

Control Standard of Chemical Substances in Products Rev.003

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ROHM Co., Ltd.

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1. Objective

Using this guideline, ROHM group (hereinafter referred to as ROHM) will make clear the management of substances of environmental concern in the parts and materials they supply in order to prevent prohibited substances from mixing into ROHM products, and to reduce any harmful effects on natural ecosystems in compliance with relevant laws and ordinances.

2. Scope

Targets are the parts^{**1}, materials, packaging components^{**2} and sub-materials^{**3}that are procured by ROHM Group (Hereinafter referred to as "Materials").

- ※1: Parts that are partly or wholly outsourced to manufacture are also covered.
- ※2: Applies to packaging materials used for transporting and protecting ROHM products. Packaging materials used by the supplier for transportation and protection are not covered. However, it is subject to direct contact with the target article and if the specified prohibited substance is transferred or mixed.
- ※3: Production equipment and jigs and tools are excluded.

3. Definition of Terms

3.1 Chemical Substance

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

3.2 Mixture

A mixture intentionally comprising two or more chemical substances.

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

3.3 Chemicals

3.1 Chemical substance and/or mixture.

3.4 Article

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

3.5 Substances of environmental concern

A general term of substances considered to have a remarkable environmental impact in the health hazard to a human body and the global environment.

3.6 Environment-related Substances to be Controlled

Substances judged by ROHM considered to be had a remarkable environmental impact in the health hazard to a human body and the global environment.

3.6.1 Prohibited Substances

Restrict of use by laws and regulations or customer requirement in Environment-related Substances to be Controlled and prohibit inclusion in parts and materials procured by ROHM.

3.6.2 Controlled Substances

Manage and promote the substitution in Environment-related Substances to be Controlled by understanding actual conditions of use from laws and regulations, customer requirements and industry trends etc.

3.7 Homogeneous material

Homogeneous material means one material of uniform composition throughout or a material, consisting of a combination of materials that cannot be disjointed or separated into different materials by mechanical actions. (Ex. Plastic, ceramics, glass, metal, resin, coating agent, plating layer, painting / painting layer etc.)

3.8 Threshold level

Threshold level is defined as the maximum rate of content or content when a prohibited chemical substance is present in parts and materials.

3.9 Intentionally added

"Intentionally added" means a situation where a substance is contained in the materials because of deliberate addition filling, blending or adhesion in order to provide a specific characteristic, appearance, property, attribute or quality.

3.10 Impurity

Impurities are substances that are contained in natural material and cannot be removed by the current industrial technologies in the refining process.

3.11 IEC62321

Analysis methods for the substances specified in the EU RoHS Directive shall be based on the International Electro-technical Commission's (IEC).

3.12 ISO/IEC17025

International Standard "General requirements for the competence of testing and calibration laboratories".

3.13 chemSHERPA

chemSHERPA is a common scheme for information transfer across a supply chain.

3.13.1 chemSHERPA-CI

Data entry support tool to transfer composition information for chemical substances and mixtures.

3.13.2 chemSHERPA-AI

Data entry support tool to transfer composition information and compliance information of articles.

3.14Halogen free designated materials

Components specifying restrictions on chlorine, bromine, and antimony content

4. Commentary of Laws and Regulations

Major laws and regulations referenced to decide Environment-related Substances to be Controlled.

4.1 Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Law concerning the regulation of examination, manufacturing, etc. regulation of chemical substances.

4.2 Protection of the Ozone Layer Law

The Act on the Protection of the Ozone Layer Through the Control of Specified Substances and Other Measures (The Protection of the Ozone Layer Law) was enacted in 1988 in order to implement the resolutions of the Parties to the Montreal Protocol, in addition to the obligation

of contracting countries specified in the Vienna Convention for the Protection of the Ozone Layer, which is the international framework for ozone layer protection, and the Montreal Protocol on Substances that Deplete the Ozone Layer.

4.3 76/769/EEC

On the approximation of the laws, regulations and administrative provisions of the Member States relating to restrictions on the marketing and use of certain dangerous substances and preparations 2006/122/EC is a law concerning the prohibition of use of PFOS by the 30th revision instructions of 76/769/ EEC. 76/769/EEC was abolished on 1 June 2009 and was unified in the REACH regulation (Annex XVII).

4.4 REACH Regulation (No 1907/2006)

Regulation regarding the registration, evaluation, approval and restriction of chemical substance which went into effect on 1 June 2007.

4.5 ELV Directive (2000/53/EC)

The "2000/53/EC" stands for the ELV Directive (End of Life Vehicles). It is a directive for reducing wastes from discarded automobiles and promoting collection and reuse of them, and recycle of their parts. The use of lead, mercury, cadmium, and hexavalent chrome is prohibited, in principle, for the automobiles to be sold after July 2003.

4.6 RoHS Directive (2011/65/EU)

The "2011/65/EC" stands for the RoHS (Restriction of the use of certain Hazardous Substances) Directive. It is an EU directive for restricting the use of certain hazardous substances for electrical and electronic equipment. It was enacted as 2002/95/EC in July 2006 with the aim of reducing the environmental load during reclamation or incineration after the use of the products and also preventing a mixture of hazardous substances into recycled materials. It was revised on 1 July 2011 and published as 2011/65/EU (commonly known as RoHS2).

(EU) 2015/863 amennding directive, publication

4.7 POPs (Stockholm Convention on Persistent Organic Pollutants)

Stockholm Convention on Persistent Organic Pollutants is an international environmental treaty, signed in 2001 and effective from May 2004, that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs). About the target substance, the member nation which has concluded treaties, such as Japan, will be regulated by a domestic statute so that each country can collateralize a treaty.

4.8 TSCA

TSCA: Toxic Substances Control Act

Regulations regulated by "chemicals, mixtures or chemicals, articles" manufactured, processed or imported in the United States for commercial use with the aim of preventing the risks posed by chemicals that are harmful to human health or the environment.

5. Request to suppliers

5.1 Construction and operation of a management system for chemical substances in products Please establish and operate a management system based on the Guidelines for the Management of Chemicals in Products (CiP).

At the start of transactions and periodically, we will visit the supplier or conduct a self-assessment to confirm the construction and operation status of the supplier's management system.

• Guidellines for the management of chemicals in products (CiP) -Annex Check Sheet Ref: https://chemsherpa.net/docs/guidelines

5.2Chemical Substances in Products

In promoting Chemical Substances in Products, please cooperate in providing the following documents and information on compliance with laws and regulations.

| No. | Types of data to be submitted | | Format |
|-----|--|-------------|--------|
| 1 | Certificate of Nonuse of Prohibited Substances | Attachment1 | PDF |
| 2 | List of components | Attachment2 | EXCEL |
| 3 | Target Part numbers List | Attachment3 | PDF |
| 4 | chemSHERPA-CI (Chemical substances / Mixture | e) | SHCI |
| 4 | chemSHERPA-Al (Article) | | SHAI |
| 5 | Analysis data | | PDF |

| | Certificate of Non-Use of Prohibited Substances | List of Component | Target Part numbers List | chem SHERPA | Analysis data |
|--|--|----------------------|--------------------------------|----------------|------------------|
| | Attachment 1 | Attachment 2 | Attachment 3 | CI/AI | |
| Parts / Materials constituting ROHM products | 0 | 0 | * | 0 | 0* |
| Packaging materials | 0 | 0 | * | 0 | 0 |
| Sub-materials | 0 | 0 | * | - | _ |

O:Need to be submitted —: Not need to be submitted

5.2.1 Certificate of Nonuse of Prohibited Substances Attachment 1

We ask for a proof of statement that prohibited substances are less than the threshold levels in each homogenous material.

5.2.2 List of Components Attachment 2

- 1) Enter all data in one-byte characters.
- 2) Please enter the data of each part number.
- 3) In the "Major production sites" column, describe the name of country in which is finally produced.
- 4) For the product weight, fill in the weight of the product to be reported and choose the weight unit (kg, g, mg).
- 5) Entry of chemical substance information
 - In principle, fill in all the blank cells so that there are no blank cells (not filled in).
 - Fill in the chemical substance information for each homogeneous material so that the percentage is 100%.

^{※ :} Need to be submitted only when replying in series.

^{* :} Semiconductor gases that are difficult to analyze due to physical properties such as danger and toxicity are excluded.

ROHM may request the submission of documents for parts and materials specified separately.

- If there are any substances that cannot be disclosed due to confidential manufacturing information, please indicate "Not disclosed" in the chemical substance name column. Undisclosed ingredients shall be less than 10% for each homogenous material, excluding prohibited substances and controlled substances.
- Please note that we may ask you to separately provide information on undisclosed substances.
- Enter unintentional substances (impurities, byproducts) as far as they are known.
- The CAS No. should be described as a number separated into three parts by a hyphen.
- Enter product weight, chemical substance weight and content (wt%) in the cell concerned to two places of decimals.
- For liquid, powder, and film materials, fill out their weight using particular weight and length (e.g.100g per 1 Meter).
- 6) Describe all chemical substances in each homogeneous material for composite parts and parts.

Classification method of homogeneous materials

• Example of the composite parts

Printed Circuit Board : Base Material, Wiring, Plating, Resist inks, Silk Print Ink Connector : Housing, Contacts(pin)

Harness: Coating Material, Core, Housing, Contacts (pin)

· Example of the parts

Surface Mounting Chip Product (e.g. capacitors)

: Main body of the part, Terminal bases, Terminal plating

Semiconductor parts

- : Frames, Frame plating, Chip, Gold wire, Mold resin, Silver paste
- 7) Please choose the code of purpose for containing.

The code of purpose for containing

| code of purpose for containing | | | | | |
|--------------------------------|-----------------------------|--|--|--|--|
| 101:Main Component | 107:Machanical Property | | | | |
| 102:Thermal stability | 108:Triboperformance | | | | |
| 103:Vulcanizing agent | 109:Corrosion resistance | | | | |
| 104:Dyes , Pigment | 110:Electric characteristic | | | | |
| 105:Flame resistance | 998:Impurity ,byproducts | | | | |
| 106:Machining | 999:Others | | | | |

8) Describe further use/non-use of recycled material in homogeneous materials.

5.2.3 Target Part numbers List Attachment 3

- 1) Use the list if there are many products that the contents of "Certificate of Non-use of Prohibited Substances" and "List of Components" are identical.
- 2) Fill in the series product names and numbers in "Target Part numbers List".
 - Representative product name ... Fill in the representative product name.
 Example of Representative product name: Cu frame, Ceramic capacitor, Gold wire,
 OO series.
 - Representative product number...Fill in the official name of each materials.

 (Model name as registration at ROHM)
 - · Weight ... Fill in the materials weight

5.2.4 chemSHERPA-CI / chemSHERPA-AI

Using the chemical substances in products information scheme within the supplier chain, report any and all information on products containing chemical substances.

| Type of Delivery | Answer Format | |
|--------------------|-----------------|--|
| Chemical Substance | ah am CHEDDA CH | |
| Mixture | chemSHERPA-CI | |
| Article | chemSHERPA-AI | |

To correspond with updated laws and regulations, supporting tool data and substance list of chemSHERPA will be revised periodically. Please submit the coming tool data by chemSHERPA homepage. https://chemsherpa.net/

Precautions when creating chemSHERPA-AI

Please check the issuer information area, composition information and compliance information before creating.

If SVHC is contained, SCIP information is also required.

5.2.5 Analysis Data

1) Unit of analysis measurement

Analysis reports need to be submitted in each homogeneous material constituting the materials.

2) Analysis Laboratory

Analysis report by the ISO/IEC17025 certified laboratories is required to meet customer requirements.

3) Analysis Report Substances

| | Analysis data (Refer to Attachment 4) | | | | | | | | | | | | | |
|-------------------|---------------------------------------|----|----|------------------|----|-----|------|----------------------|---|------|------|------------|----|---|
| | | | | | | РВВ | PBDE | Phthalates | | Halo | gens | | | |
| | | Cd | Pb | Cr ⁶⁺ | Hg | | | DEHP,DBP BBP,DIBP | F | CI | Br | ı | Sb | Р |
| Parts / Materials | Resin Plastic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | · ※ | 0 | * |
| ROHM products | Other than the above | 0 | 0 | 0 | 0 | - | ı | - | | | _ | | 1 | |
| Packaging | Resin Plastic | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | - | | ı | ı |
| materials | Other than the above | 0 | 0 | 0 | 0 | - | - | - | | | - | | - | - |
| Sub-materials | | - | - | - | - | - | - | _ | | | - | | - | - |

O : necessary — : not necessary — * : Voluntary

(Remark) ROHM may ask suppliers for the additional analysis report by laws and regulations trend or ROHM's customer requirements.

4) Analysis Method

| Substances | Polymers | Metals | Electronics | | |
|---------------------|------------------------|---------------------------|------------------------|--|--|
| Lead/Cadmium | | IEC62321-5 (2013) | | | |
| (Pb/Cd) | | ICP-OES,ICP-MS,AAS,AFS | | | |
| Mercury | | IEC62321-4 (2013) | | | |
| (Hg) | ICI | P-OES,ICP-MS,CV-AAS,CV-A | FS | | |
| Hexavalent | IEC62321-7-2 (2017) | IEC62321-7-1 (2015) | IEC62321-7-2 (2017) | | |
| chromium | Alkali decomposition / | Boiling water extraction/ | Alkali decomposition / | | |
| (Cr ⁶⁺) | Colorimetric method | Colorimetric method | Colorimetric method | | |
| Specific bromine- | | | | | |
| based flame | IEC62321-6 (2015) | NA | IEC62321-6 (2015) | | |
| retardants | GC/MS | NA | GC/MS | | |
| (PBB, PBDE) | | | | | |
| Phthalates | IEC62321-8 (2017) | | IEC62321-8 (2017) | | |
| DIBP,DBP | GC/MS | NA | GC/MS | | |
| └ BBP, DEHP J | GC/MS | | GC/NIS | | |
| Halogens | BS EN14582 (2016) | | | | |
| (F, Cl, Br, I) | | IC | | | |
| Antimony(Sb), | US EPA 3052 (1996) | US EPA 3050B (1996) | US EPA 3052 (1996) | | |
| Phosphorus(P) | ICP-OES | ICP-OES | ICP-OES | | |

5) Allowable concentration

Shall meet the threshold levels of "6. Environment-related Substances to be Controlled".

- 6) In the case of the same specification (Maker, Part number, Substances of environmental concern), the analysis report of a representative plant is acceptable.
- 7) Validity period for analysis report

The effective period of analysis report issued by analysis laboratories is one year from the date of measurement. We may ask you to provide annual updates.

8) Analysis report

Please enter the following items in the analysis report.

- ① Pretreatment method: Official method name or name of the method if different from the official method.
- 2 Measurement method: Measurement method name or official method name.
- ③ Name of analysis laboratory, corporate seal, name and signatures of a responsible person at the analysis laboratory and a person who performed measurements.
- 4 Date of issue, date of measurement
- (If in the event of N.D.(Not Detectable), the minimum limit value of determination is also needed.)
- 6 Analysis Flow chart: The description method is entrusted to each one of the analysis laboratory. In principle, sample preparation, decomposition, filtration, dissolution, and other processes shall be stated, and at least the kind of reagents shall be entered in the flow chart.

5.2.6 Provision of other information

ROHM may request the information on chemical substances for which regulations are under consideration or on confirmation of compliance with laws and regulations in the country where the ROHM manufacturing factory is located.

6. Environment-related Substances to be Controlled

| No. | Substance | CAS No. | Management classification | Scope | Threshold levels |
|-----|--|--|---------------------------|--|--|
| 1 | Polychlorinated biphenyls (PCB) | - | Prohibit | All application | Intentionally added or 0.5ppm |
| 2 | Polychlorinated naphtalenes (PCN) | - | Prohibit | All application | Intentionally added |
| 3 | Polychlorinated terphenyls (PCT) | 61788-33-8 | Prohibit | All application | Less than 50ppm |
| 4 | Hexachlorobenzene (HCB) | 118-74-1 | Prohibit | All application | 10ppm |
| 5 | Trisubstituted organostannic compounds including tributyltin(TBT)compounds and triphenyltin(TPT)compounds) | 56-35-9 | Prohibit | All application | Intentionally added or Less than 1000ppm of tin in the part |
| 6 | Dibutyltin (DBT) compounds | - | Prohibit | All application | Less than 1000ppm of tin in the part |
| 7 | Dioctyltin (DOT) compounds | - | Prohibit | Textile articles and leather products intended to come into contact with the skin Childcare articles Two-component room temperature vulcanisation moulding kits (RTV-2moulding kits) | Less than 1000ppm of tin in the part |
| 8 | 2,4,6-Tri-tert-butylphenol | 732-26-3 | Prohibit | All application | Intentionally added |
| 9 | 2-(2H-1,2,3-benzotriazol-2-yl)- 4,6-di-tert-butylphenol(UV-320) | 3846-71-7 | Prohibit | All application | Intentionally added or less than 1000ppm |
| 10 | Hexabromocyclododecane(HBCD) and all major Diastereoisomers | 25637-99-4 3194-55-6 4736-49-6 65701-47-5 134237-50-6 134237-51-7 134237-52-8 138257-17-7 138257-18-8 138257-19-9 169102-57-2 678970-15-5 678970-16-6 678970-17-7 | Prohibit | All application | Intentionally added or less than 75ppm in article |
| | | | Prohibit | Other than the controlled substances | less than 100ppm |
| 11 | Cadmium and its compounds | - | Control | The latest version of RoHS Annex III/IV | - |
| | | | D | Electric wire, cable, cord | Less than 300ppm in surface coating material |
| 12 | Lead and its compounds | - | Prohibit | Other than the above | Less than 1000ppm in homogenous material |
| | | | Control | The latest version of RoHS Annex III/IV | - |
| | | | Prohibit | Other than the controlled substances | Less than 1000ppm in homogenous material |
| 13 | Hexavalent chromium compounds | - | Control | The latest version of RoHS Annex III/IV | - |
| 14 | Mercury and its compounds | - | Prohibit | Other than the controlled substances | Intentionally added or Less than 1000ppm in homogenous material |
| | | | Control | The latest version of RoHS Annex III/IV | - |
| 15 | Four heavy metals (Cadmium, Lead, Hexavalent chromium and Mercury) | - | Prohibit | Packaging materials for shipment | Intentionally added and Sum of 4 substances less than 100ppm |

| No. | Substance | CAS No. | Management classification | Scope | Threshold levels | | | | |
|-----|--|--|---------------------------|--|---|--|--|--|--|
| 16 | Polybrominated biphenyls (PBB) | - | Prohibit | All application | Intentionally added and Less than 1000ppm | | | | |
| 17 | Polybrominated diphenyl ethers (PBDE) | - | Prohibit | All application | Intentionally added and Less than 1000ppm | | | | |
| | Phthalates | | | | | | | | |
| | Diethylhexyl phthalate (DEHP) | 117-81-7 | Prohibit | All application | Less than 1000ppm | | | | |
| | Dibutyl phthalate (DBP) | 84-74-2 | Prohibit | All application | Less than 1000ppm | | | | |
| | Butyl benzyl phthalate (BBP) | 85-68-7 | Prohibit | All application | Less than 1000ppm | | | | |
| | Specific phthalates Group 1 (DEHP, DBP, BBP, DIBP) | 117-81-7 84-74-2 85-68-7 | Prohibit | Toy , child care products | Sum : Less than 1000ppm in plasticized material | | | | |
| 18 | Diisononyl phthalate (DINP) | 28553-12-0 68515-48-0 | Prohibit | All application | Less than 1000ppm | | | | |
| | Diisodecyl phthalate (DIDP) | 26761-40-0 68515-49-1 | Prohibit | All application | Less than 1000ppm | | | | |
| | Di-n-octyl phthalate (DNOP) | 117-84-0 | Prohibit | All application | Less than 1000ppm | | | | |
| | Specific phthalates Group 2 (DINP, DIDP, DNOP) | 28553-12-0 68515-48-0 26761-40-0 68515-49-1 117-84-0 | Prohibit | Children's toy that can be placed in a child's mouth or child care products | Sum : Less than 1000ppm in plasticized material | | | | |
| | Diisobutyl phthalate (DIBP) | 84-69-5 | Prohibit | All application | Less than 1000ppm | | | | |
| | Phthalates other than the above | - | Control | All application | Less than 1000ppm | | | | |
| | | | Prohibit | Other than the controlled substances | Less than 1000ppm | | | | |
| 19 | Polyvinyl chloride (PVC) and its mixtures | - | Control | Wafer processing film Cable Heat shrinkable tube FFC Resin binder | - | | | | |
| | Perfluoroalkyl sulfonate and Polyalkyl substances | | | | | | | | |
| | Perfluorinated carboxylic acids (PFCA) | | | | | | | | |
| | PFOA (Perfluorooctanoic acid) and related substances | - | Prohibit | All application | Intentionally added PFOA and its salt::25ppb Related substances : 1000ppb | | | | |
| | Perfluorocarboxylic acids (C9-C14 PFCAs), their salts and related substances | - | Prohibit | All application | C9-C14 PFCAs and their salts : less than 25ppb C9-C14 related substances : less than 260ppb | | | | |
| | Log-chain(c9-c21)perfluorocarboxylic acids(PFCA)and its salts and related substances | - | Prohibit | All application | Intentionally added | | | | |
| | Perfluorohexanoic acid(PFHxA) and its salt and related substances | - | Control | All application | - | | | | |
| 20 | PFCA other than the above | - | Control | All application | - | | | | |
| | Perfluoroalkanesulfonic acid (PFSA) | | ı | 1 | 1 | | | | |
| | Perfluorooctane sulfonic acid (PFOS) and its derivatives | - | Prohibit | All application | Intentionally added or PFOS and its derivatives : Less than 1ppm | | | | |
| | Perfluorohexane sulfonic acid(PFHxS) and its salt and related substances | - | Prohibit | All application | PFHxS and its salt :Less than 25ppb relaed substances : Less than 1000ppb- | | | | |
| | Perfluorobutane sulfonic acid(PFBS) and its salt and related substances | - | Control | All application | - | | | | |
| | PFSA other than the above | - | Control | All application | - | | | | |
| | PFAS other than PFCA and PFSA | = | Control | All application | _ | | | | |

| No. | Substance | CAS No. | Management classification | Scope | Threshold levels |
|-----|---|---------------------|---------------------------|--|---|
| 21 | Dimethylfumarate (DMF) | 624-49-7 | Prohibit | All application | Less than 0.1ppm |
| 22 | Shortchain Chlorinated Paraffins (C10-13) (SCCP) | - | Prohibit | All application | Intentionally added or less than 1000ppm of article |
| 23 | Medium Chlorinated Paraffins (C14-17) (MCCP) | - | Prohibit | All application | Intentionally added or less than 1000ppm of article |
| | | | Prohibit | Other than the controlled substances | Less than 1000ppm |
| 24 | Arsenic and its compounds | - | Control | Compound semiconductor Dopants for semiconductor Copper foil of printed wiring board | - |
| 25 | Niekal and its companyed | | Prohibit | Prolonged contact with the skin | 0.28µg/cm2/week |
| 25 | Nickel and its compounds | - | Control | Other than the above | - |
| 26 | Asbestos | - | Prohibit | All application | Intentionally added |
| 27 | Azocolourants and azodyes which form certain aromatic amine | Refer to Table.1 | Prohibit | Applies to contact human skins directly for a long time | Less than 30ppm |
| 28 | Cobalt Chloride | 7646-79-9 | Prohibit | Indicator in a drying agent | Less than 1000ppm |
| | Beryllium and its compounds | 1 | 1 | | |
| 29 | Beryllium oxide | 7440-41-7 | Prohibit | All application | Less than 1000ppm |
| | Other than the above | - | Control | Other than the prohibited substances | - |
| | Antimony and its compounds | | | | |
| 30 | Antimony trioxide | 1309-64-4 | Prohibit | Materials specified as halogen free | Less than 1000ppm |
| | Other than the above | - | Control | Other than the prohibited substances | - |
| | Bisphenols | | | | |
| | | | Prohibit | Thermal paper | Non use |
| | Bisphenol A(BPA) | 80-05-7 | Control | Other than the prohibited substances | - |
| | Bisphenol B(BPB) | 77-40-7 | Control | All application | - |
| 31 | Bisphenol S(BPS) | 80-09-1 | Control | All application | - |
| | Bisphenol F(BPF) | 620-92-8 | Control | All application | - |
| | Bisphenol AF(BPAF) | 1478-61-1 | Control | All application | - |
| | Tetrabromobisphenol A (TBBPA) | 79-94-7 | Control | All application | - |
| | Other than the above | - | Control | All application | - |
| 32 | Tris(1-chloro-2-propyl) phosphate (TCPP) | 13674-84-5 | Prohibit | All application | Less than 1000ppm |
| 33 | Tris(1,3-dichloro-2-propyl)phosphate (TDCPP) | 13674-87-8 | Prohibit | All application | Less than 1000ppm |
| 34 | Tris(2-chloroethyl) phosphate (TCEP) | 115-96-8 | Prohibit | All application | Less than 1000ppm |
| 35 | Isopropylphenyl phosphate (3:1) PIP (3:1) | 68937-41-7 | Control | Adhesives, adhesive material and sealants. (Scheduled to be banned from 6 January 2025) Iubricants and greases, Recycled plastic Other than the above (scheduled to be prohibited from 8 October 2022) | - |
| 36 | Red phosphorus Flame Retardants | - | Prohibit | All application | Intentionally added |

-

| No. | Substance | CAS No. | Management classification | Scope | Threshold levels |
|----------|--|-----------------|---------------------------|--|--|
| | Chlorinated Flame Retardants | | | | |
| 37 | 1,6,7,8,9,14,15,16,17,17,18,18- Dodecachloropentacyclo [12.2.1.16,9.02,13.05,10]octadeca- 7,15-diene (Dechlorane Plus'TM) | - | Prohibit | All application | Intentionally added |
| | Other chlorinated flame retardants | - | Prohibit | All application | Less than 900ppm (CI) |
| 38 | Brominated Flame Retardants | _ | Prohibit | Material specified as halogen free | Less than 900ppm (BI) Less than 1500ppm (CI+Br) |
| | | | Control | Other than the prohibited substances | - |
| 39 | Benzene | 71-43-2 | Prohibit | Material for manufacturing processes (Cleaning agents, Degreasers, Demolder solution) | Intentionally added |
| | | | Control | Other than the prohibited substances | - |
| 40 | Normal-hexane (N-hexane) | 110-54-3 | Prohibit | Material for manufacturing processes (Cleaning agents, Degreasers, Demolder solution) | Intentionally added |
| | | | Control | Other than the prohibited substances | - |
| 41 | N-Methyl-2-pyrrolidone (NMP) | 872-50-4 | Prohibit | Material for manufacturing processes (Cleaning agents, Degreasers, Demolder solution)) | Intentionally added |
| | | | Control | Other than the prohibited substances | - |
| 42 | Toluene | 108-88-3 | Prohibit | Material for manufacturing processes (Cleaning agents, Degreasers, Demolder solution) | Intentionally added |
| | | | Control | Other than the prohibited substances | - |
| 43 | Pentachlorothiophenol (PCTP) | 133-49-3 | Prohibit | All application | Intentionally added- |
| 44 | Hexachloro-1,3-butadiene(HCBD) | 87-68-3 | Prohibit | All application | Intentionally added |
| 45 | Ozone depleting substances (Montreal Protocol A, B, C, E Substances) | Refer toTable.3 | Prohibit | All application | Intentionally added |
| 46 | Perchlorates (PCA) | - | Control | All application | - |
| 47 | Polycyclic aromatic hydrocarbon(PAH) | Refer toTable.2 | Control | All application | - |
| 48 | Bismuth and its compounds | - | Control | All application | - |
| 49 | Siloxiane | - | Control | All application | - |
| 50 | Formaldehyde | 50-00-0 | Control | All application | - |
| 51 | 1,4-Dioxane | 123-91-1 | Control | All application | - |
| 52 53 | Pigment Violet 29 REACH Regulation | 81-33-4 | Control Control | All application All application | - |
| 54 | Candidate list of SVHC Fluorinated greenhouse gases | - | Control | All application | - |
| | (PFC, SF6, SF4 etc.) | - | Prohibit | Organochlorine cleaning | New material, |
| 55 | Other chlorine compounds | - | Control | agent Other than the prohibited substances | Intentionally added - |
| 56 | Other bromine compounds | - | Control | All application | - |

RoHS Annex III/IVExemption list http://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm
http://ec.europa.eu/environment/waste/rohs_eee/adaptation_en.htm

Table 1. List of Amine, which shall not be generated by the decomposition of Azo compound

| No. | Substance | CAS No. |
|-----|--|----------|
| 1 | 4-aminodiphenyl | 92-67-1 |
| 2 | benzidine | 92-87-5 |
| 3 | 4-chloro-o-toluidine | 95-69-2 |
| 4 | 2-naphthylamine | 91-59-8 |
| 5 | o-aminoazotoluene | 97-56-3 |
| 6 | 2-amino-4-nitrotoluene | 99-55-8 |
| 7 | p-chloroaniline | 106-47-8 |
| 8 | 2, 4-diaminoanisole | 615-05-4 |
| 9 | 4, 4'-Diaminodiphenylmethane | 101-77-9 |
| 10 | 3, 3'-dichlorobenzidine | 91-94-1 |
| 11 | 3, 3'-dimethoxybenzidine | 119-90-4 |
| 12 | 3, 3'-dimethylbenzidine | 119-93-7 |
| 13 | 3, 3'-dimethyl-4,4'-diaminodiphenylmethane | 838-88-0 |
| 14 | p- cresidine | 120-71-8 |
| 15 | 4, 4'-methylene bis(2-chloroaniline) | 101-14-4 |
| 16 | 4, 4'-oxydianiline | 101-80-4 |
| 17 | 4, 4'-thiodianiline | 139-65-1 |
| 18 | o-toluidine | 95-53-4 |
| 19 | 2, 4-toluenediamine | 95-80-7 |
| 20 | 2, 4, 5-trimethylaniline | 137-17-7 |
| 21 | o-anisidine | 90-04-0 |
| 22 | 4-aminoazobenzene | 60-09-3 |

Table 2. Polycyclic aromatic hydrocarbon (PAH)

| No. | Substance | CAS No. |
|-----|-------------------------------|----------|
| 1 | Benzo[a]pyrene (BaP) | 50-32-8 |
| 2 | Benzo[e]pyrene (BeP) | 192-97-2 |
| 3 | Benzo[a]anthracene (BaA) | 56-55-3 |
| 4 | Chrysen (CHR) | 218-01-9 |
| 5 | Benzo[b]fluoranthene (BbFA) | 205-99-2 |
| 6 | Benzo[j]fluoranthene (BjFA) | 205-82-3 |
| 7 | Benzo[k]fluoranthene (BkFA) | 207-08-9 |
| 8 | Dibenzo[a,h]anthracene(DBAhA) | 53-70-3 |

Table 3. Ozone depleting substances

| Class | Name | Motoreal Protocol | Substance | Alias | Molecular formula | CAS No. |
|--------|-----------------------|-------------------------------------|--|-----------------|----------------------|-------------|
| Class1 | CFC | Annex A Group I | Trichlorofluoromethane | CFC-11 | CFCI3 | 75-69-4 |
| | | · | Dichlorodifluoromethane | CFC-12 | CF2CI2 | 75-71-8 |
| | | | Trichlorotrifluoroethane | CFC-113 | C2F3Cl3 | 26523-64-8 |
| | | | Dichlorotetrafluoroethane | CFC-114 | C2F4C2 | 1320-37-2 |
| - | | | Monochloropentafluoroethane | CFC-115 | C2F5C7 | 76-15-3 |
| | Halon | Annex A Group II | Bromochlorodifluoromethane | Halon-1211 | CF2BrCl | 353-59-3 |
| | | | Bromotrifluoromethane | Halon-1301 | CF3Br | 75-63-8 |
| | | | Dibromotetrafluoroethane | Halon-2402 | C2F4Br2 | 25497-30-7 |
| | Other CFC | Annex B Group I | Chlorotrifluoromethane | CFC-13 | CF3CI | 75-72-9 |
| | 00. 0. 0 | 7ox 2 0.0up . | Pentachlorofluoroethane | CFC-111 | C2FCI5 | 354-56-3 |
| | | | Tetrachlorodifluoroethane | CFC-112 | C2F2Cl4 | 28605-74-5 |
| | | | Heptachlorofluoropropane | CFC-211 | C3FCI7 | _ |
| | | | Hexachlorodifluoropropane | CFC-212 | C3F2CL6 | 3182-26-1 |
| | | | Pentachlorotrifluoropropane | CFC-213 | C3F3CI5 | 134237-31-3 |
| | | | Tetrachlorotetrafluoropropane | CFC-214 | C3F4Cl4 | 29255-31-0 |
| | | | Trichloropentafluoropropane | CFC-215 | C3F5Cl3 | 1599-41-3 |
| | | | Dichlorohexafluoropropane | CFC-216 | C3F6Cl2 | 42560-98-5 |
| | | | Chloroheptafluoropropane | CFC-216 | C3F7CI | |
| | Carbon tetraohloride | Annex B Group II | Carbon tetraohloride | - | CCI4 | 56-23-5 |
| | 1,1,1-Trichloroethane | ' | | - | C2H3Cl3 | 71-55-6 |
| | Chlorobromomethan | Annex B Group III Annex C Group III | 1,1,1-Trichloroethane Chlorobromomethane | - | CH2BrCl | 74-97-5 |
| | | Annex E | Methylbromide | - | CH3Br | 74-97-3 |
| | Methylbromide HBFC | Annex C Group II | Dibromofluoromethane | - | CHFBr2 | 1863-53-7 |
| | ПВГС | Armex C Group II | | - LIDEC 22D4 | | |
| | | | Bromodifluoromethane | HBFC-22B1 | CHF2Br | 1511-62-2 |
| | | | Bromofluoromethane | | CH2FBr | 373-52-4 |
| | | | Tetrabromofluoroethane | | C2HFBr4 | - |
| | | | Tribromodlfluoroethane | - | C2HF2Br3 | - |
| | | | Dibromotrlfluoroethane | | C2HF3Br2 | - |
| | | | Bromotetrafluoroethane | | C2HF4Br | 124-72-1 |
| | | | Tribromofluoroethane | - | C2H2FBr3 | _ |
| | | | Dibromodlfuoroethane | - | C2H2F2Br2 | - |
| | | | Bromotrifluoroethane | | C2H2F3Br | 421-06-7 |
| | | | Dibromofluoroethane | | C2H3FBr2 | 358-97-4 |
| | | | Bromodifluoroethane | - | C2H3F2Br | 359-07-9 |
| | | | Bromofluoroethane | - | C2H4FBr | 762-49-2 |
| | | | Hexabromofluoropropane | - | C3HFBr6 | - |
| | | | Pentabromodifluoropropane | - | C3HF2Br5 | - |
| | | | Tetrabromotrifluoropropane | - | C3HF3Br4 | - |
| | | | Tribromotetrafluoropropane | - | C3HF4Br3 | - |
| | | | Dibromopentafluoropropane | - | C3HF5Br2 | - |
| | | | Bromohexafluoropropane | - | C3HF6Br | 2252-78-0 |
| | | | Pentabromofluoropropane | - | C3H2FBr5 | - |
| | | | Tetrabromodifluoropropane | - | C3H2F2Br4 | - |
| | | | Tribromotrlfluoropropane | _ | C3H2F3Br3 | - |
| | | | Dibromotetrafluoropropane | | C3H2F4Br2 | _ |
| | | | Bromopentafluoropropane | - | C3H2F5Br | - |
| | | | Tetrabromofluoropropane | | C3H3FBr4 | - |
| | | | Tribromodlfluoropropane | | C3H3F2Br3 | |
| | | | Dibromotrlfluoropropane | - | C3H3F3Br2 | - |
| | | | Bromotetrafluoropropane | - | C3H3F4Br | - |
| | | | Tribromofluoropropane | - | C3H4FBr3 | - |
| | | | Dibromodifuuoropropane | - | C3H4F2Br2 | - |
| | | | Bromotrifluoropropane | - | C3H4F3Br | - |
| | | | Dibromofluoropropane | - | C3H5FBr2 | - |
| | | | Bromodlfluoropropane | - | C3H5F2Br | - |
| | | | Bromofluoropropane | _ | C3H6FBr | |

| Class | Name | Motoreal Protocol | Substance | Alias | Molecular formula | CAS No. |
|--------|------|----------------------|------------------------------------|------------|----------------------|-------------|
| Class2 | HCFC | Annex C Group I | Dichlorofluoromethane | HCFC-21 | CHFCI2 | 75-43-4 |
| | | | Monochlorodifluoromethane | HCFC-22 | CHF2CI | 75-45-6 |
| | | | Monochlorofluoromethane | HCFC-31 | CH2FCI | 596-70-4 |
| | | | Tetrachlorofluoroethane | HCFC-121 | C2HFCI4 | 134237-32-4 |
| | | | Trichlorodifluoroethane | HCFC-122 | C2HF2Cl3 | 354-15-4 |
| | | | Dichlorotrifluoroethane | HCFC-123 | C2HF3Cl2 | 34077-87-7 |
| | | | 2,2-Dichloro-1,1,1-trifluoroethane | HCFC-123 | CHCl2CF3 | 306-83-2 |
| | | | Monochlorotetrafluoroethane | HCFC-124 | C2HF4CI | 63938-10-3 |
| | | | 2-Chloro-1,1,1,2-tetrafluoroethane | HCFC-124 | CHFCICF3 | 2837-89-0 |
| | | | Trichlorofluoroethane | HCFC-131 | C2H2FCl3 | 134237-34-6 |
| | | | Dichlorodifluoroethane | HCFC-132 | C2H2F2Cl2 | 25915-78-0 |
| | | | Monochlorotrifluoroethane | HCFC-133 | C2H2F3CI | 1330-45-6 |
| | | | Dichlorofluoroethane | HCFC-141 | C2H3FCl2 | 25167-88-8 |
| | | | 1,1-Dichloro-2,2,2-trifluoroethane | HCFC-141b | CH3CFCI2 | 1717-00-6 |
| | | | Chlorodifluoroethane | HCFC-142 | C2H3F2CI | 25497-29-4 |
| | | | 1-Chloro-1,1-difluoroethane | HCFC-142 | CH3CF2CI | 75-68-3 |
| | | | Chlorofluoroethane | HCFC-151 | C2H4FCI | 110587-14-9 |
| | | | Hexachlorofluoropropane | HCFC-221 | C3HFCI6 | 134237-35-7 |
| | | | Pentachlorodifluoropropane | HCFC-222 | C3HF2CI5 | 134237-36-8 |
| | | | Tetrachlorotrifluoropropane | HCFC-223 | C3HF3CI4 | 134237-37-9 |
| | | | Trichlorotetrafluoropropane | HCFC-224 | C2HF4Cl3 | 134237-38-0 |
| | | | Dichloropentafluoropropane | HCFC-225 | C3HF5Cl2 | 127564-92-5 |
| | | | Dichloropentafluoropropane | HCFC-225ca | CF3CF2CHCl2 | 422-56-0 |
| | | | Dichloropentafluoropropane | HCFC-225cb | CF2CICF2CHCIF | 507-55-1 |
| | | | Monochlorohexafluoropropane | HCFC-226 | C3HF6CI | 134308-72-8 |
| | | | Pentachlorofluoropropane | HCFC-231 | C3H2FCI5 | 134190-48-0 |
| | | | Tetrachlorodifluoropropane | HCFC-232 | C3H2F2Cl4 | 134237-39-1 |
| | | | Trichlorotrifluoropropane | HCFC-233 | C3H2F2Cl3 | 134237-40-4 |
| | | | Dichlorotetrafluoropropane | HCFC-234 | C3H2F4Cl2 | 127564-83-4 |
| | | | Monochloropentafluoropropane | HCFC-235 | C3H2F5CI | 134237-41-5 |
| | | | Tetrachlorofluoropropane | HCFC-241 | C3H3FCI4 | 134190-49-1 |
| | | | Trichlorodifluoropropane | HCFC-242 | C3H3F2Cl3 | 134237-42-6 |
| | | | Dichlorotrifluoropropane | HCFC-243 | C3H3F3Cl2 | 134237-43-7 |
| | | | Monochlorotetrafluoropropane | HCFC-244 | C3H3F4CI | 134190-50-4 |
| | | | Monochlorotetrafluoropropane | HCFC-251 | C3H4FCI3 | 134190-51-5 |
| | | | Dichlorodifluoropropane | HCFC-252 | C3H4F2Cl2 | 134190-52-6 |
| | | | Monochlorotrifluoropropane | HCFC-253 | C3H4F3CI | 134237-44-8 |
| | | | Dichlorofluoropropane | HCFC-261 | C3H5FCl2 | 134237-45-9 |
| | | | Monochlorodifluoropropane | HCFC-262 | C3H5F2CI | 134190-53-7 |
| | | | Monochlorofluoropropane | HCFC-271 | C3H6FCI | 134190-54-8 |

7. Survey Sheet Attachment 1 Certificate of Non-use of Prohibited Substances

| To: ROHM Co., Ltd. | Date: |
|--|---|
| Certificate of Non-Use of Pro | |
| Sec Responsible (Position Sic | gnature): |
| | TEL: E-mail: |
| Sec | er name: ct./Dept.: Position): TEL: |
| We and our group companies hereby certify that parts including its group companies are less than the thresh in "Control Standard of Chemical Substances in Produ | old levels of prohibited substances cited |
| ≪ Target parts / materials≫ | |
| Product name: | |
| Product number: | |
| | |
| | |
| | End |

Attachment 2 List of components

| Γο: ROHM Co., Lt | <u>id.</u> | | | Date: | | | | |
|----------------------------------|--------------------------------|-------------------------|------------------|-----------------|------|------------------|-----------------------------------|---------|
| | | List o | of Compo | nent | | | | |
| | | | Cor | mpany Name: | | | | |
| | | | | | | | | |
| | | E | oononoible nore | Sect./Dept.: | | | | |
| | | ľ | Person in char | ge (Position): | | | | |
| | | | | TEĹ: | | | | |
| | | | | E-mail: | | | | |
| | | | Manufa | acturer name: | | | | |
| | | - | | Sect /Dept : | | | | |
| | | 7 | responsible pers | on (i osition). | | | | |
| | | | | | | | | |
| Product name: Product number: | | | - | | | | | |
| roduct number: roduct weight: | | | - | | | | | |
| lajor production | sites: | | - | | | | | |
| | | | | | | | | |
| Report on inclu | sion of Environme | ent-related Substances | to be Controlle | ed 》 | | | | |
| nvironment-relat | ed Substances to I | be Controlled | Presence or | absence | | | Substance Name | |
| Prohibited Substa | | | | | | | | |
| Controlled Substa | nces | | ļ | | Ь | | | |
| | | | | | | | | |
| | nent≫ Raw material maker | Chemical substance name | CAS No. | Weight | Unit | Content (wt%) | Purpose of inclusion/intended use | Recycle |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| KList of Compo | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |
| Homogeneous | Raw material | | CAS No. | Weight | Unit | | | |

Attachment 2 List of Components Entering Example

■Ex.1:Lead frame

| Product name: | Lead frame | |
|--------------------|------------|----------------|
| Product number: | A-003 | _ |
| Product weight: | 130.00 | mg |
| Major production s | ites: | Japan/Malaysia |

(Report on inclusion of Environment-related Substances to be Controlled)

| Troport on molacion of Environment related described to so controlled | | | | | | | | |
|---|---------------------|----------------|--|--|--|--|--|--|
| Environment-related Substances to be Controlled | Presence or absence | Substance Name | | | | | | |
| Prohibited Substances | 0.Not contained | | | | | | | |
| Controlled Substances | 0.Not contained | | | | | | | |

List of Component≫

| Homogeneous material | Raw material maker | Chemical substance name | CAS No. | Weight | Unit | Content (wt%) | Purpose of inclusion/intended use | Recycled material |
|----------------------|-----------------------|-------------------------|-----------|--------|------|------------------|-----------------------------------|----------------------|
| | | Copper | 7440-50-8 | 129.77 | mg | 99.84 | 101:Main Component | 0.Not used |
| Base Material | OOSteel | Iron | 7439-89-6 | 0.097 | mg | 0.075 | 107:Machanical Property | 0.Not used |
| | | Phosphorus | 7723-14-0 | 0.11 | mg | 0.085 | 107:Machanical Property | 0.Not used |
| Plating | OOChemicals | Copper | 7440-50-8 | 0.020 | mg | 100.00 | 101:Main Component | 0.Not used |

■Ex.2: Printed Circuit Board

| Product name: | Printed Circuit Board | | |
|--------------------|-----------------------|---|--|
| Product number: | C-101 | | |
| Product weight: | 110.03 | g | |
| Major production s | Japan/Malaysia | | |

(Report on inclusion of Environment-related Substances to be Controlled)

| Environment-related Substances to be Controlled | Presence or absence | Substance Name |
|---|---------------------|----------------|
| Prohibited Substances | 1.Contained | Lead(impurity) |
| Controlled Substances | 1.Contained | Lead(SVHC) |

≪List of Component≫

| Homogeneous material | Raw material maker | Chemical substance name | CAS No. | Weight | Unit | Content (wt%) | Purpose of inclusion/intended use | Recycled material |
|----------------------|-----------------------|-------------------------|------------|--------|------|------------------|-----------------------------------|----------------------|
| | | Epoxy Resin | 29690-82-2 | 19.76 | g | 25.00 | 101:Main Component | 0.Not used |
| Base Material | OOChemicals | Glass cloth | 65997-17-3 | 57.71 | g | 73.01 | 101:Main Component | 0.Not used |
| | | Tributhyl phosphate | 126-73-8 | 1.57 | g | 1.99 | 101:Main Component | 0.Not used |
| \A/i rin a | Nandiadayıra | Copper | 7440-50-8 | 15.28 | g | 99.64 | 101:Main Component | 0.Not used |
| Wiring | Nondisclosure | Lead | 7439-92-1 | 0.055 | g | 0.36 | 998:Impurity, byproduct | 0.Not used |
| | | Tributhyl phosphate | 126-73-8 | 15.13 | g | 98.73 | 101:Main Component | 0.Not used |
| Ink | OOInk | Carbon black | 1333-86-4 | 0.13 | g | 0.85 | 104:Dyes , Pigment | 0.Not used |
| | | Nondisclosure | _ | 0.065 | g | 0.42 | 106:Machining | 0.Not used |
| Plating | OxChemicals | Gold | 7440-57-5 | 0.33 | g | 100.00 | 101:Main Component | 0.Not used |

■Ex.3:Mold Resin

| Product name: | Mold Resin | |
|--------------------|------------|----------------|
| Product number: | D-202 | |
| Product weight: | 4.75 | g |
| Major production s | ites: | Japan/Malaysia |

《Report on inclusion of Environment-related Substances to be Controlled》

| The port of iniciasion of Environment-related oubstances to be controlled. | | | | | | | | | | | |
|--|---------------------|----------------|--|--|--|--|--|--|--|--|--|
| Environment-related Substances to be Controlled | Presence or absence | Substance Name | | | | | | | | | |
| Prohibited Substances | 0.Not contained | | | | | | | | | | |
| Controlled Substances | 0.Not contained | | | | | | | | | | |

≪List of Component≫

| Homogeneous material | Raw material maker | Chemical substance name | CAS No. | Weight | Unit | Content (wt%) | Purpose of inclusion/intended use | Recycled material |
|-------------------------|-----------------------|------------------------------|------------|--------|------|------------------|-----------------------------------|-------------------|
| Base compound | OOChemicals | Epoxy resin | 29690-82-2 | 0.67 | g | 59.82 | 101:Main Component | 0.Not used |
| base compound | OCCITETITICALS | Phenol novolak | 9003-35-4 | 0.45 | g | 40.18 | 101:Main Component | 0.Not used |
| Element make adams | 0006 | Metal hydroxide | 21645-51-2 | 0.16 | g | 70.80 | 105:Flame resistance | 0.Not used |
| Flame retardant | OOChemicals | Organic phosphorus compounds | - | 0.066 | g | 29.20 | 105:Flame resistance | 0.Not used |
| additive agent | O∆Chemicals | Carbon black | 1333-86-4 | 0.034 | g | 100.00 | 104:Dyes , Pigment | 0.Not used |
| Filler | OOChemicals | Silica (amorphous) | 60676-86-0 | 3.37 | g | 100.00 | 102:Thermal stability | 0.Not used |

■Ex.4: Cardboard box

| Product name: | Cardboard box | |
|--------------------|---------------|----------------|
| Product number: | AB-1 | |
| Product weight: | 1.25 | kg |
| Major production s | ites: | Japan/Malaysia |

《Report on inclusion of Environment-related Substances to be Controlled》

| Environment-related Substances to be Controlled | Presence or absence | Substance Name |
|---|---------------------|----------------|
| Prohibited Substances | 0.Not contained | |
| Controlled Substances | 0.Not contained | |

≪List of Component≫

| Homogeneous material | Raw material maker | Chemical substance name | CAS No. | Weight | Unit | Content (wt%) | Purpose of inclusion/intended use | Recycled material |
|-------------------------|-----------------------|-------------------------|-----------|-------------------------------|------|------------------|-----------------------------------|-------------------|
| Outer liner | OOPaper Mfg. | - | - | C5 (160g/m³) | | - | 101:Main Component | 1.Used |
| Core | OOPaper Mfg. | - | - | SCP (160g/m ²) | ı | - | 101:Main Component | 1.Used |
| Back liner | OOPaper Mfg. | - | - | C5 (160g/m³) | ı | - | 101:Main Component | 1.Used |
| | | Tributyl phosphate | 126-73-8 | 0.17 | ı | 85.00 | 101:Main Component | 0.Not used |
| Ink | OOInk | Carbon black | 1333-86-4 | 0.020 | - | 10.00 | 104:Dyes , Pigment | 0.Not used |
| | | Nondisclosure | _ | 0.010 | - | 5.00 | 999: Others | 0.Not used |

| To: ROHM Co., Ltd. Date: | | | | | | | | | |
|--------------------------|---|--|--------------------------------|-----|--|--|--|--|--|
| | Т | arget Part numbers | List | | | | | | |
| | | Address: Sect./Dept.: Responsible person (Position,Signature): Person in charge (Position): TEL: | | | | | | | |
| | R | Sect./Dept.: esponsible person (Position): | | | | | | | |
| • | entative product number | | are identical with the content | | | | | | |
| Certifica | te of Non-Use of Prohibi | ted Substances of representative ent materials are also identical. | | | | | | | |
| Certifica | te of Non-Use of Prohibi | ted Substances of representative | | | | | | | |
| No. | te of Non-Use of Prohibi | ted Substances of representative ent materials are also identical. | | | | | | | |
| No. 1 2 3 4 5 | te of Non-Use of Prohibi I substances in constitue | ted Substances of representative ent materials are also identical. Note | product name and number a | and | | | | | |
| No. 1 2 3 4 5 6 7 8 | te of Non-Use of Prohibi I substances in constitue | ted Substances of representative ent materials are also identical. Note | product name and number a | and | | | | | |
| No. 1 2 3 4 5 6 7 | te of Non-Use of Prohibi I substances in constitue | ted Substances of representative ent materials are also identical. Note | product name and number a | and | | | | | |

Attachment 4 Scope of Substances of environmental concern Survey Examples of Applications of Substances of environmental concern Survey

1. Parts and Materials constituting products

| | Certificate of chem | | | | | | Target substances of analysis | | | | | | | | | | | | |
|---------------------------------|---|-----------------------|----------------------|--------|---|-----------------------|-------------------------------|----|------------------|----|-----|------|-------|---|------|------|---|----|---|
| М | aterials name | Non-Use Prohibited | List of Component | SHERPA | | alysis Data (Note) | Cd | Pb | Cr ⁶⁺ | Hg | PBB | PBDE | Phtha | | Halo | gens | | Sb | Р |
| | | Substance | | CI/ AI | | () | Cu | PD | GI. | ď | PDD | PDUE | lates | F | CI | Br | - | S | P |
| Resin materials | Protective resin, adhesive Mold resin Epoxy resin | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | * | 0 | * |
| | Films, tapes Polyimide Polyester | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | * | 0 | * |
| | Pastes Silver,Carbon Silicone Polyimide | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | * | 0 | * |
| | Wire - Gold, Aluminum, Copper | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | | - | - | - | - | - | • | |
| Metal materials | Metal sheet • Leadframe • Plated frame | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | 1 | 1 |
| | Tantalums Powder, Sintered object,Wire | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | | - | - | - | - | - | | , |
| la avgania materiala | Ceramics • Ceramic substrate | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | | - | - | - | - | - | - | , |
| Inorganic materials | Glasses Liquid crystal glass Glass tube | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | |
| Electronic parts, | Semiconductor, Passive components • IC,Condenser Circuit board • PWB | 0 | 0 | 0 | 0 | Resin | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | * | 0 | * |
| Composite parts | Cable, Electrical wire, Connecting parts • FPC, FFC • Covered wires • Connector | | | 0 | | Except resin | 0 | 0 | 0 | 0 | - | | ÷ | - | - | - | - | ı | 1 |
| | Resin Polyimide | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | * | 0 | 0 | * | 0 | * |
| Semiconductor element materials | Metal,Inorganic • Wafer • Target • Material gas* | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | i | 1 |
| Plating materials | Plating solution Tin ball Nickel ball | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | - | - | - | - | - | - | - | - | - |

Material gas* : Semiconductor gases that are difficult to analyze due to physical properties such as danger and toxicity are excluded

2. Packaging Materials

| | | | | chem | | | | Target substances of analysis | | | | | | | | | | | |
|---------------------|---------------------------|--------------------------|---------------------------------------|--------|---|--------------------|----|-------------------------------|------------------|-----|------|-------|-------|---|------|------|-----|----|---|
| | Materials name | of Non-Use Prohibited | List of Component | SHERPA | | | Cd | Pb | Cr ⁶⁺ | Hq | DRR | PBDE | Phtha | | Halo | gens | | Sb | Р |
| | | Substance | , , , , , , , , , , , , , , , , , , , | CI/ AI | | () | Cu | FD | OI. | rig | I DD | I DDL | lates | F | CI | Br | - 1 | 30 | ' |
| | Plastic reel | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | • | | - | - | - |
| | Tube, Tube stopper | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | ٠ | ٠ | | | |
| | Top tape | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | | | - | | - |
| Resin materials | Emboss tape | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | ı | ٠ | - | | - |
| IXESIII IIIatellais | Dicing tape | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | ١ | ٠ | | | |
| | Tray | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | ٠ | ٠ | | | |
| | Protection film | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | ı | ٠ | - | - | - |
| | Case | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | ١ | ٠ | | • | • |
| | Tape,Label | _ | _ | _ | 0 | Ink part | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | · | ٠ | - | - | - |
| Paper materials | Package box,Cardboard box | 0 | 0 | 0 | | Except ink part | 0 | 0 | 0 | 0 | - | - | 1 | - | , | , | - | - | - |
| | | | | | 0 | Resin | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | ı | • | - | - | - |
| Composite parts | Blister bag | 0 | O | 0 | | Except resin | 0 | 0 | 0 | 0 | - | - | 1 | - | · | | - | - | - |

The materials Listed in the table below are different documents of the submission.

| | Materials name | | | chem | | Target substances of analysis | | | | | | | | | | | | |
|-----------------|--|-----------|----------------------|---------------|---------|-------------------------------|----|----|------------|-----|---------------------|-------|------|-------|----|------|------|---|
| Ma | | | List of Component | SHERPA SHERPA | | | | Cd | Cd Pb Cr6* | | Cr ⁶⁺ Hg | DDD | PBDE | Phtha | | Halo | gens | |
| | | Substance | | CI/ AI | (11010) | Cu | FD | Ci | пg | FBB | FBDE | lates | F | CI | Br | _ | 30 | F |
| Resin materials | Wafer Case | 0 | 0 | × | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - | - | - | - | | - |
| | Felt pen,Ball-point pen Ink cartridge | × | 0 | × | × | , | , | - | - | - | - | | 1 | , | - | , | , | - |
| | Tapes | × | 0 | × | × | | - | - | - | - | - | | - | - | - | - | - | - |

3. Sub-Materials

| | Materials name | | | chem | | Target substances of analysis | | | | | | | | | | | | |
|--------------------------|-------------------|---|----------------------|--------|-------------------------|-------------------------------|----|------------------|----|------|------|-------|---|------|------|----|----|---|
| Mar | | | List of Component | SHERPA | Analysis Data (Note) | Cd | Pb | Cr ⁶⁺ | Hq | DDD | PBDE | Phtha | | Halo | gens | | Sb | В |
| | | | ООПРОПОП | CI/ AI | () , | Cu | FD | Ci | пg | I DD | FBDE | lates | F | CI | Br | -1 | 30 | F |
| Resin materials | Resist | 0 | 0 | × | × | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Resili Ilialellais | Grinding tape | 0 | 0 | × | × | , | • | - | - | - | - | - | • | 1 | 1 | - | - | - |
| Chemicals | Flux | 0 | 0 | × | × | , | • | - | - | - | - | - | - | 1 | 1 | - | - | - |
| Criemicals | Cleaning solution | 0 | 0 | × | × | | - | - | - | - | - | - | - | - | - | - | - | - |
| Gas | Nitrogen,Forming | 0 | 0 | × | × | , | • | - | - | - | - | - | - | 1 | 1 | - | - | - |
| Polishing material | Beads | 0 | 0 | × | × | - | - | - | - | - | - | - | - | | - | - | - | - |
| rollshing material | Slurry | 0 | 0 | × | × | - | - | - | - | - | - | - | - | , | - | - | - | - |
| Release agent (for mold) | Spray,Solvent | 0 | 0 | × | × | - | - | - | - | - | - | - | - | | - | - | - | - |

Note) Analysis Data:

Need to provide the data in each homogeneous materials.

Need to provide the both data of plating film and base material for plated parts.

− : not necessary O : necessary ※ : voluntary

4.Other

Designated Parts/materials separately announced by ROHM.

8. History and Content of Revisions

| Rev.No | Date | Revision Contents |
|---------|-------------|--|
| Rev.001 | 1 Nov. 2018 | Document Release |
| | | Requirements related to the management of chemical substances in |
| | | products were separated independently from the Green Procurement |
| | | Guideline and enacted as the Control Standard of Chemical Substances |
| | | in Products. |
| Rev.002 | 1 Apr. 2022 | 4. Commentary of Laws and Regulations |
| | | 4.6 2011/65 / EU, 4.8 TSCA: Addendum and review |
| | | • 5.1 Green Procurement |
| | | Added information on compliance with laws and regulations |
| | | • 5.1.4 chemSHERPA-CI / chemSHERPA-AI |
| | | Added *Precautions when creating chemSHERPA-AI |
| | | 5.1.2 List of constituent substances Attachment 2 |
| | | Added the provision of information on non-disclosure substances |
| | | • 5.1.5 Analysis Data |
| | | 3) Analysis Report Substances |
| | | Added analytical material for packaging materials 4) Analysis Method |
| | | Modified analytical methods for antimony and phosphorus |
| | | • 5.1.6 Provision of other information added |
| | | 6. Review of Environment-related Substances to be Controlled |
| | | Attachment 2 List of constituent substances |
| | | Changed format and List of Components Entering Example |
| | | Attachment 3Target Part numbers List |
| | | Changed format |
| | | |
| Rev.003 | 1 Aug. 2023 | 3.14 Halogen free designated materials: Addition of terminology |
| | | • 5. Requests to business partners |
| | | • 5.1 Construction and operation of a management system for chemical |
| | | substances in products: Added |
| | | 5.2 Chemical Substances in Products |
| | | Title change |
| | | Semiconductor gases that are difficult to analyze due to physical |
| | | properties such as danger and toxicity Excluded |
| | | • 5.2.5 Analysis data |
| | | Changes to Halogen Analysis Requirement for Resin Components |
| | | Constituting ROHM Products (CI, Br, Sb: necessary, F, I, P: voluntary) |
| | | |
| | | |
| | | |
| | | |

| Rev.No | Date | Revision Contents |
|--------|----------|---|
| | | 6. Environment-related Substances to be Controlled |
| | | · Overall review of threshold levels |
| | | Hexachlorobenzene : Designated as a prohibited substance |
| | | DiBP: added to phthalate group 1 |
| | | Perfluoroalkyl sulfonate and polyalkyl substances |
| | | (PFAS) designated as environmental control substances |
| | | Perfluorocarboxylic acids (C9-C14 PFCAs),their salts and related |
| | | Substances : Changed to "Log-chain(c9-c21)perfluorocarboxylic |
| | | acids(PFCA) and its salts and related substances" |
| | | Long-chain perfluorocarboxylic acids (C9-C21) and their salts, related |
| | | Substances |
| | | : Designated as a prohibited substance |
| | | Perfluorooctane sulfonic acid (PFOS) and its salts |
| | | : Substance name change |
| | | Perfluorohexanesulfonic acid (PFHxS) and its salts and related |
| | | substances: Designated as a prohibited substance |
| | | Designate PFAS other than PFCA and PFSA as controlled substances |
| | | Bisphenols |
| | | : Designated as Environment-related Substances to be Controlled |
| | | Bisphenol B (BPB), bisphenol S (BPS), bisphenol F (BPF), |
| | | bisphenol AF (BPAF), additions other than the above |
| | | Dechloran Plus : Designated as a prohibited substance |
| | | Attachment 1 Certificate of Nonuse of Prohibited Substances |
| | | : Changed to Rev.003 |
| | | Attachment 2 List of components |
| | | : Added content report column for Environment-related Substances to be Controlled |
| | | Attachment 4 Scope of Substances of environmental concern Survey |
| | | Examples of Applications of Substances of Environmental Concern Survey |
| | | The analysis standard for halogen, Sb, and P of resin materials |
| | | constituting the product was aligned with 5.2.5. |
| | | • *: Gases for semiconductors that are difficult to analyze due to |
| | | physical properties such as danger and toxicity |
| | | : Added not subject to analysis data |
| | | |
| | | |
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