p>6. Paragraph 5 Requirements to Suppliers  4) Submission of Chemical Substance Inclusion Information  Revised: Totally revised (for renewal of substances to be reported, introduction of AIS and MSDSPlus)</p> <p>5) Submission of Prohibited Substance Non-Inclusion Guarantee and Prohibited Substance Declaration/Guarantee  Revised: In case the substance does not fall under ②  → Details of ② were stated in a specific manner.</p> <p>6) Submission of Halogen Substance Non-Inclusion Guarantee  Added: The above-stated items and descriptions were added.</p> <p>7) &lt;Previous 6)&gt; Submission of analysis data for each homogeneous region  Revised: Homogeneous region → Homogeneous material (changed to JAMP expression)  Added: Measurement data → High-precision analysis data (ICP data, etc.)  • Analysis shall be done in conformity with IEC 62321.  ★ To Suppliers: The material shall be managed by suppliers for one year or less, in principle (limited to the case of metallic material).</p> <p>9) &lt;Previous 8)&gt; List of Documents to be Submitted by Suppliers, Update timing and minimum storage period  Deleted: List (The list was separated as Attached Table.)</p> <p>7. Paragraph 6  Added: Concerning the Guidelines, Co., Ltd.</p> <p>&lt;Appendix 1 Prohibited Substances Revised&gt;</p> <p>1. Addition  1) Column on List of Substances for CAS No. Reference and Example.  For substances that can be referenced on lists of example substances such as JIG or GADSL, names of the reference lists are were added.</p> <p>2) Columns for Reference Laws and Regulations/Self-Imposed Regulation  As for JIG controlled substances, the criteria were added.  As for GADSL prohibited substances, the term “GADSL Prohibited Substance” was added.</p> <p>3) NOTE  Notes were added concerning the above-stated (1), and URLs from which the list of example substances can be obtained were clearly stated.</p> <p>2. Added Prohibited Substances  ① 1,1,1-trichlorethylene  ② Diarsenic pentoxide (broken away from arsenic and its compounds to match JIG)  ③ Diarsenic trioxide ((broken away from arsenic and its compounds to match JIG)  ④ Tris phosphate (2,3-dibromopropyl)  ⑤ Tris (1-aziridiny) phosphine oxide  ⑥ Perfluorooctansulfonate (PFOS) and its salt  ⑦ Perfluorocarbon (PFC)</p>
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<p>2.0</p>	<p>2009.6.25 Continued</p>	<p>⑧ Hydrofluorocarbon (HFC)                  ⑨ Sulfur hexafluoride (SF6)                  ⑩ Hexabromocyclododecane (HBCDD) and all major diastereoisomers                  ⑪ Chloromethyl methyl ether                  ⑫ 2-Methoxyethanol                  ⑬ N-nitrosodimethylamine                  ⑭ Tetrachlorobenzenes                  ⑮ Tetrafluoromethane                  ⑯ Chloroethylene (another name: vinyl chloride)                  ⑰ Dimethyl fumarate (DMF)</p> <p>3. Changes</p> <p>① Column for regulation value of formaldehyde: Wood products and furniture that emit formaldehyde at the concentration of 0.1 ppm or over → Emission of formaldehyde at the concentration of 0.1 ppm or over shall be prohibited.</p> <p>② Ozone depleting substances Error in class rating was corrected</p> <p>③ Phthalic acid Change in threshold value Since direct interpretation of the law results in total value of respective substances, the value of 0.1% that had been set out for each substance was changed to 0.1% in total.</p> <table border="1" data-bbox="513 869 1390 1308"> <tr> <td data-bbox="513 869 943 1070">                     Bis phthalate (2-ethylhexyl)(DEHP(DOP))                      Dibutyl phthalate (DBP)                      Butyl benzyl phthalate (BBP)                 </td> <td data-bbox="943 869 1390 1070">                     Use of the substances is prohibited when the total of those shown at the left reaches 0.1% or over, which is limited to plastic materials included in toys and supplies for children.                 </td> </tr> <tr> <td data-bbox="513 1070 943 1308">                     Di-isononyl phthalate (DINP)                      Di-isodecyl phthalate (DIDP)                      Di-n-octyl phthalate (DNOP)                 </td> <td data-bbox="943 1070 1390 1308">                     Use of the substances is prohibited when the total of those shown at the left reaches 0.1% or over, which is limited to applications for toys and supplies for children that children put into their mouth.                 </td> </tr> </table> <p>3. Deletion-Prohibited Substances Organic tin compounds (excluding the prohibited substances TBTs, TPTs, and TBTOs. Reason: They shall be excluded from the prohibited substances since the prohibited applications are biocide products and industrial water treatment.</p> <p>&lt;Appendix 2 Prohibited Substances for Use in Manufacturing Process&gt;</p> <p>1. Added Prohibited Substances ① Perfluorooctansulfonate and its salt (PFOS) &lt;Appendix Table 3 Hirose Electric List of Regulation Values of Substances Regulated by RoHS Directive&gt;</p> <p>1. Added Regulation ① Regulation value of mercury for battery &lt;Appendix Table 4 Application Exempted by RoHS Directive&gt;</p> <p>1. DecaBDE paragraph deleted Note 5 stated that Hirose Electric will not approve any exemptions regarding DecaBDE. However, since it is excluded from exemptions of the Directive, the whole exemption paragraph was deleted. Regulation of six exemptions that were added by 2009/443/EC was added.</p>	Bis phthalate (2-ethylhexyl)(DEHP(DOP)) Dibutyl phthalate (DBP) Butyl benzyl phthalate (BBP)	Use of the substances is prohibited when the total of those shown at the left reaches 0.1% or over, which is limited to plastic materials included in toys and supplies for children.	Di-isononyl phthalate (DINP) Di-isodecyl phthalate (DIDP) Di-n-octyl phthalate (DNOP)	Use of the substances is prohibited when the total of those shown at the left reaches 0.1% or over, which is limited to applications for toys and supplies for children that children put into their mouth.
Bis phthalate (2-ethylhexyl)(DEHP(DOP)) Dibutyl phthalate (DBP) Butyl benzyl phthalate (BBP)	Use of the substances is prohibited when the total of those shown at the left reaches 0.1% or over, which is limited to plastic materials included in toys and supplies for children.					
Di-isononyl phthalate (DINP) Di-isodecyl phthalate (DIDP) Di-n-octyl phthalate (DNOP)	Use of the substances is prohibited when the total of those shown at the left reaches 0.1% or over, which is limited to applications for toys and supplies for children that children put into their mouth.					

2.1	2010.3.25	<p>1. Purpose Addition of description related to biodiversity conservatory activities</p> <p>5. Requirements for supplier Addition related to biodiversity conservatory</p> <p>5. 4) &lt;Precautions for Preparing MSDSPlus, Table of All Ingredients of Preparations, AIS sheet, and Configuration Table&gt;</p> <ul style="list-style-type: none"> <li>• "MSDS and High-precision analysis data of homogeneous material for each homogeneous material should be attached to the configuration table" is added</li> <li>•f) Precautions on MSDS are added</li> </ul> <p>6. Submission of guarantee card related to halogen-free It was submitted when it was requested, however, the submission is decided to be necessary, and the content was changed so that the item that could not be guaranteed should be submitted by describing the fact.</p> <p>8. List of submitted documents The reference of the guide of submitted documents for each delivered product is added.</p> <p>&lt;Appendix 1. Addition of prohibited substance is added&gt; Following prohibited substances are added reflecting the integration of REACH regulation of 76/769/EEC, the revision of Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., and the revision of GADSL.</p> <p>1. Additional prohibited substance</p> <p>Ammonium polysulfide</p> <p>Volatile bromoacetate esters:</p> <p>Methyl bromoacetate</p> <p>Ethyl bromoacetate</p> <p>Propyl bromoacetate</p> <p>Butyl bromoacetate</p> <p>Organotin compound</p> <p>(a) Creosote</p> <p>(b) Creosote oil</p> <p>(c) Distillate (coal-tar), naphthalene oil</p> <p>(d) Creosote oil, acenaphthene fraction</p> <p>(e) Distillate (coal-tar), high-temperature fraction</p> <p>(f) Anthracene oil</p> <p>(g) Tar acid, carbon system, roughness</p> <p>(h) Creosote, woody</p> <p>(i) Tar oil, alkaline property, low temperature</p> <p>Diphenyl ether pentabromo derivative <math>C_{12}H_5Br_5O</math></p> <p>Diphenyl ether octabromo derivative <math>C_{12}H_2Br_8O</math></p> <p>(1) Nonyl phenol <math>C_6H_4(OH)C_9H_{19}</math></p> <p>(2) Nonylphenol ethoxylate <math>(C_2H_4O)_nC_{15}H_{24}O</math></p> <p>Toluene</p> <p>Trichlorobenzene</p> <p>Polycyclic aromatic hydrocarbon (PAH)</p> <p>1. Benzo (a) pyrene (BaP)</p> <p>2. Benzo (e) pyrene (BeP)</p> <p>3. Benzo (a) anthracene (BaA)</p> <p>4. Chrysene (CHR)</p> <p>5. Benzo (b) fluoranthene (BbFA)</p> <p>6. Benzo (j) fluoranthene (BjFA)</p> <p>7. Benzo (k) fluoranthene (BkFA)</p> <p>8. Dibenzo (a, h) anthracene (DBAhA)"</p> <p>2-(2-methoxyethoxy) ethanol (DEGME)</p> <p>2-(2-butoxyethoxy) ethanol (DEGBE)</p>
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2.1	2010.3.25 Continued	Methylenediphenyldiisocyanate (MDI) Cyclohexane Ammonium nitrate (AN) "N-nitrosodimethylamine <Appendix 4. Excluded from the application of RoHS protocol> • Cadmium in alloy at electrical / mechanical solder joint part of conductor that is directly attached to the voice coil of convertor of high input resistance speaker whose sound pressure level is 100 dB(A) or more • Cadmium used for II-VI family LED (cadmium should be 10 µg or less per luminous area millimeter squared) for illumination or indicator
3	2011.6.1	① The latest edition is listed due to change in the environmental policy. ② Prohibition of use in the manufacturing process is clearly indicated according to the definition for prohibited substances and mixing in the manufacturing process. ③ Notes are added to MSDS of the required documents in Tables A and D. ④ Retention period in Table B is revised considering REACH Regulation. ⑤ Chemical Substance Questionnaires in Hirose format by Attachments 1 through 4 and Attachment 6 are revised. ⑥ Prohibited substances are classified into two types, Level 1 and Level 2 respectively. ⑦ The following two substances are additionally included as the Level 2 prohibited substance. <ul style="list-style-type: none"> <li>• 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)</li> <li>• 4,4'-Diaminodiphenylmethane (MDA)</li> </ul> ⑧ Attached Table 1: Consistency of the threshold values are established principally for the substances under Annex XVII of REACH. ⑨ Attached Table 3: Exemptions from the RoHS Directive are revised due to the amendment of the regulation (as of September 25, 2010).
4	2012.7.14	5. Requirements to Supplier: Item 3 "Production in cadmium-free plant" has been changed to Item 2 "Quality control system must be established and managed rigorously to ensure prohibited substances are never used." 6. Contact address concerning the Guidelines: The telephone number changed following the relocation of the office.  <History of Updates on Prohibited Substance List> <ul style="list-style-type: none"> <li>• The layout of the list of Prohibited Substances has been changed to clarify that the laws and regulations referenced are not part of the Directive.</li> <li>• 4,4-diaminodiphenylmethane (MDA) had been included at both Level 1 and Level 2. It has now been deleted from Level 2.</li> <li>• Correction made to CAS No. of DINP and DIDP.</li> <li>• To comply with revised regulations, the threshold value for lead, mainly in products for children aged 12 or younger, has been reduced from 300 to 100.</li> <li>• The CAS No. for ammonium polysulfide (9080-17-5) was added following the incorporation of 76/769/EEC into REACH.</li> <li>• Beryllium oxide has been added to Level 2.</li> <li>• Note 5 was added to clarify the relationship between "intentional addition" and "threshold value."</li> <li>• In response to the substances added in EU REACH ANNEX XIV (2012/2/15), a total of three substances prohibited for the first time has been added to Level 2.</li> <li>• The RoHS exemptions have been updated to reflect the latest version.</li> </ul>



4	2012.7.14 Continued	<p>&lt;Annex Table 1&gt; The required retention period for RoHS-related records in Table C was changed to 11 years to comply with revised regulations. &lt;Format of Submitted Documents&gt; Exhibits 3 and 4 have been revised to make documents consistent with changes in the Requirements to Supplier: "Production in cadmium-free plant."</p>
5	2013.6.26	<p>&lt;Change and Addition of the Prohibited Substances&gt; No addition in this revision. Correction of the following CAS No. Lucifer matches CAS No 7723-14-0 ⇒ 12185-10-3 Revisions made are as follows.  <ul style="list-style-type: none"> <li>• Reference to MSDS is changed to (M)SDS.</li> <li>• Addition (If a guidance or penalty is received, it shall be communicated to Hirose Electric.)</li> <li>• 5.2) Introduction and addition of Guidelines for the Management of Chemical Substances in Products for Medium to Small Businesses</li> <li>• 5.3) Acceptance criteria of the Guidelines for the Management of Chemicals in Products Check Sheet are reviewed according to version up of the check sheet.</li> <li>• Details of the request for Chemical Substance Information are summarized in Section 6.</li> <li>• Attached Table 1 is deleted and its contents are described in the text of the Guideline.</li> <li>• 6.1) d) Additional requirement for the Table of Ingredient before Preparation in case the total contents are not 100% is clearly indicated.</li> <li>• 6.2) c) A notice is added that MDS No. can replace the Table of Ingredient before Preparation</li> <li>• Exhibit 6</li> </ul> <p>① Acceptance criteria in the Evaluation List of Environmental Preservation at Suppliers are changed in accordance with revision of JAMP. ② Addition of confirmation items on quality control condition of the prohibited substances ③ Full score of 120 is changed to full score of 200.</p> </p>
6	2014.7.16	<p>&lt;Appendix 1&gt;  <ul style="list-style-type: none"> <li>■ Added Level 1 Prohibited Substances below <ul style="list-style-type: none"> <li>• tris(2-chloro-1-methylethyl) phosphate(TCPP)</li> <li>• tris(1,3-dichloro-2-propyl) phosphate(TDCPP)</li> <li>• Endosulfan</li> <li>• PAH 8 kinds →18 kinds (10 kinds added)</li> <li>• BNST</li> </ul> </li> <li>■ Following Level2 Prohibited Substances are promoted to Level1 <ul style="list-style-type: none"> <li>• DBT</li> <li>• DIBP</li> <li>• TCEP</li> <li>• 5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)</li> <li>• 2,4-dinitrotoluene</li> </ul> </li> <li>■ modified threshold of following substance <ul style="list-style-type: none"> <li>• Polychlorinated Naphthalenes (PCN)</li> </ul> </li> </ul> <p>&lt;Appendix 4&gt;  <ul style="list-style-type: none"> <li>■ Overdue Exemptions have been deleted (2 items)</li> </ul> <p>&lt;Appendix 1&gt;  <ul style="list-style-type: none"> <li>■ Added Level 1 Prohibited Substances below</li> </ul> </p> </p></p>

6 Continued		<p>①PFOA and its salts,          ②Medium Chain Chlorinated Paraffins(C14 – C17)          ③Red Phosphorus          ■modified threshold of following substances          ①Asbestos          ②Formaldehyde          ③Nickel and its compounds          ④Ozone Depleting Substances          ⑤Arsenic and its compounds          ⑥Polycyclic-aromatic hydrocarbons (PAH)          ⑦Chromium (VI) Compound</p>
7	2015.7.3	<p>&lt;Appendix 4&gt;          ■Overdue Exemption has been deleted</p>
8	2016.7.12	<p>&lt;Appendix 1&gt;          ■Added Level 1 Prohibited Substances below          PCN: having 3or more chlorine atoms→ having 1or more chlorine atoms</p> <p>■Modified threshold of following substances          HBCDD or HBCD          1000ppm→100ppm</p> <p>■Modified description          PFOS, PFOA, Arsenic and its compounds,PCPs, PAH</p> <p>&lt;Appendix 3&gt;          ■Added Restrictions on the battery has been added</p> <p>&lt;Appendix 4&gt;          ■Overdue Exemption has been deleted</p> <p>&lt; Submitted Documents&gt;          ■note7 has been added.          ■annex4 has been merged into annex3          ■Reviewing the format for Halogen-Free Guarantee</p>
9	2017. 8. 2	<p>&lt;Changes in Appendix 1&gt;          1) The following Level 1 Prohibited Substance was added.          (4-chlorophenyl) cyclopropylmethanone          Prohibited for exclusive use (inorganic ammonium salt, bisphenol A)          2) Change from beryllium oxide level 2 to level 1          3) Threshold for specific phthalic acid We reviewed it according to Taiwan CNS 4797.          4) Yellow phosphorus match, N-nitrosodimethylamine resurrection (It was revived because it was missing in 9th edition → 10th edition erroneously)          5) Revised the notes of the reference law section.</p> <p>&lt;Definition of Terms&gt;          In consideration of the release of chemSHERPA, a new chemical substance transmission tool, we reviewed the explanation of the mechanism of chemical substance transmission provided by JAMP</p> <p>&lt;Requirements&gt;          Utilization of environmentally and biodiversity-conscious materials          →Promote supply chain management that considers biodiversity while striving for environmental conservation</p>



12 Continued		<p>■ Changes in the Appendix (Chemical Substance Management Standards)</p> <p>[Appendix 1-Change of Banned Substances]</p> <ul style="list-style-type: none"> <li>• Addition of phenylmercury</li> </ul> <p>* Because it is a banned substance of ANNEX17 of REACH and is different from RoHS threshold</p> <ul style="list-style-type: none"> <li>• Review of PFOA prohibited contents</li> </ul> <p>* Because it was a banned substance under REACH ANNEX17, the regulations were added to the Norwegian and Canadian laws and regulations.</p> <p>[Appendix 3-Change of prohibition in only for the product use]</p> <p>-The rewritten content of the appendix title "More" was specifically clarified as "Addition to Appendix 1".</p> <ul style="list-style-type: none"> <li>• Regulations of EN71 standard of EU toy directive were added for toys or children's goods.</li> <li>• Restriction on phthalic acid of REACH ANNEX17 has been added for toys or children's goods, packaging and batteries.</li> </ul> <p>[Appendix Table 4-Changes to RoHS exemptions]</p> <p>-The number on the directive, the expiration date of the exemption, the old directive, etc. were added, and the revision of the directive was reviewed to follow.</p> <p>■ Changes to the attached sheet (submission form)</p> <p>[Attachment 1 Dispensing All Components Table ver3.05]</p> <p>"If volatilization or chemical reaction occurs, describe the components after drying and reaction as much as possible."</p> <p>[Attachment 4 Halogen-free warranty ver2.1]</p> <p>Added "(The following criteria shall be met for each homogeneous material)" to clarify that the conformance conditions are for each homogeneous material.</p> <p>[Attachment 5_Supplier environmental conservation evaluation list ver4_2]</p> <p>Improve the display space so that there is no change in the content and the characters do not break</p>
13	2020.10.13	<p>2.Scope change of description. (The scope itself remains unchanged.)</p> <p>4. Definition of Terms Used 11) Controlled substances Error correction</p> <p>■Appendix 1 Tetrabromobisphenol-A: Banned substance added Nitrogen trifluoride: added as a prohibited substance PVC : Prohibited to be used for flat cable Formaldehyde: threshold values reviewed</p> <p>■Appendix 3: We reviewed the threshold for batteries. For packaging, PBDE threshold was added</p> <p>■Appendix 4 The items that have expired are colored in.</p> <p>■Exhibit 1 The notes have been revised for clarity.</p> <p>■Exhibit 5. (2) Confirmation of Chemicals Control System The checklist version and the implementation section number were clarified.</p>

14	2021.9.30	<p>2.2 Definition of Terms Used Definitions of "5)Intentional Adding" and "6)Inclusion except for intentional adding" were revised.</p> <p>■Appendix1</p> <ul style="list-style-type: none"> <li>• Tetrabromobisphenol A (TBBP-A):added "its derivatives"</li> <li>• Cadmium/cadmium compounds : =&lt; →&lt;</li> <li>• The following Level 1 prohibited substances were added. LCPFAC PIP(3:1) PCTP 1-Bromopropane 1,4-dioxane N-Methylpyrrolidone (NMP) Pigment Violet 29</li> <li>• The following Level 2 prohibited substances were added. Perfluorohexane-1-sulphonic acid and its salts(PFHxS), all members Dechlorane plus PFCAs (C9-C14) and their salts ,related substances</li> </ul> <p>■Appendix 4</p> <ul style="list-style-type: none"> <li>• The items that have expired are colored in.</li> <li>• Addition (discussing extension/No extension)</li> </ul>
15	2022.9.26	<p>6.(7) The renewal timing and retention period of the submitted data Retention period for documents submitted: changed from 21 to 25 years (Table 2) The quality record retention standard (HQS-I 001) defines the retention period as 25 years from the cessation of production, which was adopted.</p> <p>■Appendix 1</p> <p>The regulatory content of the following substances was reviewed. (Reflects customer requirements)</p> <ul style="list-style-type: none"> <li>• PVC Inclusion in materials (e.g. ink) used for marking on sheaths of electric wires is not prohibited.</li> </ul> <p>The following substances were changed from Level 2 to Level 1 prohibited substances. (As it is a chemical substance whose use is prohibited by law)</p> <ul style="list-style-type: none"> <li>• PFCAs (C9-C14) and their salts ,related substances</li> <li>• Perfluorohexane-1-sulphonic acid and its salts(PFHxS), all members</li> <li>• 1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1*6,9*.0*2,13*.0*5,10*]octadeca-7,15-diene, all members (Dechlorane plus)</li> </ul> <p>The following substances were added to Level 1 prohibited substances. (As it is a chemical substance whose use is prohibited by law)</p> <ul style="list-style-type: none"> <li>• UV-328</li> <li>• 1H-1,2,4-triazol-5-ylamine</li> <li>• Iprodione.</li> <li>• Nonylphenol and nonylphenol ethoxylates</li> <li>• MOAH (Mineral oils) content to be regulated from 1 January 2023.</li> </ul> <p>The following substances were added to Level 2 prohibited substances. (Reflects legislation and customer requirements).</p> <ul style="list-style-type: none"> <li>• MOAH (mineral oils) content to be regulated from 1 January 2025.</li> <li>• MOSH (mineral oils)</li> <li>• Decabromodiphenylethane (DBDPE).</li> </ul>

15 Continued	2022.9.26	<p>The alias names of the following substances were added.</p> <ul style="list-style-type: none"> <li>• Bisphenol A</li> </ul> <p>■Appendix 4</p> <ul style="list-style-type: none"> <li>• Note mark '*3' was added in the column of legal expiration dates.</li> <li>• Items with exempted expiration dates that have passed are shown in gray. (2 items of lead and its compounds)</li> <li>• For Legal No. 37 of lead and its compounds, the content of in the Legal expiration dates field was corrected to 2021/7/21(No extension) .</li> <li>• Exempted expiration dates were filled in for items with extended exempted expiration dates. (27 items of mercury and its compounds)</li> <li>• Note *2(Undecided or Under discussion) was deleted.</li> </ul>
16	2024.1.22	<p>■Changes to the text</p> <p>Section1. Purpose Hirose Electric Basic Environmental Policy: Change of company slogan Change from ""Creative Links to World Electronics" to "A Small Company Connecting Wisdom"</p> <p>Section5. Requirements to Supplier</p> <p>1) Establishment of Environmental Management System</p> <p>② Requirements for environmental conservation activities: Educational implementation of "chemical substance management" and confirmation and record of its effectiveness were added. The words of "chemical substance management" were not written, and the words of "enlightenment activities" were concretized and clarified because they were almost abstract expressions.</p> <p>Section6. Request for submission of chemical substance information for the purchased articles</p> <p>5) Precautions for Exhibit 5 The corrective action plan is added when it is necessary.</p> <p>■Exhibit 5.</p> <p>(2) Confirmation of Chemicals Control System The following information was added. Confirmation of ISO9001 external certification status (This formula not only confirms environmental and biodiversity Conservation, but also confirms the quality control status and contamination risk of prohibited substances.)</p> <p>(3) Confirmation of Quality Management Status for the Banned Substance</p> <ul style="list-style-type: none"> <li>• <b>Added confirmation items for concurrent production</b> (Response to customer audit points)</li> <li>• <b>The following content was added in the submission of the corrective action plan.</b> If even one item has a score of 0(zero) among the nine items in each of the Systeme and Operating record (18 items in total), a corrective action plan (optional format) should be submitted. (All the items to be checked are important as quality control items, so if there is an item with a score of 0, corrective action is required regardless of the passing judgment.)</li> </ul>

# Appendix1. Prohibited Substance

Prohibited Substance				Referenced Laws and Regulations, etc. (The contents of this column do not limit the prohibited items on the left)
Category	Substance	Regulation Value (Note 5)	CAS No List of Reference Substances (Note 1)	
Prohibited Substance Level 1	Cadmium/cadmium compounds	Intentional addition(note 7) prohibited. Solder < 20ppm Metals < 75ppm Other < 5ppm refer to Exemptions(Appendix 4)	JIG-101 ANNEX B GADSL	RoHS Directive (2011/65/EU) ELV Directive (2000/53/EC) etc., JIG-101 Criteria R, GADSL Prohibited Substance
Prohibited Substance Level 1	Chromium VI compounds	Intentional addition(note 7) prohibited. Leather article coming into contact with skin(note6) 3ppm  Other 1000ppm refer to Exemptions(Appendix 4)	JIG-101 ANNEX B GADSL	RoHS Directive (2011/65/EU) ELV Directive (2000/53/EC) etc., JIG-101 Criteria R
Prohibited Substance Level 1	following Phenylmercury: • Phenylmercuric acetate (62-38-4) • Mercury, phenyl(propanoato-O)- (103-27-5) • Mercury, (2-ethylhexanoato-O)phenyl-(13302-00-6) • Mercury,(octanoate)phenyl-(6Cl,8Cl)( 13864-38-5) • Mercury, (neodecanoato-O)phenyl-(26545-49-3)	Intentional addition(note 7) prohibited. 1000ppm		REACH Annex XVII
Prohibited Substance Level 1	Mercury/mercury compounds However, the above phenylmercury are excluded	Intentional addition(note 7) prohibited. 1000ppm refer to Exemptions(Appendix 4)	JIG-101 ANNEX B GADSL	RoHS Directive (2011/65/EU) ELV Directive (2000/53/EC) etc., JIG-101 Criteria R, GADSL Prohibited Substance
Prohibited Substance Level 1	Lead/lead compounds	Intentional addition(note 7) prohibited. Plastics 100ppm Solder 500ppm Metals 1000ppm Cables 100ppm Other 1000ppm refer to Exemptions(Appendix 4)	JIG-101 ANNEX B GADSL	RoHS Directive (2011/65/EU) ELV protocol (2000/53/EC) etc., JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Specific bromine (PBBs)	Intentional addition(note 7) prohibited. 1000ppm	JIG-101 ANNEX B GADSL	RoHS directive (2011/65/EU), REACH Annex XVII, JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Specified Polybrominated Diphenylethers (PBDEs)	Intentional addition(note 7) prohibited. 1000ppm	JIG-101 ANNEX B GADSL	RoHS directive (2011/65/EU), JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Di(2-ethylhexyl)phthalate(DEHP) bis(2-ethylhexyl)phthalate	Intentional addition(note 7) prohibited. 1000ppm	117-81-7	RoHS Directive (2011/65/EU) etc., JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Benzyl butyl phthalate (BBP)	Intentional addition(note 7) prohibited. 1000ppm	85-68-7	RoHS Directive (2011/65/EU) etc., JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Dibutyl phthalate (DBP)	Intentional addition(note 7) prohibited. 1000ppm	84-74-2	RoHS Directive (2011/65/EU) etc., JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Diisobutyl phthalate (DIBP)	Intentional addition(note 7) prohibited. 1000ppm	84-69-5	RoHS Directive (2011/65/EU) etc., JIG-101 criteria R, GADSL prohibited substance
Prohibited Substance Level 1	Tetrabromobisphenol A (TBBP-A) and its derivatives	Intentional addition(note 7) prohibited. 1000ppm	79-94-7	Bangladesh (threshold :1500 ppm) RoHS Directive(2011/65/EU)PACK15

# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	Medium Chain Chlorinated Paraffins (C14 – C17)	Intentional addition(note 7) prohibited 1000 ppm or less	GADSL	Norway PoHS(Prohibition on certain Hazardous Substances in Consumer Products) RoHS Directive(2011/65/EU)PACK15
<b>Prohibited Substance</b> Level 1	Short chain Chlorinated Paraffins (C10 – C13)	Intentional addition(note 7) prohibited 1000 ppm or less	JIG-101 ANNEX B GADSL	EU POPs, (dioxine law of Germany) chemical goods ban of Germany, JIG-101 criteria prohibited
<b>Prohibited Substance</b> Level 1	Asbestos	Intentional addition(note 7) prohibited. 1000 below	JIG-101 ANNEX B (Note 2) GADSL(Note 3)	Industrial Safety and Health Act asbestos (prohibition) control of UK chemical goods ban of Germany, JIG-101 criteria R, GADSL prohibited substance,TSCA First10
<b>Prohibited Substance</b> Level 1	Azo color and colorant that generate a part of aromatic amine (refer to JIG-101 Table B)	Intentional addition(note 7) prohibited. Inclusion exceeding 1000 ppm is prohibited. The use of specified azodyes that may discharge aromatic amines at concentrations of 30 ppm or over on fabric and leather products that directly contact the skin is prohibited. (Note 4)	-	REACH Annex XVII, commodity control of Germany, JIG-101 criteria R, GADSL prohibited substance
<b>Prohibited Substance</b> Level 1	Specific amine (for the concrete substance, refer to JIG-101 Table B)	Intentional addition(note 7) prohibited.	JIG-101 ANNEX B	Refer to REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Cobalt dichloride	Inclusion prohibited in silica gel for packaging material. In addition, inclusion of 0.1% or over is prohibited.	7646-79-9	REACH Annex XVII, JIG-101 Criteria R
<b>Prohibited Substance</b> Level 1	Dibutyltin compounds (DBT)	Intentional addition(note 7) prohibited If the tin concentration is larger than 0.1% of weight, use of the material is prohibited.	JIG-101 ANNEX B	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Diocetyl tin compounds (DOT)	If the tin concentration is heavier than 0.1% of weight, use of the material is prohibited.	JIG-101 ANNEX B	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Trisubstitution organotin compound Tributyltins (TBT's), Triphenyltins (TPT's)	If concentration of the molding product or part is larger than 0.1% of weight of tin, it cannot be used	JIG-101 ANNEX B GADSL	JIG-101 criteria R REACH Annex XVII EU-R 1272/2008 /EEC Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. GADSL prohibited substance
<b>Prohibited Substance</b> Level 1	Organotin compound (Other than the above DBT, DOT, TBTs, TPTs )	Intentional addition(note 7) prohibited	-	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Dimethyl fumarate (DMF)	Less than 0.1 mg/kg	624-49-7	2009/251/EC JIG-101 Criteria R
<b>Prohibited Substance</b> Level 1	Perfluorocarbons(PFCs)	Intentional addition(note 7) prohibited.	JIG-101 ANNEX B	Control of fluorinated greenhouse effect gas (842/2006/EC), regulation of Australia JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	Sulfur hexafluoride (SF6)	Intentional addition(note 7) prohibited.	JIG-101 ANNEX B 2551-62-4	Regulation on fluorinated greenhouse gases(842/2006/EC), Austria Ordinance, JIG-101 Criteria R GADSL Prohibited Substance



# Appendix 1. Prohibited Substance

<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	Hydrofluorocarbons (HFCs)	Intentional addition(note 7) prohibited.	JIG-101 ANNEX B	Regulation on fluorinated greenhouse gases(842/2006/EC), Austria Ordinance, JIG-101 Criteria R
<b>Prohibited Substance</b> Level 1	Nitrogen trifluoride	Intentional addition(note 7) prohibited.	7783-54-2	Regulation on fluorinated greenhouse gases(842/2006/EC)
<b>Prohibited Substance</b> Level 1	Nickel and its compound	When long-term direct contact with the skin (note 6), the Intentional addition(note 7) prohibited or <0.28µg/cm <sup>2</sup> / week for released nickel	7440-02-0	★Treated as prohibited substance when the substance may contact the skin for a long time REACH Annex XVII, JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	Ozone depleting substance (target materials of Montreal Protocol: groups I and II of appendix A, groups I, II, and III of appendix B, groups I, II, and III of appendix C, group I of appendix E)	Inclusion is prohibited regardless of quantity  Whether it is remained or not ,anything produced using it shall be also prohibited.	JIG-101 ANNEX B GADSL	Montreal Protocol, JIG-101 criteria R, GADSL prohibited substance Appendix C group I is the prohibited substance by voluntary regulation
<b>Prohibited Substance</b> Level 1	Perchlorates	0.0000006 weight % of product (0.006 ppm)	JIG-101 ANNEX B	California, US DTSC regulation setup, JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	Perfluorooctane sulfonates C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X (X = OH, Metal salt, halide, amide, and other derivatives including polymers) (PFOS), all members	Intentional addition(note 7) prohibited Even if the addition is not intentional, the threshold value is 50ppm (dispensing), 1000ppm (in semifinished product / molding material), and less than 1µg/m <sup>2</sup> (surface preparation agent)	JIG-101 ANNEX B GADSL	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. EU POPs Canada "regulation for prohibiting manufacturing, use, sales, and import of product that contains PFOS and its salt" JIG-101 criteria R GADSL prohibited substance
<b>Prohibited Substance</b> Level 1	Perfluorooctanoic acid (PFOA) CAS No 335-67-1 EC No 206-397-9 and its salts. Any related substance (including its salts and polymers) as follows  1) having a linear or branched perfluoroheptyl group with the formula C <sub>7</sub> F <sub>15</sub> - directly attached to another carbon atom, as one of the structural elements. Any related substance (including its salts and polymers)  2) having a linear or branched perfluorooctyl group with the formula C <sub>8</sub> F <sub>17</sub> - as one of the structural elements. The following substances are excluded from this designation: — C <sub>8</sub> F <sub>17</sub> -X, where X = F, Cl, Br. — C <sub>8</sub> F <sub>17</sub> -C(=O)OH, C <sub>8</sub> F <sub>17</sub> -C(=O)-O-X' or C <sub>8</sub> F <sub>17</sub> -CF <sub>2</sub> -X' (where X' = any group, including salts).  3) Perfluorooctanoic acids C <sub>8</sub> F <sub>15</sub> O <sub>2</sub> X (X=H, NH <sub>4</sub> and Metal salts), all members	Perfluorooctanoic acid (PFOA) Less than 25ppb Surface treatment agent is 1µg / m <sup>2</sup> or less 1), 2) Salt and all congeners, PFOA total: <25 ppb Total homologue: less than 1000ppb 3) Salts and all homologues 0.001 wt% or less Surface treatment agent is 1µg / m <sup>2</sup> or less	GADSL 335-67-1, 3825-26-1, 335-95-5, 2395-00-8, 335-93-3, 335-66-0, 376-27-2, 3108-24-5 etc	EU POPs Norway PoHS (Prohibition on certain Hazardous Substances in Consumer Products) Canada(form 2017/1/1) Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012
<b>Prohibited Substance</b> Level 1	2-(2H-1,2,3-Benzotriazole-2-yl)-4,6-di-tert-butylphenol)	Intentional addition(note 7) prohibited.	3846-71-7	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. 1st type JIG-101 criteria R GADSL prohibited substance

# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	Polychlorinated Biphenyls (PCBs) and specific substitutes	Intentional addition(note 7) prohibited, PCB and PCT cannot be contained exceeding total 50 mg/kg	JIG-101 ANNEX B GADSL	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. 1st type, chemical goods ban of Germany, Directive related to disposal of PCB and PCT (96/59/EC), JIG-101 criteria R, GADSL prohibited substance
<b>Prohibited Substance</b> Level 1	Polychlorinated terphenyls (PCT)	Intentional addition(note 7) prohibited., PCB and PCT cannot be contained exceeding total 50 mg/kg (Germany) 0.001% (GADSL)	JIG-101 ANNEX B GADSL	REACH Annex XVII Directive related to disposal of PCB and PCT (96/59/EC) Regulation related to import and export of dangerous chemicals (304/2003), chemical goods ban of Germany <PCB and PCT should not be contained exceeding total 50 mg/kg> GADSL prohibited substance
<b>Prohibited Substance</b> Level 1	Polychlorinated Naphthalenes (PCN) (limited to those having 1or more chlorine atoms)	Intentional addition(note 7) prohibited. cannot be contained exceeding total 50 mg/kg	JIG-101 ANNEX B	Chemical Substances Control Law Class 1, JIG-101 Criteria R
<b>Prohibited Substance</b> Level 1	PVC and PVC blends	Intentional addition(note 7) prohibited However, inclusion in the following items is not prohibited Sheathed parts of covered electric wires other than flexible flat cable. Materials (e.g. ink) used for marking on sheaths of electric wires	9002-86-2 etc.	Voluntary regulation Customer Requirement JIG-101 Criteria I
<b>Prohibited Substance</b> Level 1	Radioactive substances (radioactive isotope)	Intentional addition(note 7) prohibited.	JIG-101 ANNEX B	Council directive related to approximation of member states for the safety of toys 88/378/EEC the Nuclear Reactor Regulation Law, JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	Bis (tributyltine) = oxide (TBTO)	Intentional addition(note 7) prohibited Even if the addition is not intentional, it cannot be used with 0.1% or more of concentration	JIG-101 ANNEX B	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. 1st type, REACH regulation, JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	Hexachlorobenzene	Intentional addition(note 7) prohibited, prohibited at 20 ppb or more (Canada)	118-74-1	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1, GADSL prohibited substance, Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) Published in Canada
<b>Prohibited Substance</b> Level 1	(Alias: aldrin) 1, 2, 3, 4, 10, 10 - hexachloro - 1, 4, 4a, 5, 8, 8a - hexahydro - exo - 1, 4 - endo - 5, 8 - dimethanonaphthalene	Intentional addition(note 7) prohibited.	309-00-2	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	(Alias: dieldrin) 1, 2, 3, 4, 10, 10 - hexachloro - 6, 7 - epoxy - 1, 4, 4a, 5, 6, 7, 8, 8a - octahydro - exo - 1, 4 - endo - 5, 8 - dimethanonaphthalene	Intentional addition(note 7) prohibited.	60-57-1	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1

# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	(Alias: endrin) 1, 2, 3, 4, 10, 10 - hexachloro - 6, 7 - epoxy - 1, 4, 4a, 5, 6, 7, 8, 8a - octahydro - endo - 1, 4 - endo - 5, 8 - dimethanonaphthalene	Intentional addition(note 7) prohibited.	72-20-8	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	(Alias: DDT) 1, 1, 1 - trichloro - 2, 2- bis (4 - chlorophenyl) ethane	Intentional addition(note 7) prohibited.	50-29-3 etc.	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1 ban of Germany
<b>Prohibited Substance</b> Level 1	(Alias: chlordane or heptachlor) chlordanes 1, 2, 4, 5, 6, 7, 8, 8 - octachloro - 2, 3, 3a, 4, 7, 7a - hexahydro - 4, 7 - methano - 1H - indene, 1, 4, 5, 6, 7, 8, 8 - heptachloro - 3a, 4, 7, 7a - tetrahydro - 4, 7 - methano - 1H - indene and a mixture of these related	Intentional addition(note 7) prohibited.	57-74-9 etc.	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	N,N'-ditolyl-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine or N,N'-xylyl-p-phenylenediamine	Intentional addition(note 7) prohibited.	27417-40-9/70290-05-0/28726-30-9	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	2-4-6-Tri-tert-butylphenol	Intentional addition(note 7) prohibited.	732-26-3	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1, TSCA PBT Rule
<b>Prohibited Substance</b> Level 1	(Alias: toxaphene) polychloro - 2, 2-dimethyl - 3 - methylidene bicyclo[2. 2. 1] heptane	Intentional addition(note 7) prohibited.	8001-35-2	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	(Alias: mirex) dodecachloro (pentacyclo, [5.3.0.02,6,03,9,04,8] decane)	Intentional addition(note 7) prohibited.	2385-85-5	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1, GADSL prohibited substance Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) Published in Canada
<b>Prohibited Substance</b> Level 1	(Alias: kelthane or dicofol) 2,2,2-trichloro - 1, 1 - bis (4 - chlorophenyl) ethanol	Intentional addition(note 7) prohibited.	115-32-2	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	Hexachlorobuta - 1, 3 - diene	Intentional addition(note 7) prohibited.	87-68-3	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1 GADSL Prohibited Substance
<b>Prohibited Substance</b> Level 1	(Alias: PFOSF) Perfluoro (octane -1-sulfonyl) = trifluoride	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	Pentachlorobenzene	Intentional addition(note 7) prohibited.	608-93-5	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1 GADSL Prohibited Substance
<b>Prohibited Substance</b> Level 1	(Alias: Alpha-hexachloro cyclohexane) r-1-c-2-t-3-c-4-t-5-t-6-hexachloro cyclohexane	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
<b>Prohibited Substance</b> Level 1	(Alias: Beta-hexachloro cyclohexane) r-1-t-2-c-3-t-4-c-5-t-6-hexachloro cyclohexane	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1

## Appendix1. Prohibited Substance

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Prohibited Substance				Referenced Laws and Regulations, etc. (The contents of this column do not limit the prohibited items on the left)
Category	Substance	Regulation Value (Note 5)	CAS No List of Reference Substances (Note 1)	
Prohibited Substance Level 1	(Alias:Gamma-hexachloro cyclohexane) r-1-c-2-t-3-c-4-c-5-t-6-hexachloro cyclohexane	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	(Alias: Chlordecone) Dodecachloropentacyclo [5.3.0.02,6.03,9.04,8] decane-5-on	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	Hexabromobiphenyl	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	(Alias: Tetrabromodiphenylether) tetrabromo (phenoxy benzene)	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	Pentabromo (phenoxy benzene)(Alias: Pentabromodiphenylether)	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	(Alias: Hexabromodiphenylether) hexabromo (phenoxy benzene)	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	(Alias: Heptabromodiphenylether) heptabromo (phenoxy benzene)	Intentional addition(note 7) prohibited.	—	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	Endosulfan	Intentional addition(note 7) prohibited.	115-29-7 959-98-8 33213-65-9	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 1
Prohibited Substance Level 1	Tris(2,3-dibromopropyl)phosphate [TRIS]	Intentional addition(note 7) prohibited.	126-72-7	Refer to REACH Annex XVII EU-D 79/663/EEC GADSL prohibited substance
Prohibited Substance Level 1	Benzene	1000ppm.	71-43-2	Industrial Safety and Health Act, REACH Annex XVII, Montreal Protocol GADSL prohibited substance
Prohibited Substance Level 1	Tris-(1-aziridinyl) phosphine oxide	Intentional addition(note 7) prohibited.	545-55-1	REACH Annex XVII Refer to EU-D 83/264/EEC GADSL prohibited substance
Prohibited Substance Level 1	Soap bark powder (Quillaja Saponaria) and its derivatives that contain saponin	Intentional addition(note 7) prohibited	68990-67-0 etc	REACH Annex XVII
Prohibited Substance Level 1	Powder of roots of Helleborus Bilitis and Helleborus niger and powder of roots of Veratrum alba and Veratrum nigrum	Intentional addition(note 7) prohibited	—	REACH Annex XVII
Prohibited Substance Level 1	0-nitrobenzaldehyde	Intentional addition(note 7) prohibited	552-89-6	REACH Annex XVII
Prohibited Substance Level 1	Ammonium sulfide and ammonium hydrogen sulfide	Intentional addition(note 7) prohibited	12135-76-1 or 12124-99-1	REACH Annex XVII
Prohibited Substance Level 1	Ammonium polysulfide	Intentional addition(note 7) prohibited	12259-92-6 or 9080-17-5	REACH Annex XVII
Prohibited Substance Level 1	Volatile bromoacetate esters	Intentional addition(note 7) prohibited	—	REACH Annex XVII
Prohibited Substance Level 1	Methyl bromoacetate	Intentional addition(note 7) prohibited	96-32-2	REACH Annex XVII
Prohibited Substance Level 1	Ethyl bromoacetate	Intentional addition(note 7) prohibited	105-36-2	REACH Annex XVII
Prohibited Substance Level 1	Propyl bromoacetate	Intentional addition(note 7) prohibited	—	REACH Annex XVII

# Appendix1. Prohibited Substance

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Prohibited Substance				Referenced Laws and Regulations, etc. (The contents of this column do not limit the prohibited items on the left)
Category	Substance	Regulation Value (Note 5)	CAS No List of Reference Substances (Note 1)	
Prohibited Substance Level 1	Butyl bromoacetate	Intentional addition(note 7) prohibited	—	REACH Annex XVII
Prohibited Substance Level 1	2-naphthylamine / beta-naphthylamine and its salt	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	GADSL 91-59-8 etc.	Industrial Safety and Health Act, REACH Annex XVII Should be within 0.01% (REACH Annex XVII) GADSL prohibited substance
Prohibited Substance Level 1	Benzidine and its salts	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	GADSL 92-87-5 etc.	Industrial Safety and Health Act, GADSL prohibited substance 1272/2008/EEC Carcinogen class 2 Canadian Toxic Substances
Prohibited Substance Level 1	4-nitrobiphenyl and its salts	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	GADSL 92-93-3 etc.	Industrial Safety and Health Act REACH Annex XVII , GADSL prohibited substance
Prohibited Substance Level 1	4-Aminodiphenyl and its salts	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	JIG-101 GADSL 92-67-1 2113-61-3	Industrial Safety and Health Act, REACH Annex XVII, JIG-101 , GADSL prohibited substance, A specific amine Should be within 0.01% (REACH Annex XVII)
Prohibited Substance Level 1	Arsenic and its compounds other than for GaAs in semiconductor or copper foil bonding on printed circuit boards	Intentional addition(note 7) prohibited. Other than bellow $\leq 50$ ppm metal $\leq 1000$ ppm wood $\leq 2$ ppm	GADSL 7440-38-2 etc.	Council directive related to approximation of member states for the safety of toys 88/378/EEC, REACH Annex XVII, JIG-101 criteria R
Prohibited Substance Level 1	Dibutyltin hydrogen borate (DBB)	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	75113-37-0	REACH Annex XVII
Prohibited Substance Level 1	Pentachlorophenol and its salts, esters and compoundss (PCPs)	Use at a concentration of 0.1% or over is prohibited in materials on the market and in ingredients for preparations. Use of preparations that include the substance in 0.1 wt% in total, and products that are treated with preparations containing the substance, wherein the material content of the treated parts exceeds 5 ppm must not be used.	GADSL 87-86-5 etc.	REACH Annex XVII Chemical goods ban of Germany, GADSL prohibited substance
Prohibited Substance Level 1	Monomethyltetrachlorodiphenyl methane	Intentional addition(note 7) prohibited.	76253-60-6	REACH Annex XVII
Prohibited Substance Level 1	Monomethyldichlorodiphenylmet hane	Intentional addition(note 7) prohibited.	—	REACH Annex XVII
Prohibited Substance Level 1	DBBT(bromobenzylbromotoluen e)	Intentional addition(note 7) prohibited.	99688-47-8	REACH Annex XVII
Prohibited Substance Level 1	(a) Creosote	Intentional addition(note 7) prohibited	8001-58-9	REACH Annex XVII
Prohibited Substance Level 1	(b) Creosote oil	Intentional addition(note 7) prohibited	61789-28-4	REACH Annex XVII
Prohibited Substance Level 1	(c) Distillate (coal tar), naphthalene oil	Intentional addition(note 7) prohibited	84650-04-4	REACH Annex XVII
Prohibited Substance Level 1	(d) Creosote oil , acenaphthene fraction	Intentional addition(note 7) prohibited	90640-84-9	REACH Annex XVII
Prohibited Substance Level 1	(e) Distillate (coal tar), high-temperature fraction	Intentional addition(note 7) prohibited	65996-91-0	REACH Annex XVII

# Appendix1. Prohibited Substance

<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
Prohibited Substance Level 1	(f) Anthracene oil	Intentional addition(note 7) prohibited	90640-80-5	REACH Annex XVII
Prohibited Substance Level 1	(g) Tar acid, carbon from, crude	Intentional addition(note 7) prohibited	65996-85-2	REACH Annex XVII
Prohibited Substance Level 1	(h) Creosote, wood	Intentional addition(note 7) prohibited	8021-39-4	REACH Annex XVII
Prohibited Substance Level 1	(i) Tar oil, alkaline property, low temperature	Intentional addition(note 7) prohibited	122384-78-5	REACH Annex XVII
Prohibited Substance Level 1	Chloroform	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	67-66-3	REACH Annex XVII
Prohibited Substance Level 1	1,1,2-Trichloroethane	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	79-00-5	REACH Annex XVII Water pollution control act
Prohibited Substance Level 1	1,1,2,2-Tetrachloroethane	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	79-34-5	REACH Annex XVII
Prohibited Substance Level 1	1,1,1,2-Tetrachloroethane	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	630-20-6	REACH Annex XVII
Prohibited Substance Level 1	Pentachloroethane	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	76-01-7	REACH Annex XVII
Prohibited Substance Level 1	1,1-Dichloroethylene	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	75-35-4	REACH Annex XVII Water pollution control act
Prohibited Substance Level 1	1,1,1-Trichloroethane	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	71-55-6	REACH Annex XVII Water pollution control act GADSL prohibited substance, Montreal Protocol; EU-R 2009/1005; US EPA ODS
Prohibited Substance Level 1	Hexachloroethane	Intentional addition(note 7) prohibited. The substance must not be used at a concentration of 0.1% or over for materials and prepared drugs sold for the general public.	67-72-1	REACH Annex XVII
Prohibited Substance Level 1	Diphenyl ether pentabromo derivative C12H5Br5O	Intentional addition(note 7) prohibited. Even if the use is not intentional, the substance must not be used at concentration of 0.1% or over.	—	REACH Annex XVII

# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	Diphenyl ether octabromo derivative C12H2Br8O	Intentional addition(note 7) prohibited. Even if the use is not intentional, the substance must not be used at concentration of 0.1% or over.	—	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	(1) Nonyl phenol C6H4(OH)C9H19	Marketing and use as substance or substance element of preparations with concentration of 0.1% or more of weight are prohibited	—	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	(2) nonylphenol ethoxylate (C2H4O)nC15H24O	Marketing and use as substance or substance element of preparations with concentration of 0.1% or more of weight are prohibited	—	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Trichlorobenzene	Marketing and use as substance or substance element of preparations with concentration of 0.1% or more of weight are prohibited	120-82-1	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Polycyclic-aromatic hydrocarbons (PAH) 1. Benzo(a)pyrene (BaP) 2. Benzo(e)pyrene (BeP) 3. Benzo(a)anthracene (BaA) 4. Chrysen (CHR) 5. Benzo(b)fluoranthene (BbFA) 6. Benzo(j)fluoranthene (BjFA) 7. Benzo(k)fluoranthene (BkFA) 8. Dibenzo(a, h)anthracene (DBAhA) 9. Benzo[ghi]perylene 10. Indeno[1,2,3-cd]pyrene 11. Acenaphthylene 12. Acenaphthene 13. Fluorene 14. Anthracene 15. Phenanthrene 16. Fluoranthene 17. Pyrene 18. Naphthalene	Intentional addition(note 7) prohibited.  1~ 10 each : <0.2ppm 11~ 17 total : <5ppm 18 : <2ppm 1~ 18 total : <5ppm	'50-32-8 192-97-2 56-55-3 218-01-9 205-99-2 205-82-3 207-08-9 53-70-3 191-24-2 193-39-5 208-96-8 83-32-9 86-73-7 120-12-7 85-01-8 206-44-0 129-00-0 91-20-3	1-8 REACH Annex XVII GADSL Prohibited Substance  1-18 GS MARK(German)
<b>Prohibited Substance</b> Level 1	2-(2-methoxyethoxy) ethanol (DEGME)	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.1 wt% or below.	111-77-3	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	2-(2-butoxyethoxy) ethanol (DEGBE)	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 3 wt% or below.	112-34-5	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Methylenediphenyldiisocyanate (MDI)	Marketing as an element of preparations that contains 0.1 wt% or more is prohibited	26447-40-5	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Cyclohexane	Marketing is prohibited when 0.1% or more is contained	110-82-7	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Ammonium nitrate (AN)	Prohibited from putting on market as a "substance" or "mixture" containing 28% or more of nitrogen to ammonium by weight	6484-52-2	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Mineral fiber whose fiber diameter is 6µm or less "Aluminosilicate, heat resistant ceramic fiber" and "zirconia aluminosilicate, heat resistant ceramic fiber"	Intentional addition(note 7) prohibited.	—	REACH Annex XVII

# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	Toluene	Marketing and use as substance or substance element of preparations with concentration of 0.1% or more of weight are prohibited	108-88-3	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Inorganic ammonium salts	the emission of ammonia from cellulose insulation mixtures or cellulose insulation articles results in a concentration of less than 3 ppm by volume (2,12 mg/m <sup>3</sup> )	—	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Bisphenol-A 4,4'-Isopropylidenediphenol	0.02 % (by weight) for Bisphenol A (BPA) present in thermal paper	80-05-7	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Formaldehyde	Intentional addition(note 7) prohibited. 0.1ppm Airborne concentrations 75 ppm by weight of textile product. When containing in parts or materials, do not exceed 300 ppm for homogeneous materials.	50-00-0	chemical goods ban of Germany, CARB control of California, JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	(4-Chlorophenyl) cyclopropylmethanone, O-[(4-nitrophenyl)methyl] oxime that has the molecular formula C <sub>17</sub> H <sub>15</sub> ClN <sub>2</sub> O <sub>3</sub>	Intentional addition(note 7) prohibited.	94097-88-8	Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285) Published in Canada
<b>Prohibited Substance</b> Level 1	N-nitrosodimethylamine	Intentional addition(note 7) prohibited	62-75-9	Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41. Published in Canada Gazette Part II, 2006-11-29 Vol. 140, No. 25 GADSL
<b>Prohibited Substance</b> Level 1	Yellow phosphorus match	Intentional addition(note 7) prohibited.	12185-10-3	Occupational Health and Safety Act
<b>Prohibited Substance</b> Level 1	Red Phosphorus	Intentional addition(note 7) to resin prohibited.	7723-14-0	Voluntary control With the object of safe product
<b>Prohibited Substance</b> Level 1	Bis(chloromethyl)ether	Intentional addition(note 7) prohibited.	542-88-1	Industrial Safety and Health Act, GADSL prohibited substance, Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) Published in Canada
<b>Prohibited Substance</b> Level 1	Rubber cement contains benzene (The amount of benzene is more than 5% weight of solvent in the rubber cement (including diluted solution)		—	Occupational Health and Safety Act
<b>Prohibited Substance</b> Level 1	Octamethyl-pyrophosphoramidate	Intentional addition(note 7) prohibited.	152-16-9	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance</b> Level 1	Plumbane, ethyltrimethyl-	Intentional addition(note 7) prohibited.	1762-26-1	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance</b> Level 1	O,O-diethyl-O-4-nitrophenyl phosphorothioate	Intentional addition(note 7) prohibited.	56-38-2	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance</b> Level 1	Dimethylethylmercapto ethylthiophosphate	Intentional addition(note 7) prohibited.	8022-00-2	Poisonous and Deleterious Substances Control Act specific toxic substance



# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance Level 1</b>	Dimethyl-(diethylamide-1-chlorocrotonyl)-phosphate	Intentional addition(note 7) prohibited.	13171-21-6	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance Level 1</b>	Dimethyl para-nitro phenylthio phosphate	Intentional addition(note 7) prohibited.	298-00-0	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance Level 1</b>	Tetraethyl pyrophosphate	Intentional addition(note 7) prohibited.	107-49-3	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance Level 1</b>	Monofluoracetates and formulations that contains it	Intentional addition(note 7) prohibited.	144-49-0 etc.	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance Level 1</b>	Formulations that contains monofluoroacetamide	Intentional addition(note 7) prohibited.	640-19-7	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance Level 1</b>	Aluminum phosphide and its decomposition promoter	Intentional addition(note 7) prohibited.	20859-73-8	Poisonous and Deleterious Substances Control Act specific toxic substance
<b>Prohibited Substance Level 1</b>	Trichlorethylene	Intentional addition(note 7) prohibited Within 0.01% even if it is not intentional	79-01-6	Voluntary control Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 2 Water pollution control act 2037/2000/EEC, US EPA ODS TSCA first10
<b>Prohibited Substance Level 1</b>	Tetrachloroethylene	Intentional addition(note 7) prohibited.	127-18-4	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Class 2, Environmental Basic Act, Water Pollution Control Act, TSCA first10
<b>Prohibited Substance Level 1</b>	Dichloromethane	Intentional addition(note 7) prohibited.	75-09-2	Environmental Basic Act, Laws and regulations related to classification, packaging, and indication of hazardous substance, Council directive related to approximation of administrative regulations 67/548/EEC, Water pollution control act
<b>Prohibited Substance Level 1</b>	Chlorinated or brominated dioxin or furan [group]	Intentional addition(note 7) prohibited 10 ppb(ChemVerbotsV)	GADSL	GADSL prohibited substance, EU regulation related to persistent organic pollutants 850/2004, regulation of hazardous material (UK, Germany)
<b>Prohibited Substance Level 1</b>	4,4'-Diaminodiphenylmethane	Intentional addition(note 7) prohibited.	101-77-9	1272/2008/EEC GADSL prohibited substance
<b>Prohibited Substance Level 1</b>	1,2-dichloroethane; ethylene dichloride	Intentional addition(note 7) prohibited.	107-06-2	Water pollution control act
<b>Prohibited Substance Level 1</b>	1,3-dichloropropene	Intentional addition(note 7) prohibited.	542-75-6	Ecolabel Regulation 1980/2000 Water pollution control act
<b>Prohibited Substance Level 1</b>	Cis-1,2-dichloroethylene	Intentional addition(note 7) prohibited.	156-59-2	Water pollution control act
<b>Prohibited Substance Level 1</b>	O-ethyl = O-4-nitrophenyl = phenylphosphonothioate (EPN)	Intentional addition(note 7) prohibited.	2104-64-5	Water pollution control act

# Appendix1. Prohibited Substance

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<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
<b>Prohibited Substance</b> Level 1	Chloromethylmethylether	Intentional addition(note 7) prohibited.	107-30-2	GADSL prohibited substance Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) Published in Canada
<b>Prohibited Substance</b> Level 1	2-Methoxyethanol	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.5% or below.	109-86-4	GADSL Prohibited Substance Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) Published in Canada
<b>Prohibited Substance</b> Level 1	Tetrachlorobenzenes	Intentional addition(note 7) prohibited.	GADSL 12408-10-5, 84713-12-2, etc	GADSL Prohibited Substance Prohibition of Certain Toxic Substances Regulations, 2005 (SOR/SOR/2005-41) Published in Canada
<b>Prohibited Substance</b> Level 1	Tetrafluoromethane	Intentional addition(note 7) prohibited.	75-73-0	GADSL Prohibited Substance Statutory Order no. 552 of 2 July 2002 of the Danish Ministry of the Environment
<b>Prohibited Substance</b> Level 1	Chloroethylene (alias: Vinyl chloride), Chloro-1-Ethylene (monomer vinyl chloride)	Intentional addition(note 7) prohibited. 5ppm	75-01-4	GADSL Prohibited Substance 1272/2008 /EEC REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Cobalt sulfide	Inclusion of 0.01% or over is prohibited.	10124-43-3	
<b>Prohibited Substance</b> Level 1	6-(2-chloroethyl)-6(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane; etacelasil	Intentional addition(note 7) prohibited.	37894-46-5	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Phosphoric acid tris (dimethyl phenyl)	Intentional addition(note 7) prohibited. Even if the use is not intentional, the concentration must be 0.01% or below.	25155-23-1	REACH Annex XVII
<b>Prohibited Substance</b> Level 1	Phosphoric acid tris (2-ethylhexyl)	Intentional addition(note 7) prohibited.	78-42-2	
<b>Prohibited Substance</b> Level 1	Tris(2-chloroethyl)phosphate (TCEP)	1,000 ppm or less	115-96-8	REACH Annex XIV: Substances requiring permission Deadline for permit applications: Nov. 21, 2013 Date of prohibition: May 21, 2015
<b>Prohibited Substance</b> Level 1	tris(2-chloro-1-methylethyl) phosphate(TCPP)	1,000 ppm or less	13674-84-5	Vermont in USA, prohibited when the total of the three substances stated at the left is 0.1% or over for applications for toys and supplies for children that may be put into the mouth by children.
<b>Prohibited Substance</b> Level 1	tris(1,3-dichloro-2-propyl) phosphate(TDCPP)	1,000 ppm or less	13674-87-8	Vermont in USA, prohibited when the total of the three substances stated at the left is 0.1% or over for applications for toys and supplies for children that may be put into the mouth by children.
<b>Prohibited Substance</b> Level 1	Hexabromocyclododecane (HBCDD or HBCD) and all major diastereoisomers	100 ppm or below	JIG-101 ANNEX B	REACH regulation JIG-101 criteria R
<b>Prohibited Substance</b> Level 1	5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene)	1,000 ppm or less	81-15-2	REACH Annex XIV authorization required Application for authorization deadline: January 21, 2013 Sunset date: July 21, 2014

# Appendix1. Prohibited Substance

<b>Prohibited Substance</b>				<b>Referenced Laws and Regulations, etc.</b> (The contents of this column do not limit the prohibited items on the left)
<b>Category</b>	<b>Substance</b>	<b>Regulation Value (Note 5)</b>	<b>CAS No</b> List of Reference Substances (Note 1)	
Prohibited Substance Level 1	2,4-dinitrotoluene	1,000 ppm or less	121-14-2	REACH Annex XIV: Substances requiring permission
Prohibited Substance Level 1	Beryllium oxide	1,000 ppm or less	1304-56-9	Customer demands Commercial sales of materials containing REACH Annex XVII: carcinogenic substances banned in EU states
Prohibited Substance Level 1	Long-Chain Perfluoroalkyl Carboxylate (LCPFAC)  Prohibited applications are limited to surface coating (a thin layer formed on the surface of a material or an article).	Intentional addition(note 7) prohibited.	507-63-1 678-39-7 865-86-1 2043-53-0 2043-54-1 17741-60-5 27905-45-9 30046-31-2 39239-77-5 60699-51-6 65510-55-6 68187-47-3 68391-08-2 70969-47-0 125476-71-3 1078712-88-5 1078715-61-3 71217(CBI) 89419(CBI) 274147(CBI)  (CBI):EPA Approval No.	TSCA (SNUR)
Prohibited Substance Level 1	PIP(3:1) (phenol, isopropylated phosphate (3:1),  alias Tris (4-isopropylphenyl phosphate)  However, the following applications are excluded (1) Adhesives (2) Glazing and lubricating oils; (3) New and replacement parts in the automotive and aerospace industries; (4) Plastics containing recycled-origin PIP (3:1); (5) Products or articles made from plastics containing PIP(3:1) of recycled origin	not detected	68937-41-7	TSCA
Prohibited Substance Level 1	PCTP Pentachlorothiophenol	1%	133-49-3	TSCA
Prohibited Substance Level 1	1-Bromopropane	Intentional addition(note 7) prohibited	106-94-5	TSCA First10
Prohibited Substance Level 1	1,4-dioxane	Intentional addition(note 7) prohibited	123-91-1	TSCA First10
Prohibited Substance Level 1	N-Methylpyrrolidone (NMP)	Intentional addition(note 7) prohibited	872-50-4	TSCA First10
Prohibited Substance Level 1	Pigment Violet 29	Intentional addition(note 7) prohibited	81-33-4	TSCA First10

# Appendix1. Prohibited Substance

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Prohibited Substance				Referenced Laws and Regulations, etc. (The contents of this column do not limit the prohibited items on the left)
Category	Substance	Regulation Value (Note 5)	CAS No List of Reference Substances (Note 1)	
Prohibited Substance Level 1	In the classification of GADSL (Note 3) · Substances corresponding to "P" · Substances corresponding to "P" in "D / P"  However, the following does not correspond to the prohibited substances specified this row. ① prohibited substances level 1 other than this row ② the substances not correspond to the prohibited substances In ① (below the threshold ,aplied to the exclusion, and so on)	Refer to GADSL URL : <a href="http://www.gadsl.org/">http://www.gadsl.org/</a>  If you can not identify "D" or "P" because of the unknown end use and so on, please declare it as a prohibited substance in the form of prohibited substance guarantee attached to the Green Procurement Guidelines.	Refer to GADSL	GADSL
Prohibited Substance Level 1	Perfluorohexane-1-sulphonic acid and its salts(PFHxS), all members	Intentional addition(note 7) prohibited depending on future laws and regulations	-	POPs (Stockholm Convention)
Prohibited Substance Level 1	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.1*6,9*.0*2,13*.0*5,10*]octadeca-7,15-diene, all members (Dechlorane plus)	Intentional addition(note 7) prohibited depending on future laws and regulations	Refer to GADSL	Singapore Environmental Protection Regulations and Environmental Protection Management Act  Canada Prohibition of Certain Toxic Substances Regulations Under discussion to require declaration of inclusion and phase-out schedule  POPs (Stockholm Convention) To be considered as a substance subject to the Convention at the 11th Meeting of the Conference of the Parties(May 2023)
Prohibited Substance Level 1	Compounds that are perfluoroalkyl carboxylic acids (branched and/or linear) with the formula: CF <sub>3</sub> -(CF <sub>2</sub> ) <sub>n</sub> -, n=8-13 as a structural element, including their salts. In addition, any related substance (including their salts and polymers) with the above defined linear and/or branched perfluoroalkyl structural elements that can degrade to C9-C14 PFCA. Including but not limited to compounds listed on pages 31, 56, and 198-205 in the reference link.	25 ppb for the sum of C9-C14 PFCAs and their salts 260 ppb for the sum of C9-C14 PFCA-related substances	See related documents on the right	REACH Appendix XVII Related Documents <a href="https://echa.europa.eu/documents/10162/2ec5dfdd-0e63-0b49-d756-4dc1bae7ec61">https://echa.europa.eu/documents/10162/2ec5dfdd-0e63-0b49-d756-4dc1bae7ec61</a>
Prohibited Substance Level 1	UV-328 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol	Intentional addition(note 7) prohibited	25973-55-1	Singapore Environmental Protection Regulations and Environmental Protection Management Act  POPs (Stockholm Convention) To be considered as a substance subject to the Convention at the 11th Meeting of the Conference of the Parties(May 2023)
Prohibited Substance Level 1	Amitrole	Intentional addition(note 7) prohibited	61-82-5	Singapore Environmental Protection Regulations and Environmental Protection Management Act

Prohibited Substance				Referenced Laws and Regulations, etc. (The contents of this column do not limit the prohibited items on the left)
Category	Substance	Regulation Value (Note 5)	CAS No List of Reference Substances (Note 1)	
Prohibited Substance Level 1	Iprodione	Intentional addition(note 7) prohibited	36734-19-7	Singapore Environmental Protection Regulations and Environmental Protection Management Act
Prohibited Substance Level 1	Nonylphenol and Nonylphenol Ethoxylates	Intentional addition(note 7) prohibited	84852-15-3 127087-87-0	Singapore Environmental Protection Regulations and Environmental Protection Management Act  REACH Appendix XVII
Prohibited Substance Level 1	Mineral Oil Aromatic Hydrocarbons MOAH containing 1 to 7 aromatic rings	Mass concentration 1% or less	-	France Mineral Oil Regulation Regulation start date: January 1, 2023
Prohibited Substance Level 2	Mineral Oil Aromatic Hydrocarbons	The total mass concentration of MOAHs containing 3 to 7 aromatic rings is less than 1 ppm. Mass concentration of MOAH containing 1 to 7 aromatic rings 0.1% max	-	France Mineral Oil Regulation Regulation start date: January 1, 2025
Prohibited Substance Level 2	Mineral Oil Saturated Hydrocarbons MOSH containing 16 to 35 carbon	Mass concentration 0.1% or less	-	France Mineral Oil Regulation Regulation start date: January 1, 2025
Prohibited Substance Level 2	Decabromodiphenylethane (DBDPE)	Intentional addition(note 7) prohibited	84852-53-9	Canada Prohibition of Certain Toxic Substances Regulations Under discussion to require declaration of inclusion and phase-out schedule  Customer demands Confirmation of presence/absence of content
deadline for already adopted materials and parts :TBD				
Prohibited Substance Level 2	Except for substances that fall under "Prohibited Substance Level 1", the Substances in the list of substances included in Annex XIV of REACH ("Authorisation List").	1,000 ppm or less	Refer to Authorisation List <a href="https://echa.europa.eu/authorisation-list">https://echa.europa.eu/authorisation-list</a>	REACH regulation  In principle, the substances are prohibited to be used and sold as substances and preparations within the EU region.  Also, the articles contained by this substance are obliged to report on the substance as SVHC.  Because it is a substance that is evaluated as harmful in the EU, it is managed as a prohibited substance level 2 from the viewpoint of CSR.
deadline for already adopted materials and parts :TBD				

Note 1 For those that are marked JIG-101 ANNEX B or GADSL in the column, see the Lists under Notes 2 and 3 as example

Note 2 JIG-101: Abbreviation of Joint Industry Guidelines; The Guidelines for the Management of Chemical Substances in Products that were issued by JGPSSI (Japan Green Procurement Survey Standardization Initiative) and CEA (Consumer Electronics Association) under the agreement of DIGITALEUROPE (Europe). The guidelines incorporate the latest information on regulations and laws and is categorized into three criteria of R (substances that are subject to existing laws), A (substances to be assessed), and I (substances to be reported). Obtain the latest version from the HP stated below and refer to example substances in Annex B.  
URL : [http://210.254.215.73/jeita\\_eps/green/green7.htm](http://210.254.215.73/jeita_eps/green/green7.htm)

Note 3 GADSL: Abbreviation for the Global Automotive Declarable Substance List. Universal list of unified substances to be declared in the automotive industry.  
URL : <http://www.gadsl.org/>

Note 4 The prohibition of use of azo color of European Community is applied to the specific azo color and colorant that generate one of 22 aromatic amines in Appendix B by reduction cutting of the azo group. The threshold level is not applied to color and colorant, but to

Note 5 Where the intentional addition of a substance is prohibited but a threshold for the substance is specified, no amount of the substance may be added deliberately, even if such addition does not result in levels exceeding the given threshold.

Note 6 should be applied when such a case is described in drawing etc.

Note 7 Intentional Adding is defined as the inclusion of a chemical substance in a part or raw material, regardless of whether or not it is below the regulated value, with the recognition of its inclusion.  
If the inclusion or adhesion of "the relevant chemical substances unintentionally generated in the manufacturing process" (by-products) is recognized, it shall be regarded as Intentional Adding.

## Appendix 2. Prohibited Substances for Use in Manufacturing Process

Category	Substance	Regulation Value	Regulation of Law/Self-Imposed Regulation
Prohibited substances in manufacturing process	Ozone depleting substances (Object substances under Montreal Protocol)	Use prohibited in manufacturing process	Montreal Protocol
Prohibited substances in manufacturing process	Trichlorethylene (trichlene)	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	Tetrachloroethylene	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	Dichloromethane (methylene chloride)	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	1,2-dichloroethane	Use prohibited in manufacturing process	Water Pollution Control Law, etc.
Prohibited substances in manufacturing process	1,1-dichloroethylene	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	cis-1,2-dichloroethylene	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	1,1,1-trichloroethane	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	1,1,2-trichloroethane	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	1,2-dichloropropene	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	1,3-dichloropropene	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	Benzene	Use prohibited in manufacturing process	Water Pollution Control Act, etc.
Prohibited substances in manufacturing process	Perfluorooctansulfonate and its salts (PFOS)	Use prohibited in manufacturing process	Canada Regulation prohibiting the manufacture, use, sale and import of products containing PFOS and its salts

Substances additionally forbidden for applicable product ( Level 1 )				Referenced Laws and Regulations, etc. (The contents of this column do not limit the prohibited items on the left)
Use	Substance	Regulation Value (Note 5)	CAS No List of Reference Substances (Note 1)	
toy/product for children	Di(2-ethylhexyl)phthalate(DEHP) bis(2-ethylhexyl)phthalate (DOP) Dibutyl phthalate (DBP) Benzyl butyl phthalate (BBP)	Intentional addition prohibited Inclusion prohibited when the total of the six substances stated at the left is 0.1% or over.	117-81-7 84-74-2 85-68-7	REACH Annex XVII JIG-101 Criteria R Use prohibited when the total of the three substances stated at the left is 0.1% or over in the mass of plastic materials in toys and supplies for children. Taiwan CNS 4797 (Toy safety standard) (DEHP(DOP))+(DBP)+(BBP)+(DINP)+(DIDP) +(DNOP)<0.1%
	Di-“isononyl” phthalate (DINP) Di-“isodecyl” phthalate (DIDP) Di-n-octyl phthalate (DNOP)		28553-12-0/68515-48-0 26761-40-0/68515-49-1 117-84-0	REACH Annex XVII JIG-101 Criteria R Use prohibited when the total of the three substances stated at the left is 0.1% or over for applications for toys and supplies for children that may be put into the mouth by children. Taiwan CNS 4797 (Toy safety standard) (DEHP(DOP))+(DBP)+(BBP)+(DINP)+(DIDP) +(DNOP)<0.1%
	Di(2-ethylhexyl)phthalate(DEHP) bis(2-ethylhexyl)phthalate (DOP) Dibutyl phthalate (DBP) Benzyl-butyl phthalate (BBP) Diisobutyl phthalate(DIBP)	Applied to plastic material part Prohibition of intentional addition The total on the left is less than 0.1%	117-81-7 84-74-2 85-68-7 84-69-5	REACH Annex XVII Shall not be placed on the market after 7 July 2020 equal to or greater than 0,1 % by weight of the plasticised material in the article
	Mercury (Hg)	migration limits ( EN 71-3):<60ppm	7439-97-6	2009/48/EC (EN71-3)
	Cadmium (Cd)	migration limits ( EN 71-3):<75ppm	7440-43-9	
	Lead (Pb)	migration limits ( EN 71-3):<90ppm	7439-92-1	
	Chrome (Cr)	migration limits ( EN 71-3):<60ppm	7440-47-3	
	Barium (Ba)	migration limits ( EN 71-3):<1000ppm	7440-39-3	
	Arsenic (As)	migration limits ( EN 71-3):<25ppm	7440-38-2	
	Selenium (Se)	migration limits ( EN 71-3):<500ppm	7782-49-2	
Antimony (Sb)	migration limits ( EN 71-3):<60ppm	7440-36-0		
Lead and its compounds	90ppm Weight ppm of surface coating 100ppm Weight ppm of product	JIG-101 ANNEX B GADSL	Consumer Product Safety Improvement Act: CPSIA	
Benzene	Intentional addition prohibited. Even if inclusion is not intentional, the concentration must be 5ppm or less.	71-43-2	REACH Annex XVII	
batteries	Cadmium and its compounds	Carbon zinc batteries Alkaline batteries Nickel hydrogen recharge- able batteries (except button cells) 10ppm	JIG-101 ANNEX B	Council Directive on packaging and packaging waste (94/62/EC) Batteries Directive 2006/66/EC Batteries law of China ,South Korea and Argentina Customer requirements
		Other batteries 20ppm		
	Mercury and its compounds	Carbon zinc batteries Alkaline batteries Nickel hydrogen recharge- able batteries (except button cells) 1ppm	JIG-101 ANNEX B	
		Zinc air button cells and LR23A 2000ppm		
		Other batteries 5ppm		
Lead and its compounds	Alkaline manganese batteries (except button cells) 40ppm	JIG-101 ANNEX B		
	Carbon zinc batteries Alkaline manganese button cells 1000ppm			
	Other batteries 2000ppm			
Di(2-ethylhexyl)phthalate(DEHP); bis(2-ethylhexyl)phthalate (DOP) Dibutyl phthalate (DBP) Benzyl-butyl phthalate (BBP) Diisobutyl phthalate(DIBP)	Applied to plastic material part Prohibition of intentional addition The total on the left is less than 0.1%	117-81-7 84-74-2 85-68-7 84-69-5	REACH Annex XVII Shall not be placed on the market after 7 July 2020 equal to or greater than 0,1 % by weight of the plasticised material in the article	
packing materials	Cadmium Mercury Hexavalent chromium Lead	the total content of cadmium, lead, mercury and hexavalent per material (Cd) + (Hg) + (Cr+6) + (Pb) ≤ 100ppm	JIG-101 ANNEX B	94/62/EC
	Specified Polybrominated Diphenylethers (PBDEs)	500ppm	JIG-101 ANNEX B GADSL	EU POPs Annex I
	Di(2-ethylhexyl)phthalate(DEHP); bis(2-ethylhexyl)phthalate (DOP) Dibutyl phthalate (DBP) Benzyl-butyl phthalate (BBP) Diisobutyl phthalate(DIBP)	Applied to plastic material part Prohibition of intentional addition The total on the left is less than 0.1%	117-81-7 84-74-2 85-68-7 84-69-5	REACH Annex XVII Shall not be placed on the market after 7 July 2020 equal to or greater than 0,1 % by weight of the plasticised material in the article

# Appendix 4. RoHS Exemption

Substance	Legal No.	Exempted Applications	Legal expiration dates ※1 ※3
1.Cadmium and its compounds	8(a)	Cadmium and its compounds in one shot pellet type thermal cut-offs	2012/1/1
	8(b)	Cadmium and its compounds in electrical contacts	2020/2/29
A new requirement of above 8(b)	8(b)-I	Cadmium and its compounds in electrical contacts used in: - circuit breakers; - thermal sensing controls; - thermal motor protectors (excluding hermetic thermal motor protectors); - AC switches rated at: - 6 A and more at 250 V AC and more; or - 12 A and more at 125 V AC and more; - DC switches rated at 20 A and more at 18 V DC and more; and - switches for use at voltage supply frequency $\geq$ 200 Hz.	2021/7/21 (discussing extension)
	13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	2018/7/5
New requirements of above 13(b)	13(b)-(II)	Cadmium in striking optical filter glass types; excluding applications falling under point 39 of this Annex	2021/7/21 (discussing extension)
	13(b)-(III)	Cadmium and lead in glazes used for reflectance standards 16.6.2017 L 153/22 Official Journal of the European Union EN	2021/7/21 (discussing extension)
	21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses etc	2020/2/29
New requirements of above 21	21(a)	Cadmium when used in colour printed glass to provide filtering functions, used as a component in lighting applications installed in displays and control panels of EEE	2021/7/21 (No extension)
	21(b)	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses etc	2021/7/21 (No extension)
	30	Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more	2016/7/21
	38	Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide	2016/7/21
	39	Cadmium in colour converting II-VI LEDs ( $<$ 10 $\mu$ g Cd per mm <sup>2</sup> of light-emitting area) for use in solid state illumination or display systems	2018/11/1
A new requirement of above 39	39(a)	Cadmium selenide in downshifting cadmium-based semiconductor nanocrystal quantum dots for use in display lighting applications ( $<$ 0.2 $\mu$ g Cd per mm <sup>2</sup> of display screen area)	2019/10/31 (discussing extension)
	40	Cadmium in photoresistors for analogue optocouplers applied in professional audio equipment	2013/12/31
2.Hexavalent chromium compounds	9	Hexavalent chromium as an anticorrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75 % by weight in the cooling solution	2020/3/5
3.Lead and its compounds	5(a)	Lead in glass of cathode ray tubes	2016/7/21
	5(b)	Lead in glass of fluorescent tubes not exceeding 0.2 % by weight	2016/7/21 (discussing extension)
	6(a)	Lead as an alloying element in steel for machining purposes and in galvanised steel containing up to 0.35 % lead by weight	2019/6/30
A new requirement of above 6(a)	6(a)-I	Lead as an alloying element in steel for machining purposes containing up to 0.35% lead by weight and in batch hot dip galvanised steel components	2021/7/21 (discussing extension)



# Appendix 4. RoHS Exemption

Substance	Legal No.	Exempted Applications	Legal expiration dates ※1 ※3
3. Lead and its compounds (continued)	6(b)	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight	2019/6/30
New requirements of above 6(b)	6(b)- I	Lead as an alloying element in aluminium containing up to 0,4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling	2021/7/21 (discussing extension)
	6(b)- II	Lead as an alloying element in aluminium for machining purposes with a lead content up to 0,4 % by weight	2021/5/18 (discussing extension)
	6(c)	Copper alloy containing up to 4 % lead by weight	2021/7/21 (discussing extension)
	7(a)	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)	Except for law number 24 2021/7/21 (discussing extension)
	7(b)	Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications	2016/7/21
	7(c)-I	Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound	Except for law number 34 2021/7/21 (discussing extension)
	7(c)- II	Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher	2021/7/21 (discussing extension)
	7(c)- III	Lead in dielectric ceramic in capacitors for a rated voltage of less than 125 V AC or 250 V DC	2013/1/1
	7(c)-IV	Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete	2021/7/21 (No extension)
	9(b)	Lead in bearing shells and bushes for refrigerant- containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications	Does Not Apply
	New requirements of above 9(b)	9(b)-(I)	Lead in bearing shells and bushes for refrigerant- containing hermetic scroll compressors with a stated electrical power input equal or below 9 kW for heating, ventilation, air conditioning and refrigeration (HVACR) applications
11(a)		Lead used in C-press compliant pin connector systems	2010/9/24
	11(b)	Lead used in compliant pin connector systems other than C-press connector systems	2013/1/1
	12	Lead as a coating material for the thermal conduction module C-ring	2010/9/24
	13(a)	Lead in white glasses used for optical applications	2021/7/21 (discussing extension)
	13(b)	Cadmium and lead in filter glasses and glasses used for reflectance standards	Does Not Apply
	New requirements of above 13(b)	13(b)-(I)	Lead in ion coloured optical filter glass types
13(b)-(III)		Cadmium and lead in glazes used for reflectance standards	2021/7/21 (discussing extension)
	14	Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80 % and less than 85% by weight	2011/1/1

## Appendix 4. RoHS Exemption

Substance	Legal No.	Exempted Applications	Legal expiration dates ※1 ※3
3. Lead and its compounds (continued)	15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages	2020/2/29
A new requirement of above 15	15(a)	Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: - a semiconductor technology node of 90 nm or larger; - a single die of 300 mm <sup>2</sup> or larger in any semiconductor technology - stacked die packages with die of 300 mm <sup>2</sup> or larger, or silicon interposers of 300 mm <sup>2</sup> or larger.	2021/7/21 (discussing extension)
	16	Lead in linear incandescent lamps with silicate coated tubes	2013/9/1
	17	Lead halide as radiant agent in high intensity discharge (HID) lamps used for professional reprography applications	2016/7/21
	18(a)	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing processes containing phosphors such as SMS ((Sr,Ba) <sub>2</sub> MgSi <sub>2</sub> O <sub>7</sub> :Pb)	2011/1/1
	18(b)	Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> :Pb)	2021/7/21 (discussing extension)
A new requirement of above 18(b)	18(b)-I	Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps containing phosphors such as BSP (BaSi <sub>2</sub> O <sub>5</sub> :Pb), when used in tanning equipment or in medical phototherapy equipment - excluding applications covered under point 34 of Annex IV	Except for law number 34, only categories 5 and 8 2021/7/21 (discussing extension)
	19	Lead with PbBiSn-Hg and PbInSn-Hg in specific compositions as main amalgam and with PbSn-Hg as auxiliary amalgam in very compact energy saving lamps (ESL)	2011/6/1
	20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays (LCDs)	2011/6/1
	21	Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses	2020/2/29
A new requirement of above 21	21(c)	Lead in printing inks for the application of enamels on glasses other than borosilicate glasses	2021/7/21 (No extension)
	23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65 mm and less	2010/9/24
	24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors	2021/7/21 (No extension)
	25	Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring	2016/7/21
	26	Lead oxide in the glass envelope of black light blue (BLB) lamps	2011/6/1
	27	Lead alloys as solder for transducers used in high powered (designated to operate for several hours at acoustic power levels of 125 dB SPL and above) loudspeakers	2010/9/24
	29	Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC	2021/7/21 (discussing extension)
	31	Lead in soldering materials in mercury free flat fluorescent lamps (e.g. which are used for liquid crystal displays, design or industrial lighting)	2016/7/21
	32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes	2021/7/21 (discussing extension)

# Appendix 4. RoHS Exemption

Substance	Legal No.	Exempted Applications	Legal expiration dates ※1 ※3
3. Lead and its compounds (continued)	33	Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers	2016/7/21
	34	Lead in cermet-based trimmer potentiometer elements	2021/7/21 (discussing extension)
	37	Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body	2021/7/21 (No extension)
	41	Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council)	2022/3/31
4. Mercury and its compounds	1	Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):	
	1(a)	For general lighting purposes < 30 W : 5 mg	2011/12/31
		For general lighting purposes < 30 W : 3.5 mg	2012/12/31
		For general lighting purposes < 30 W : 2.5 mg	2023/2/24
	1(b)	For general lighting purposes > 30 W and < 50 W : 5 mg	2011/12/31
		For general lighting purposes > 30 W and < 50 W : 3.5 mg	2023/2/24
	1(c)	For general lighting purposes > 50 W and < 150 W : 5 mg	2023/2/24
	1(d)	For general lighting purposes > 150 W : 15 mg	2023/2/24
	1(e)	For general lighting purposes with circular or square structural shape and tube diameter < 17 mm	2011/12/31
		For general lighting purposes with circular or square structural shape and tube diameter < 17 mm : 7 mg	2023/2/24
	1(f)	For special purposes : 5 mg	2025/2/24
	1(g)	For general lighting purposes < 30 W with a lifetime equal or above 20,000 h: 3,5 mg	2017/12/31
	2(a)	Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):	
	2(a)(1)	Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) : 5 mg	2011/12/31
		Tri-band phosphor with normal lifetime and a tube diameter < 9 mm (e.g. T2) : 4 mg	2023/2/24
	2(a)(2)	Tri-band phosphor with normal lifetime and a tube diameter > 9 mm and < 17 mm (e.g. T5) : 5 mg	2011/12/31
		Tri-band phosphor with normal lifetime and a tube diameter > 9 mm and < 17 mm (e.g. T5) : 3 mg	2023/8/24
	2(a)(3)	Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and < 28 mm (e.g. T8) : 5 mg	2011/12/31
Tri-band phosphor with normal lifetime and a tube diameter > 17 mm and < 28 mm (e.g. T8) : 3.5 mg		2023/8/24	
2(a)(4)	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 5 mg	2012/12/31	
	Tri-band phosphor with normal lifetime and a tube diameter > 28 mm (e.g. T12) : 3.5 mg	2023/2/24	

# Appendix 4. RoHS Exemption

Substance	Legal No.	Exempted Applications	Legal expiration dates ※1 ※3
4. Mercury and its compounds (continued)	2(a)(5)	Tri-band phosphor with long lifetime(> 25,000 h): 8 mg	2011/12/31
		Tri-band phosphor with long lifetime(> 25,000 h): 5 mg	2023/2/24
	2(b)	Mercury in other fluorescent lamps not exceeding (per lamp):	
	2(b)(1)	Linear halophosphate lamps with tube diameter > 28 mm (e.g. T10 and T12) : not exceeding 10 mg	2012/4/13
	2(b)(2)	Non-linear halophosphate lamps (all shapes) : not exceeding 15 mg	2016/4/13
	2(b)(3)	Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : >15 mg	2011/12/31
		Non-linear tri-band phosphor lamps with tube diameter > 17 mm (e.g. T9) : < 15 mg	2025/2/24
	2(b)(4)	Lamps for other general lighting and special purposes (e.g. induction lamps) : >15 mg	2011/12/31
		Lamps for other general lighting and special purposes (e.g. induction lamps) : <15 mg	2025/2/24
	3	Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):	
	3(a)	Short length (< 500 mm) : >3.5 mg	2011/12/31
		Short length (< 500 mm) : < 3.5 mg	2025/2/24
	3(b)	Medium length (> 500 mm and < 1,500 mm) : > 5 mg	2011/12/31
		Medium length (> 500 mm and < 1,500 mm) : < 5 mg	2025/2/24
	3(c)	Long length (> 1,500 mm) : >13 mg	2011/12/31
		Long length (> 1,500 mm) : <13 mg	2025/2/24
	4(a)	Mercury in other low pressure discharge lamps (per lamp) : >15 mg	2011/12/31
		Mercury in other low pressure discharge lamps (per lamp) : <15 mg	2023/2/24
	4(b)	Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index > 60Ra	2027/2/24
	4(b)-I	P < 155 W : >30 mg	2011/12/31
		P < 155 W : <30 mg	2023/2/24
	4(b)- II	155 W < P < 405 W : > 40 mg	2011/12/31
		155 W < P < 405 W : < 40 mg	2023/2/24
	4(b)- III	P > 405 W : > 40 mg	2011/12/31
		P > 405 W : <40 mg	2023/2/24
	4(c)	Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):	2027/2/24
	4(c)-I	P < 155 W : >25 mg	2011/12/31
P < 155 W : <25 mg		2027/2/24	
4(c)- II	155 W < P < 405W : >30 mg	2011/12/31	
	155 W < P < 405W : <30 mg	2027/2/24	
4(c)- III	P > 405 W : >40 mg	2011/12/31	
	P > 405 W : <40 mg	2027/2/24	
4(d)	Mercury in High Pressure Mercury (vapour) lamps (HPMV)	2015/4/13	
4(e)	Mercury in metal halide lamps (MH)	2027/2/24	
4(f)	Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex	2025/2/24	

# Appendix 4. RoHS Exemption

Substance	Legal No.	Exempted Applications	Legal expiration dates ※1 ※3
4.Mercury and its compounds (continued)	4(g)	Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light-artwork, where the mercury (a) 20 mg per electrode pair + 0.3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 °C; (b) 15 mg per electrode pair + 0.24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.	2018/12/31
	36	Mercury used as a cathode sputtering inhibitor in DC plasma displays with a content up to 30 mg per display	2010/6/1

※1: The expiry date is according to that of the directive based on the assumption that our products can belong to any of categories 1 to 11.

※3: The grayed out fields have already expired





Issued on:

**To: Hirose Electric Co., Ltd.**

Subject Article:  (Enter an appropriate option 1 or 2 stated below.)  
 1. Subject to list on separate sheet  
 2. Article stated below

Company  Seal  
 Department   
 Responsible Person  Seal

Hirose's Product	Hirose's Part No.	Manufacturer's Product	Manufacturer's Part No.

## Prohibited Substance Non-Use Guarantee

Concerning the articles, including the product, part pieces, raw materials, packing materials, and other articles delivered together with the aforesaid articles delivered directly or through third parties, including distributors, to Hirose Electric Group, we guarantee, except as declared below, that

- including prohibited substances in Appendix 3 marked "L" on the right  Toys/Products for children  Packaging
- in the case of battery, including the prohibited substances of the battery in Appendix 3
- the articles do not contain prohibited substances stated on the Green Procurement Guidelines(or within the restricted values);
- the articles do not use prohibited substances for use in the manufacturing process stated in the Green Procurement Guidelines

and further concerning inclusion of the substances of RoHS Directive, the articles fall under the category of  stated below:

- 1 Less than the restricted value
- 2 Exceeding the restricted value
- 3 The following exemption provision is applied, and other values are less than the restricted values.

Used Area	Exemption Provision

(Note) For those that can be guaranteed without applying the exemption provision, guarantee the non-inclusion at less than the restricted values as much as possible.

(Note) In order to widen the opportunities for use, please also guarantee as much as possible the prohibited

Are there any prohibited substances?:  Edition No. of Green Procurement Guidelines:   
 IF yes, please fill in below

### Prohibited Substance Included and Inclusion Area:

Prohibited Substance	CAS No.	Inclusion Area	Content Rate

### Prohibited Substance Used in Manufacturing Process and Process Name:

Prohibited Substance	CAS No.	Process

In addition, when there is a change in 4M, we will notify you by using the Process Change Notification in advance, and we will submit the Substances of Environmental Concern Investigation Sheet, Prohibited Substance Non-use Guarantee, and Precision Measurement Data again.

Note that the data submitted on concentrations of the target substances are empirically based; that the survey addresses the entire supply chain back to the raw materials stage; and that the data is certified to be correct.

We guarantee that quality controls for the entire manufacturing process have been rigorously managed with respect to prohibited substances and that the delivered articles are free of prohibited substances, whether by contamination or adhesion.

<Conditions for Guarantee>

Enter either of the options 1 or 2 stated below:

1. No conditions
2. For guarantee the following conditions are applicable:

Note: No change is allowed in the above-stated original text.



Issued on: \_\_\_\_\_

**To: Hirose Electric Co., Ltd.**

Supplier Code: \_\_\_\_\_

Company: \_\_\_\_\_ Seal

Department: \_\_\_\_\_

Responsible Person: \_\_\_\_\_ Seal

## Certificate of Halogen-free Substance

Concerning products, parts, and raw materials delivered directly or through third parties, including distributors, to Hirose Electric Group, we certify that they do not include halogen substances under the criteria stated below:

### 1. Subject Articles

	Manufacturer's Product : Manufacturer's Part No.	Hirose's Product: Drawing No.
1)	( _____ )	( _____ )
2)	( _____ )	( _____ )
3)	( _____ )	( _____ )
4)	( _____ )	( _____ )
5)	( _____ )	( _____ )

### 2. Scope of Certification

Put [  ] for criteria that are certified

- [  ] Compliant to IEC 61249-2-21 Standard (Meet the following criteria for each homogen  
( Br (Bromine) : 900 ppm or below )  
( Cl (Chlorine) : 900 ppm or below )  
( Total Br (Bromine) + Total Cl (Chlorine) : 1500 ppm or below )

- [  ] Cannot certify;  
Reason:Please describe why you can not certify

**Supplier Environmental Conservation System Assessment List (VER4.4)**

Fill the box enclosed in thick lines.

Supplier Name				Date Issued			
Approved by:	Title	Name	Signature or Stamp	Assessed by:	Title	Name	Signature or Stamp

**(1) Confirmation for Environmental Conservation Activities**

Certification to ISO 14001 etc.	YES/NO	Certified to : ISO 14001, Eco-Action 21, ECOSTAGE, KES.	Date of Certification	Certification Body	Certification No.
Already certified					
Certification is					

★ If you are already certified to ISO standards, no entry is required in this section. Go to the questionnaire for [Biodiversity](#).

Assessment Item		Syst em	Implem entatio n	Score
Organiz ation	1. Promoting the organization of environmental management system, such as the Environmental Action			0
	2. Standings and functions of the above promoting organization are clearly defined.			0
	3. Active participation of management in the above promoting organization is in place.			0
Enterp rise Activities	4. No corrective guidance or penalty by the relevant competent authority is received in the past five years. (If any, description of the details should be entered below.)			0
	5. Promotional activities of environmental conservation are provided to the employees.			0
	6. Energy saving activities are in place.			0
	7. Relevant environmental laws and regulations (clean air act, water pollution control act, etc.) are identified and complied with.			0
	8. Reduction and recycling of waste are actively sought.			0
	9. Use of materials taking into account the environment and biodiversity is considered.			0
	10. Response to inquiries about environmental responsible activities of the company, such as use status of the regulated substances, is quickly made.			0
Total Score				0

Biodiversity	YES/NO	Score
Is conservation of biodiversity actively sought?		0
Is conservation of biodiversity incorporated into the supply chain?		0

★ Continual improvement of any shortfall should be made.

**(2) Confirmation of Chemicals Control System**

Certification to ISO 9001	YES/NO	Certified to :	Date of Certification	Certification Body	Certification No.
Already certified					
Certification is					

Please enter the evaluation results of the check Sheet (Version 4.01 or higher) that is Annex E in JAMP Guidelines in the table below

Self-assessment Result	Number of Applicable Chemicals				Submission of Corrective Action Plan	Management System Acceptability
	Not checked	Quasi-compliant	Noncompliant	NOT applicable		
Please describe to the right the results of your evaluation from 5.4.2 onwards						

Criteria: Noncompliant item for the above items, and Corrective Action Plan is submitted for the items that are quasi-compliant.

**(3) Confirmation of Quality Management Status for the Banned Substance**

Assessment Item		Syst em	Ope rating	Score
Organiz ation	1. Is non-inclusion of the banned substance in the parts / materials selected confirmed in the design (selection) stage?			0
	2. Is the system established to disclose the accurate content data to the customer for banned substances			0
	3. Is the ability of suppliers to control the banned substances confirmed? Are the records for follow-up and actions taken available, if the ability is inadequate?			0
	4. Is non-inclusion of banned substances checked when purchased parts / materials are received?			0
	5. Are the manufacturing processes controlled to prevent commingling, attachment, or production of the banned substances, and manufacturing is carried out in accordance with such control requirements?			0
	6. Is "Concurrent production" conducted by the company and the subcontractor?			0
	7. Are records for 1 through 6 above retained to reasonably allow demonstration of non-inclusion of the banned substances?			0
	8. Are internal audits conducted for 1 through 7 above and the results reported to management?			0
	9. Is the quality management representative responsible for 1 through 8 above?			0
Total				0

[Definition of Concurrent production]

The manufacturing of items that contain our company prohibited substances within our company threshold and the manufacturing of items that contain our company prohibited substances beyond our company threshold are carried out in the same building at the same time in one of the following processes: confirmation of receipt, storage, manufacturing process, storage of work in process and finished products, and shipment.

If even one item has a score of 0(zero) among the nine items in each of the System and Operating record (18 items in total).

**(4) Confirmation of Commingling Risk of the Banned Substances**

1) Are the actions for the migration of phthalic acid esters under RoHS\* (check of non-inclusion of phthalic acid )  
 \* A phenomenon where phthalic acid esters transfer to the material that is in touch with the material that contains phthalic acid esters. (Ex. PVC sheet cover on the table to products)

2) Are there any risks of commingling or attachment of the banned substances contained in the manufacturing

3) If the answer to 2) is "Yes", enter the names of such substances and describe the method to control commingling below

Name of the Banned Substance:  
 <Control Method>

**(5) Rating**

Assessment Result	Score (Scores are sum of (1) < 120: full score>, (2) < 20: full score>, and (3) <160> )	Rating
	260 or above	S
	220-259	A
	156-219	B
	92-155	C
	91 or less or the Chemicals Control System is not acceptable.	D