



**Minebea Group Green Procurement  
Standard**

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**Minebea Co., Ltd.**

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## **Positioning of this Standard**

As a part of the chemical substances management performed by the Minebea Group, the Minebea Group Green Procurement Standard (hereafter referred to as "Standard") is issued to ensure that no harmful chemical substances are used in the Minebea Group's manufacturing processes nor contained in Minebea products, by specifying the chemical substances that must not be present in purchased parts and materials, and to keep our suppliers and those within our company well informed.

## **Deliberation/Determination of this Standard**

Deliberation/determination relating to this Standard shall be carried out by the Minebea Group Environmental Protection Committee, which is composed of the general managers of environmental protection in each plant and representatives of the Procurement, Sales and Corporate Planning Divisions; this also applies for revisions of the Standard.

Decisions shall be approved by the General Manager of the Procurement Division and the Chairperson of the Environmental Protection Committee.

## **Basic Policy**

- (1) This Standard does not permit inclusion of the prohibited chemical substances in Minebea products due to their use or commingling.  
If regulations specify allowable concentrations (threshold levels) of a substance, concentrations must be below such values.  
If Minebea specifies allowable concentrations (threshold levels) of a substance, concentrations must be below such values.
- (2) In the case of chemical substances that could possibly exist in a substance in nature as impurities in measurable quantities, allowable concentrations shall be set in consideration of the detection threshold of the measuring devices and margin of error.
- (3) In case of substances which are difficult to quantitatively measure and for which no standard value can be set, their non-use and absence shall be established by production of documentary evidence.
- (4) Management of chemical substances contained in parts and materials, regulatory compliance of Minebea products, and fulfillment of customer requirements shall be performed using the data provided by suppliers.
- (5) Minebea will make individual requests to suppliers with regards to related regulations and Minebea customer requirements not specified in this Standard.
- (6) This Standard shall not apply in matters directly related to the lives and safety of people, in cases where no alternative technologies are available, or in cases where problems of reliability will arise, and only when it is specifically instructed by Minebea.

## 1. Objective

The purpose of this Standard is to clarify the standards and procedures related to chemical substances prohibited in raw materials, parts, components, packing/packaging materials and indirect materials (hereinafter referred to as "parts and materials") procured by Minebea Group, and to keep suppliers and those within Minebea Group informed in order to achieve regulatory compliance, satisfy customer requirements and reduce environmental burden.

## 2. Scope of Application

### 2-1. Application to parts and materials

Any articles procured by Minebea Group, or by third parties to which Minebea Group contracts production, that is incorporated into, included in, or attached to products.

- Raw materials (e.g. steel, plastic pellets, etc.) and processed goods of raw materials
- Parts, components (e.g. electric and electronic parts, mechanical parts, semiconductor devices, printed circuit boards, etc.)
- Packaging materials (those procured by Minebea Group and third parties to which Minebea Group contracts production of its products)
- Accessories, service parts and instruction manuals
- Indirect materials (e.g. adhesive tapes, soldering materials, adhesives, paints, varnishes, marking materials, anti-rust oil, grease, impregnated oil etc.)
- Repair parts (repair parts for shipped products specified by Minebea)
- Customer-specified items purchased by Minebea Group (may be exempt from this Standard due to contracts with the customer)

### 2-2. Application to Products

- Products designed, manufactured and sold by the Minebea Group
- Products the design and production of which Minebea Group contracts to third parties and sells under the Minebea Group brand
- Products of which design and production is contracted to Minebea Group by the third parties (excluding articles supplied by such third parties)

### 2-3. Exemption

The following items are exempt from the scope of this standard.

- Parts and materials specified by Minebea that are used in products directly related to the lives and safety of people in the fields such as aerospace, traffic/transportation, medical applications, etc.
- Parts and materials specified by Minebea that are used for equipment manufactured by and used within the Minebea Group and cannot be replaced with alternative technologies, or items which are required for safety and reliability.
- Products to which application of this Standard is legally unnecessary due to contracts etc. with Minebea Group customers.
- Items exclusion of which are specifically allowed in the EU RoHS directive etc.
- Chemical substances, parts, and usages specified by Minebea Group to which no effective alternative technologies are currently available.

## 3. Definitions of Terms

Terms used in this Standard shall have the meaning defined as follows.

### 3-1. Parts and materials

"Parts and materials" are raw materials, parts, elements, packing/packaging materials, auxiliary parts such as accessories, service parts, indirect materials etc. procured by Minebea Group.

### 3-2. Prohibited chemical substances

Prohibited chemical substances are substances the use and inclusion of which in parts and materials are prohibited by Minebea Group and delivery of which must meet the following conditions.

- If Minebea Group specifies allowable concentrations (threshold levels) of the substance, concentrations must be below such values.  
Also, values more stringent allowable concentrations than those specified by Minebea Group may be demanded due to customer requirements.
- If a substance is present as impurity, its concentrations must be below the allowable concentration (threshold level) values of this Standard.
- When the regulated article is specified, the use or presence of the substance is prohibited in that regulated article.

Prohibited chemical substances are divided into the following three categories depending on their level of importance.

(1) Group I Prohibited Chemical Substances

Chemical substances for which compliance is required by the EU directive "on the restriction of the use of certain hazardous substances in electrical and electronic equipment, 2002/95/EC" (hereinafter referred to as "the EU RoHS directive") as shown in Table 1.

(2) Group II Prohibited Chemical Substances

Chemical substances the manufacture, import and use of which are prohibited or restricted by related domestic and overseas laws and regulations, or international treaties/agreements, as shown in Table 2.

(3) Group III Prohibited Chemical Substances

Chemical substances the manufacture, import and use of which are prohibited or restricted by related domestic and overseas laws and regulations, or international treaties/agreements, as shown in Table 3.

3-3. Controlled chemical substances (chemical substances subject to survey)

These are chemical substances in the Minebea Environmental Hazardous Substances Survey, that must be reported in accordance with the survey items (substance name, amount contained, purpose of use, whether or not used intentionally, etc.).

3-4. Inclusion

A substance is considered included if the manufacturer intentionally adds, fill or attach such substance to products/parts and materials for the purpose of maintaining the functionality or quality of the product/part and material, regardless of constituents/amount present. However, impurity element (dopants) used for the production of semiconductor devices, shall not be considered as included as long as it is present in very small residual amount, even though it is used intentionally.

Judgment for inclusion shall be made individually for each homogeneous material.

3-5. Impurities

Impurities are substances that are contained in natural materials and cannot technically be removed by the refining process of the material for industrial use, or substances that are generated in refining or synthesis processes and cannot technically be removed.

Impurities must not exceed the allowable concentrations specified in this Standard.

3-6. Allowable concentration (threshold level)

Allowable concentration is defined as the maximum rate of content or content when a prohibited chemical substance is present in homogeneous materials such as parts and materials.

3-7. Homogeneous Material

Homogeneous Material is defined as materials that cannot be decomposed mechanically into different materials. "Homogeneous" means that materials are "of an entirely uniform composition".

"Decomposed mechanically" means that a material can be separated by mechanical processes, such as unscrewing, cutting, pulverization, grinding and polishing.

Examples of homogeneous materials: Plastics, ceramics, glass, metals, metal alloys, paper, board, resins, plating, coating, etc.

3-8. Certificate of Non-Use of Prohibited Chemical Substance

Certificate of Non-Use of Prohibited Chemical Substance is defined as a certificate of non-use for chemical substance designated from Minebea Group's prohibited chemical substances according to the importance of regulatory compliance, prepared in the format specified by Minebea Group,

and a document certifying that the supplier does not use prohibited chemical substances, or that they are less than the allowable concentrations (threshold levels).

### 3-9. Report of Analysis Results

Report of Analysis Results is defined as a report of analysis results in the format specified by Minebea Group (including chemical structure diagram and bill of material).

### 3-10. Report of Analysis

Report of Analysis is defined as a report recording analysis results issued by the analysis laboratories (SGS, INTERTEK, Japanese measurement laboratories, ISO/IEC 17025 accredited bodies).

### 3-11. ISO/IEC 17025 certified body

ISO/IEC 17025 certified body is defined as an analysis laboratory that is certified to general requirements of ISO/IEC 17025 for competence of testing and calibration laboratories by the third party certification body.

## 4. Prohibited chemical substances

### 4-1. Group I Prohibited Chemical Substances

Group I Prohibited Chemical Substances are those chemical substances shown in Table 1. Minebea Group imposes more stringent allowable concentrations than the EU RoHS Directive.

Concentration of metals and metal compounds (cadmium, lead, mercury, hexavalent chromium) must be lower than the allowable concentration calculated as metal equivalent, and concentration for organic compounds (PBB, PBDE) calculated as the sum of each contained compound's concentration must be lower than the allowable concentration.

Please see Appendix-1 for items that are excluded from the EU RoHS Directive. DecaBDE is included within exempted items of the EU RoHS Directive, but Minebea Group defines it as a Group I Prohibited Chemical Substance

Table 1: List of Group I Prohibited Chemical Substances

No.	Substance name	Allowable concentration	Restriction
1	Cadmium & its compounds	< 5ppm	Plastic resin (including rubber) Inks, pigments, dyes, paints, grease, oil, adhesives
		< 20ppm	Solder
		< 75ppm	Brass, zinc and zinc alloy
			Aluminum and aluminum alloy
< 75ppm	All uses other than the above and the uses excluded		
2	Lead & its compounds	< 100ppm	Plastic resin (including rubber) Inks, pigments, dyes, paints, grease, oil, adhesives
		< 500ppm	Lead-free solder (limited to cases where only solder is procured)
		< 1000ppm	All uses other than the above and the uses excluded
3	Hexavalent chromium compounds	< 1000ppm	All uses other than those exempted
4	Mercury & its compounds	< 1000ppm	All uses other than those exempted
5	Polybrominated biphenyl (PBB)	< 1000ppm	All uses
6	Polybrominated diphenylether (PBDE) Including DecaBDE	< 1000ppm	All uses

#### 4-2. Group II Prohibited Chemical Substances

Group II Prohibited Chemical Substances are those chemical substances shown in Table 2. Restriction for prohibition of use is limited for some of the chemical substances.

Table 2: List of Group II Prohibited Chemical Substances

No.	Substance name	Allowable concentration	Restriction
7	Bis (tributyl tin) = oxide	—	All uses
8	Tributyl tin (TBT) Triphenyl tin (TPT)	—	All uses
9	Polychlorinated biphenyls (PCB)	—	All uses
10	Polychlorinated naphthalenes (PCN) (chlorine atoms of 3 or more)	—	All uses
11	Polychlorinated taphenyl (PCT)	—	All uses
12	Short-chain chlorinated paraffins (SCCP) (short-chain chlorinated paraffin with a carbon chain length of 10-13)	—	All uses
13	Asbestos	—	All uses
14	Specified azo compounds *1	< 30ppm	Parts that come into contact with the human body
15	Ozone depleting substances	—	Substances subject to the Montreal Protocol *2
16	Radioactive substances	—	All uses
17	Formaldehyde	*3	Timber products
18	Dioxins	—	All uses
19	Polyvinyl chloride and its mixtures	—	Packaging/packing materials (for details, refer to section 6) Other uses will be handled individually

If a "-" appears in the allowable concentration column, presence due to intentional use is prohibited.

\*1: Specific azo compound: specific azo compound is a substance that produces specific amine, decomposing based on the testing method referred in the EU directive on "Restrictions on the marketing and use of certain dangerous substances and preparations (76/769/EEC)" and specific amines (specific amines: amine compounds specified by EU directive 76/769/EEC; refer to specific amines in Appendix-2 Detailed List of the Chemical Substances).

\*2: Substances corresponding to the Montreal Protocol on Substances that Deplete the Ozone Layer, Groups I and II in Annex A, Groups I, II and III in Annex B, Groups II and III in Annex C, and those in Annex E. For details, see Appendix-2 Detailed List of the Chemical Substances,

\*3: Allowable concentrations are the values obtained in the below test methods.

- Chamber method: Concentration in the air: 0.1 ppm (or 0.124mg/m<sup>3</sup>) or less in an air-tight test chamber whose volume is 12m<sup>3</sup>, 1m<sup>3</sup>, or 0.0225m<sup>3</sup>
- Perforator method: 6.5 mg or less per 100g of particleboard without surface treatment (average value over six months)  
7.0mg or less per 100g of a fiberboard without surface treatment (average value over six months)  
8.0 mg or less per 100g of a particleboard/fiberboard without surface treatment (value from one-time measurement compliant with EN120)
- Desicator method: Average content 0.5mg/L or less, maximum content 0.7mg/L or less (average, and maximum values to be confirmed with n=2)

#### 4-3. Group III Prohibited Chemical Substances

Group III Prohibited Chemical Substances are those chemical substances shown in Table 3. You must submit data such as Non-Use Certificate or Analysis Report at the request of Minebea Group customers or Minebea Group for these prohibited chemical substances.

- (1) Class I and II Specified Chemical Substances in the Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (some of the prohibited chemical substances are contained in Group II).
- (2) Poisonous substances specified in the Poisonous and Deleterious Substances Control Law.
- (3) Chemical substances prohibited by Minebea Group or prohibited by regulations or Minebea Group customer requirement, which are being considered for addition as Class I and Class II Specified Chemical Substances in Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

Table 3: List of Group III Prohibited Chemical Substances

No.	Chemical substance name	Allowable concentration	Restriction
20	Hexachlorobenzene	—	All uses
21	Aldrin	—	All uses
22	Dieldrin	—	All uses
23	Endrin	—	All uses
24	DDT	—	All uses
25	Chlordane or heptachlor	—	All uses
26	N,N'-ditolyl-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine, and N,N'-dixylyl-p-phenylenediamine	—	All uses
27	2,4,6-tri-tert-butylphenol	—	All uses
28	Toxaphene	—	All uses
29	Mirex	—	All uses
30	Kelthane or dicofol	—	All uses
31	Hexachloro-1,3-butadiene	—	All uses
32	Trichloroethylene	—	All uses
33	Tetrachloroethylene	—	All uses
34	Carbon tetrachloride	—	All uses
35	Yellow phosphor	—	All uses
36	Octamethyl pyrophosphoramidate (also called as Schradan)	—	All uses
37	Tetraalkyl lead	—	All uses
38	Diethyl paranitrophenyl thiophosphate (also called Parathion)	—	All uses
39	Dimethylethylmercapto ethylthiophosphate (also called Demeton-methyl)	—	All uses
40	Dimethyl-(diethylamido-1-chlorocrotonyl)-phosphate (also called Phosphamidon)	—	All uses
41	Dimethylparanitrophenyl thiophosphate (also called Parathion-methyl)	—	All uses
42	Tetraethylpyrophosphate (also called as TEPP)	—	All uses
43	Monofluoroacetate	—	All uses
44	Monofluoroacetamide (also called Fluoroacetamide)	—	All uses
45	Aluminium phosphide	—	All uses



46	2-(2'-hydroxy-3',5'-di-tert-butylphenyl) benzotriazole	—	All uses
47	Perfluorooctane sulfonate (PFOS) C <sub>8</sub> F <sub>17</sub> SO <sub>2</sub> X (X=OH, metallic salt (O-M <sup>+</sup> ), halogenide, amide, and derivatives containing other polymers)	< 50ppm	Preparation constituents
		<1000ppm	Half-finished goods, articles *1
		< 1µg/m <sup>2</sup>	Textiles, coating material
48	Beryllium oxide	—	All uses
49	Phthalate Esters		Usage in toys/childcare articles Comply with the EU directive on "Restrictions on the marketing and use of certain dangerous substances and preparations (76/769/EEC)"
	- Bis (2-ethylhexyl) phthalate (DEHP)	< 1000ppm	
	- Dibutyl phthalate (DBP)	< 1000ppm	
	- Benzylbutyl phthalate (BBP)	< 1000ppm	
	- Diisononyl phthalate (DINP)	< 1000ppm	
	- Diisodecyl phthalate (DIDP)	< 1000ppm	
	- Di-n-octyl phthalate (DNOP)	< 1000ppm	

If a "-" appears in the allowable concentration column, presence due to intentional use is prohibited.

\*1: Total calculated for identifiable part of structure or microstructure containing PFOS. "Restrictions on the marketing and use of certain dangerous substances and preparations (76/769/EEC)" Appendix I 52. (3) permits partial exemptions.

#### 4-4. Chemical substances the use of which is prohibited in toys/childcare articles

Analysis methods of concentrations of chemical substances in toys/childcare articles shown in Table 4 shall comply with "Safety of toys EN71-3:1994". "Safety of toys EN71-3:1994" employs dissolution testing, so the allowable concentration will differ from the measured amount contained.

Table 4: Allowable concentrations of metals in toys/childcare articles

Chemical substance name	Allowable concentration	Restriction
Antimony & its compounds	< 60ppm	Usage in toys/childcare articles
Arsenic & its compounds	< 25ppm	
Barium & its compounds	< 1000ppm	
Cadmium & its compounds	< 75ppm	
Chrome & its compounds	< 60ppm	
Lead & its compounds	< 90ppm	
Mercury & its compounds	< 60ppm	
Selenium & its compounds	< 500ppm	

#### 4-5. Prohibited Chemical Substances Related to Batteries

With regard to batteries that are incorporated into products, Table 5 shall apply basically following "Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators and repealing Directive 91/157/EEC" (new battery directive).

Table 5: Prohibited chemical substances related to electric batteries

Target		Prohibition or allowable concentration
Cadmium	Nickel/cadmium batteries	Prohibited
	Portable battery or accumulator	< 20ppm
Lead	Compact sealed lead-acid batteries	Prohibited
	All batteries or accumulators	< 0.4%
Mercury	All batteries or accumulators, excluding button batteries	< 5ppm
	Button batteries	< 2%

Allowable concentration values are with respect to total weight.

## 5. Controlled Chemical Substances (chemical substances subject to survey)

Minebea Group designates the chemical substances shown in Table 6 as controlled chemical substances (chemical substances subject to survey). Controlled Chemical Substances (chemical substances subject to survey) are chemical substances that must be reported in accordance with survey items (substance name, amount contained, purpose of usage, whether or not used intentionally, etc.) of the Minebea Environmental Hazardous Substances Survey.

Table 6: List of Controlled Chemical Substances (chemical substances subject to survey)

○ indicates applicable substance

No.	Chemical substance group	JGPSSI *4	Minebea Chemical substance *5	Detailed list *6
Metals and metal compounds (including alloys)				
1	Antimony & its compounds	○	○	○
2	Arsenic & its compounds	○	○	○
3	Beryllium and its compounds (excluding oxidized beryllium)	○	○	○
4	Bismuth & its compounds	○	○	○
5	Nickel & its compounds	○	○	○
6	Selenium & its compounds	○	○	○
7	Magnesium		○	
8	Iron		○	
9	Stainless steel		○	
10	Aluminum		○	
11	Other nonferrous metals		○	
12	Zinc & its compounds		○	○
13	Chrome & its compounds (excluding hexavalent chromium)		○	○
14	Vanadium & its compounds		○	○
15	Cobalt & its compounds		○	○
16	Barium & its compounds		○	○
17	Boron & its compounds		○	○
18	Manganese & its compounds		○	○
19	Molybdenum & its compounds		○	○
20	Organic tin compounds (excluding tributyl tins and triphenyl tins)		○	
Halogen compounds				
21	Polyvinyl chloride (PVC) (when used for purposes other than packaging/packing materials)	○	○	
22	Fire retardant	Bromine fire retardants (fire retardants other than PBB, PBDE)	○	○
		Halogen fire retardants excluding bromines		○
		Fire retardants other halogens		○
23	Halogens (F, Cl, Br, I, At) and halogen compounds (organic/inorganic compounds)	○	○	
Other				
24	Phthalate Esters	○	○	○
25	Ozone depleting substances: Montreal Protocol Annex C Group I (HCFC)	○	○	○
26	Thermoplastic plastics ABS, PC, PC+ABS, PC+PS, PE, PET, PP, PPE, PS, others		○	
27	Thermosetting plastic		○	

28	Rubber		○	
29	Timber		○	
30	Glass		○	
31	Paper		○	
32	Fibers		○	
33	Acrylamide		○	
34	Acrylic acid		○	
35	Acetaldehyde		○	
36	Cresol		○	
37	Nonylphenol		○	
38	Phenol and its resins		○	
Precious metals (including metal alloys)				
39	Copper and its compounds		○	○
40	Gold and its compounds		○	○
41	Palladium and its compounds		○	○
42	Silver and its compounds		○	○
43	Platinum		○	○

\*4 JGPSSI: Japan Green Procurement Survey Standardization Initiative

\*5 Chemical substances designated by Minebea Group with the objective of providing information for recycling, waste classification, LCA (Life Cycle Assessment) etc.

\*6 Appendix-2 “Detailed List of the Chemical Substances” is a reference containing examples of compounds, etc.

## 6. Packaging/Packing Materials

### 6-1. Definition of Packaging/Packing Materials

"Packaging/Packing Materials" are products, composed of any kind of material, in which goods, from raw materials to processed goods, are to be "contained", "protected", "handled", "transported" and "delivered" during the process of moving them from the manufacturer to the users or consumers.

### 6-2. Packaging/Packing Materials Subject to this Standard

For packaging/packing materials that Minebea Group procures for deliveries to customers, requirements of this Standard shall apply.

#### (1) Allowable concentrations of metals and metal compounds in packaging/packing materials

Table 7: Allowable concentrations of metals and metal compounds in packaging/packing materials

No.	Substance name	Allowable concentration	Main Packaging/Packing Materials
1	Cadmium & its compounds	Sum of the 4 elements < 100ppm	Cartons (boxes), cushioning materials, protective bags (sheets), plastic bags, envelopes, blister packs, clamshells, partitions, spacers, printing inks, adhesive tapes, staples, labels, joints, binding bands, hanging tabs, handles, frames, shrink films, bottles, sleeves, decorative boxes, skids, stoppers, trays, reels, stretch films, bands, strings, etc.
2	Lead & its compounds		
3	Hexavalent chromium compounds		
4	Mercury & its compounds		

Note: The allowable concentration of heavy metals (mercury, cadmium, hexavalent chromium and lead) in packaging/packing materials shall be determined for each part composing the packaging/packing materials (e.g., resin, ink, paint, carton, tapes, etc.), and total of cadmium, lead, hexavalent chromium and mercury shall be less than 100ppm, and lead content shall be less than 100ppm. However, the allowable concentration of cadmium shall be less than 5ppm in each part, such as plastic resin (including rubber), paint, and ink.

(2) Polyvinyl chloride and its mixtures used in packaging/packing materials

Table 8: Polyvinyl chloride and its mixtures used in packaging/packing materials

No.	Substance name	Allowable concentration	Main Packaging/Packing Materials
1	Polyvinyl chloride and its mixtures	Intentional use prohibited	Cushioning materials, protective sheets, plastic bags, blister packs, films, clamshells, partitions, spacers, adhesive tapes, labels, joints, binding bands, hanging tabs, handles, frames, shrink films, bottles, sleeves, skids, stoppers, trays, reels, stretch films, bands, strings, etc.

6-3. Packaging/packing materials used in delivering to the Minebea Group

Packaging/packing materials used by suppliers to transport/protect parts and materials when they are to be delivered to the Minebea Group are not subject to control such as Non-Use Certificate, Report of Analysis Results, or Environmental Hazardous Substances Survey Report.

However, suppliers shall observe the following to ensure smooth disposal and recycling of packaging materials within Minebea Group.

- Heavy metals such as cadmium, lead, hexavalent chromium and mercury shall be less than 100ppm in total.
- Foam polystyrene, plastic tapes and metal staples (large staples) shall not be used.
- PVC packaging/packing materials shall not be used. (excluding reusable container boxes)

## 7. Operation

### 7-1. Basics of operation method

- (1) Minebea Group's green procurement activities shall consist of controlling chemical substances contained in parts and materials according to this Standard.

With regards to implementation, in principle the supplier and Minebea Group shall execute the umbrella contract document (including supplemental agreements) or similar agreement, and exchange a purchase specification (or equal specification document).

- (2) Minebea Group shall confirm that our products are regulatory compliant and fulfill customer requirements based on the various reports, certificates and data etc. submitted by the supplier.

- (3) This Standard was created to fulfill domestic and foreign laws and regulations and customer requirements, but does not necessarily cover all related laws or customer requirements. Consequently, matters not covered by this Standard shall be handled individually as special requirements, and Minebea Group may ask suppliers to submit reports, certificates and data accordingly.

- (4) The allowable concentrations of prohibited chemical substances specified in this Standard have been set in accordance with the current technology levels and levels required by the majority of customers.

However, when even stricter allowable concentration is required by Minebea Group customers, we shall correspond individually; Minebea Group will request suppliers to submit reports, certificates and data accordingly.

- (5) Control of chemical substances contained in products is implemented based on the Guidelines for the Management of Chemical Substances in Products specified in the JGPSSI (Japan Green Procurement Survey Standardization Initiative).

JGPSSI Guidelines for the Management of Chemical Substances in Products is available at:

[http://210.254.215.73/jeita\\_eps/green/green8.htm](http://210.254.215.73/jeita_eps/green/green8.htm)

### 7-2. Upstream management

To verify and ensure control of chemical substances contained in products, we ask that you perform upstream management.

(1) Raw material, material production plants

If your company produces raw materials or materials, such as resins, adhesives, paints, and steel materials, please submit the data specified in "8. Data Requested for Submission".

Furthermore, if your company has an upstream operation, compliance with this Standard or equivalent requirements shall be requested to such upstream operation, obtain the data specified in "8. Data Requested for Submission", and confirm that they conform to this Standard for submission to Minebea Group.

(2) Production and processing plants

If your company produces or processes parts and materials, please have the suppliers of your company's raw materials etc. comply with this Standard or equivalent requirements, obtain the data specified in "8. Data Requested for Submission", and confirm that they conform to this Standard for submission to Minebea Group.

(3) Trading firms, agencies, and distributors

If your company does not produce or process parts and materials, please have the processor or the supplier of your company's raw materials etc. comply with this Standard or equivalent requirements, obtain the data specified in "8. Data Requested for Submission", and confirm that they conform to this Standard for submission to Minebea Group.

7-3. Control of Changes

Should the following changes take place in your company or in your company's supplier, please submit a report in writing, FAX or e-mail to the Procurement Division at Minebea Group in charge of your products, and obtain approval before such change takes place.

(1) Items to be reported for approval

- Change in supplier or processor of parts and materials
- Change or addition of country of manufacture, manufacturing location
- Change in materials, material quality
- Change in methods of secondary treatment (printing, painting, plating, etc.)
- Change in production methods of parts and materials
- Change in chemical substances contained in parts and materials

(2) Report form

Please use the form provided by quality control at the division in charge of Minebea Group matters.

7-4. Occurrence of abnormalities or noncompliance

If abnormalities or noncompliance occurs with regards to control of chemical substances contained in products at your company or your company's supplier, take appropriate measures and report the incident by phone, FAX or e-mail to the Procurement Division at Minebea Group in charge of your products.

7-5. Avoiding contamination

Use of the prohibited chemical substances defined in this Standard in the same room or facility for production (reactions, synthesis, joining, mixing, molding, assembly, etc.) of parts and materials for Minebea Group, is prohibited. If use of such substance in the same room is inevitable, establish measures for avoiding commingling and contamination, and make sure they are appropriately implemented.

Further, to prevent contact and contamination of parts and materials with possibly contaminated molds, tools, machinery and equipment or indirect materials, do not use materials containing prohibited chemical substances defined in this Standard.

7-6. Information disclosure

The information that you provide may be disclosed, in whole or in part, in Minebea Group's responses to our customers' environmental surveys.

With regards to any supplier's proprietary information, please contact the Minebea Group department in charge of survey for individual consultation.

#### 7-7. Requirements not stipulated in this Standard

Depending on our customer's request, Minebea Group may request separate, individual surveys regarding chemicals not stipulated in this Standard and detailed information.

#### 7-8. Survey of new regulated chemical substances

Minebea Group may request separate surveys if they become necessary for chemical substances newly regulated due to revisions of/additions to regulations etc. Minebea Group may also request separate surveys if such survey regarding chemical substances is requested by government/administrative agencies.

#### 7-9. Control of receiving inspections

Receiving inspections is implemented by Minebea Group appropriately with regards to delivered parts and materials from suppliers.

If measured values exceeding those of the receiving inspection control criteria are found, surveys/confirmation will be requested from the department in charge of Minebea Group, and prompt response by the supplier is requested. Receiving inspections are performed using an EDXRF (Energy-Dispersive X-ray Fluorescence Spectrometer). We ask for your understanding as receiving inspection control criteria (allowable concentrations) may vary depending on the requirements of Minebea Group's customers.

#### 7-10. Detailed List of Chemical Substances

Appendix-2, "Detailed List of Chemical Substances", which summarizes the prohibited chemical substances and controlled chemical substances stipulated by this Standard is available on the Minebea Co. Ltd. website with the following address.

URL: <http://www.minebea.co.jp/procurements/en/green/index.html>

### **8. Data Requested for Submission**

#### 8-1. Basis for submission of data

Minebea Group's green procurement is based on certifying to our customers, using the related data submitted by suppliers, that the chemical substances contained in our products are being managed.

- (1) Submit the required data to Minebea Group promptly and by the specified deadline.
- (2) As a rule, we ask that you submit data in the formats specified by Minebea Group; however, we will contact you separately when submission of data in other formats is necessary.
- (3) When delivering identical parts and materials to our different plants, each plant will make an individual survey request. Answer requests individually.

#### 8-2. Types of data to be submitted

The types of data to be submitted are as follows.

##### 8-2-1. Certificate of Non-Use of Prohibited Chemical Substance

The Certificate of Non-Use of Prohibited Chemical Substance (hereafter referred to as Non-Use Certificate) certifies that parts and materials delivered to Minebea Group by the supplier does not use or include the prohibited chemical substances stipulated by Minebea Group, and forms the basis of Minebea Group's certification to customers.

The Non-Use Certificate certifies that Group I Prohibited Chemical Substances and Group II Prohibited Chemical Substances are neither used nor included.

In cases where a prohibited chemical substance is exempt from the requirements of EU RoHS Directive, enter the substance name, part, and legal basis of exemption (exempt usage or Annex No.).

Form: Attachment-1 Certificate of Non-Use of Prohibited Chemical Substance

Form: Attachment-A Non-Use Certificate List (to be used when there are large numbers of applicable parts and materials)

##### 8-2-2. Environmental Hazardous Substances Survey Report

Enter the names of the substances that comprise each portion of the parts and materials in the Environmental Hazardous Substances Survey Report (hereafter, Survey Report).

Form: Attachment-2 Environmental Hazardous Substances Survey Report

- (1) A status report on the use or presence of Minebea Group controlled chemical substances is mandatory.
- (2) Also enter chemical substances other than controlled chemical substances that compose parts and materials, so that the total of the substances composing the parts is 100%. If there are ranges within the composition, please enter median values, average values, representative values etc. so that they make 100%.
- (3) Where exemption from EU RoHS directives applies, it is necessary to enter the substance name, part, and legal basis of exemption (exempt usage or Attached Document No.).

#### 8-2-3. Report of Analysis Results and Analysis Report

##### (1) Chemical substances to be reported

Chemical substances to be reported in the Report of Analysis Results and Analysis Report are the six substances of the EU RoHS Directive: cadmium (Cd), lead (Pb), hexavalent chromium, (Cr<sup>6+</sup>), mercury (Hg), PBB and PBDE.

Table 9: Applicable portions and analysis items for Report of Analysis Results for each homogeneous material (○: applicable —: exempt)

Parts and materials, applicable portion	Cd	Pb	Cr <sup>6+</sup>	Hg	PBB	PBDE
Plastic resin (including rubber), ink, pigments, dyes, paints, grease, oil, adhesives etc.	○	○	○	○	○	○
Metals, metal alloys, plating, ceramics, glass etc.	○	○	○	○	—	—
Packaging/packing materials	○	○	○	○	—	—

Please fill out a Report of Analysis Results for each homogeneous material that comprises the part.

Examples of homogeneous materials: Plastics, ceramics, glass, metal alloys, metals, plating, grease, adhesives, ink, paper etc.

##### (2) Data to be submitted

Submit the following documents as a set.

- Report of Analysis Results in the format stipulated by Minebea Group showing analysis of each homogeneous material in the parts and materials (form: Attachment-3 Report of Analysis Results)
- Analysis Report
- Structural drawing showing the internal condition of parts in order to clarify the portion being analyzed, the chart of material composition associated with the structural drawing (the form of structural drawing and chart of material composition is at the supplier discretion. A sample structural drawing and chart of material composition is shown in Attachment-4. When the parts are composed of a single material, raw material, film, sheet, pellets, etc., there is no need to submit a structural drawing and chart of material composition.

##### (3) Validity period and updating management for Report of Analysis Results and Analysis Report

The effective period of Report of Analysis Results in the format designated by Minebea Group and Analysis Reports issued by analysis laboratories is one year from the date of measurement. We ask that you provide annual updates. If you can not perform an update annually, please submit a formal document explaining the reasons (statement explaining supplier's opinion, reason etc.).

##### (4) Language of Analysis Report

Analysis Reports shall be written in English or Japanese. However, when submitting Analysis Reports in Japanese, you may be asked to obtain a separate English translation depending on our customers' requirements.

##### (5) Items that must be entered in Analysis Report

Please enter the following items in the Analysis Report

- Sample name (to be defined so that it can be related with the submitted data for each homogeneous material)
- Sample pretreatment method: official method name, or name of the method if different from the official method
- Measurement method: measurement method name or official method name

- Name of analysis laboratory, corporate seal
  - Names and signatures of a responsible person at the analysis laboratory and a person who performed measurements
  - Date of issue, date of measurement
  - Measurement results (if N.D., not detectable, enter quantification limit value)
    - Analysis Flowchart: document that indicates the flow of analysis, such as sampling, pretreatment operations, and measurement operations. A sample Analysis Flowchart is shown in Attachment-6.
  - If pretreatment is dissolution, state that the analysis sample was completely dissolved (this can be recorded on the Analysis Flowchart)
- (6) Submission of Analysis Reports from ISO/IEC 17025 Certified Laboratories  
Requests will be made in cases where an Analysis Report by the ISO/IEC17025 certified laboratory is required to meet customer requirements.
- (7) Designation of analysis laboratory and analysis method  
An analysis laboratory or method may be designated in order to meet customer requirements. Requests will be made individually as needed. Unless directed otherwise, please use a laboratory capable of performing the analysis methods shown in "9. Analysis Methods".
- (8) Request of resubmission of Report of Analysis Results  
If levels in excess of allowable concentrations (threshold levels) are detected during a receiving inspection by Minebea Group or by the customers of Minebea Group, you may be asked to resubmit the Report of Analysis Results and Analysis Report, even if they are still within their validity periods. Requests will be made individually as needed.
- (9) Requests for submission of Report of Analysis Results and Analysis Reports for substances other than the six substances specified in the EU RoHS directive  
If requested by Minebea Group's customers, or if an abnormal substance is detected during a receiving inspection, you may be asked to submit Reports of Analysis Results and Analysis Reports for substances other than the six substances specified in the EU RoHS directive. Requests will be made individually as needed.
- (10) Method for obtaining Analysis Reports  
Obtain Analysis Reports that meet this Standard or equivalent requirements from the material/raw material manufacturers.
- 8-2-4. Component List  
If a single part or material is composed of multiple components, please prepare and submit a component list, relating the MSDSs, Mill sheets, and other report data with the composing Part Name and Data NO.  
Form: Attachment-5 Component List
- 8-2-5. MSDS (Material Safety Data Sheet)  
Manufacturer's MSDSs are issued for materials such as chemicals, resins, adhesives, pigments, paints, inks etc. Please obtain and submit them. If any changes are made to the content of a MSDS, please submit a new version promptly.
- 8-2-6. Mill sheets  
Manufacturer's mill sheets are available for materials such as metals, metal alloys, and other processed goods etc. Please obtain and submit them.
- 8-3. Data to be submitted and methods of response  
Types, requirements and formats of data to be submitted are shown in Table 10.

Table 10: Types, requirements and formats of data to be submitted

Types of data to be submitted	Requirement	Format
Non-Use Certificate		Minebea designated format (Attachment-1)
Non-Use Certificate List	Required when there is a large number of applicable parts and materials	Minebea designated format (Attachment-A)



Survey Report		Minebea designated format (Attachment-2)
Report of Analysis Results		Minebea designated format (Attachment-3)
Analysis Report		Format used by analysis laboratory (the format must meet "8-2-3 Report of Analysis Results and Analysis Report")
Component List	When attaching multiple pieces of data, such as MSDSs, Mill sheets, etc.	Minebea designated format (Attachment-5)
MSDS	When adhesives, resins, paints, inks, pigments, or components composed of these are present	Format used by the issuer of the MSDS
Mill sheets	When metals, metal alloys, other processed goods, or components composed of these are present	Format used by the issuer of the mill sheet

(1) Format and notices

If a designated format for response by Minebea Group is available, please use it when submitting responses. (See Table 10)

Please submit data for which no format is specified (Analysis Report, MSDS, Mill sheets, etc.) in the format used by the issuer of such data.

Please submit data in a way that makes verification simple, for example, to make the relationships between the various documents easy to understand, to add control numbers, to standardize names, or to add explanatory text.

Submit legible and clear data.

(2) Method of delivering data

As a rule, please send data in electronic format by e-mail, electronic file, etc. It can also be sent by FAX or post. Please use Excel or Word as the electronic file format for submitting the Non-Use Certificate, Survey Report, Report of Analysis Results etc.

When submitting copies of the Analysis Reports, MSDSs, Mill sheets, etc., please use Adobe Acrobat PDF format, and make sure that the file is legible and clear.

(3) Where to submit data

Please submit data to the Minebea Group Procurement Division that requested submission of data.

If there are survey requests for the same parts and materials from different Minebea Group plants, please send response data to each plant individually, even if it is identical.

## 9. Analysis Methods

### 9-1. Analysis methods for the six substances specified in the EU RoHS Directive

Analysis methods for the six substances specified in the EU RoHS Directive shall be based on the International Electrotechnical Commission's (IEC) IEC 62321 (IEC TC111/WG3). Although it is currently still under discussion (draft), its use is accepted.

For reference, we will note basic concepts and Minebea Group's recommendations on analysis methods.

### 9-2. Basic concepts on pretreatment and analysis methods

- (1) The purpose of cadmium, lead and mercury analysis is to measure the amounts contained. If the sample is not dissolved completely by acid decomposition, and if precipitation is produced, use certain method (alkali fusion method etc.) to dissolve the sample completely.

Combination of pretreatment and measuring equipment should be able to guarantee determination limits of less than 5ppm for cadmium, less than 30ppm for lead, and less than 5ppm for mercury.

- (2) Elution test should be used for hexavalent chromium. The hexavalent chromium should be extracted using certain method, and the combination of pretreatment and measuring equipment should be able to guarantee determination limits of less than 5ppm.

If it is difficult to analyze hexavalent chromium, total chromium (T-Cr) can be analyzed; when total chromium value is less than the allowable concentration, hexavalent chromium will be less than the allowable concentration.

(3) For PBB, PBDE, dissolve or extract the plastic resins (including rubber) with an organic solvent. The combination of pretreatment and measuring equipment should be able to guarantee determination limits of less than 10ppm for each category of PBB and PBDE.

9-3. Pretreatment and measurement methods for the six substances specified in the EU RoHS Directive  
Recommended analysis methods are shown in Table 11.

Table 11: Recommended analysis methods for the six substances specified in the EU RoHS Directive

Substance name	Pretreatment method	Measurement method	Reference standard: Pretreatment method
			Reference standard: Measurement method
Cd	<ul style="list-style-type: none"> <li>- Incineration in presence of sulfuric acid</li> <li>- Pressurized acid decomposition method in sealed container (microwave decomposition method)</li> <li>- Acid decomposition using nitric acid, hydrogen peroxide</li> <li>- Wet decomposition method in the presence of sulfuric acid, nitric acid, and hydrogen peroxide</li> </ul>	ICP-AES, ICP-OES AAS ICP-MS	EN13346:2000 EPA3052:1996 EPA3050B Rev.2:1996 BS EN 1122:2001
			EN ISO 11885:1998 EN ISO 5961:1995
B	<ul style="list-style-type: none"> <li>- Incineration in presence of sulfuric acid</li> <li>- Pressurized acid decomposition method in sealed container (microwave decomposition method)</li> <li>- Acid decomposition using nitric acid, hydrogen peroxide</li> </ul>	ICP-AES, ICP-OES AAS ICP-MS	EN13346:2000 EPA3052:1996 EPA3050B Rev.2:1996
			EN ISO 11885:1998 EN ISO 5961:1995
Hg	<ul style="list-style-type: none"> <li>- Pressurized acid decomposition method in sealed container (microwave decomposition method)</li> <li>- Heat vaporization gold amalgam method</li> <li>- Decomposition flask with reflux condenser (Kjeldahl method)</li> <li>*Conditions should not allow vaporization of mercury</li> </ul>	ICP-AES, ICP-OES AAS ICP-MS	EN13346:2000 EPA3052:1996 EPA3050B Rev.2:1996 Kjeldahl method: a method for wet decomposition with sulfuric acid/nitric acid
			EN ISO 11885:1998 EN ISO 5961:1995
Cr <sup>6+</sup>	<ul style="list-style-type: none"> <li>- Metal and plating materials: heated water extraction method</li> <li>Method for extracting hexavalent chromium from sample submerged in hot or boiling water.</li> <li>- Plastic resins etc. (samples other than metal materials): heated alkali extraction method</li> <li>Method for extracting hexavalent chromium from sample submerged in heated alkali.</li> </ul>	UV-Vis IC	EN15205、JIS H8625 EPA 3060A
			EPA 7196A EPA 7199
PBB PBDE	<ul style="list-style-type: none"> <li>- Dissolution: dissolving in an organic solvent like tetrahydrofuran (THF).</li> <li>- Soxhlet extraction (8 hours or more): the sample is reduced to a powder of grains less than a few hundred μm in diameter by freezing and crushing etc., and then extracted with an organic solvent like toluene.</li> <li>- After dissolution and extraction, a silica gel column treatment should be performed.</li> </ul>	GC-MS GC-HRMS	

#### About abbreviations for measurement methods

- ICP-AES, ICP-OES: Inductively Coupled Plasma Atomic Emission Spectroscopy, Inductively Coupled Plasma Optical Emission Spectrometry (with hydride generator for Hg)
- AAS: Atomic Absorption Spectroscopy (reduced vapor atomic absorption spectrometry for Hg)
- ICP-MS: Inductively Coupled Plasma Mass Spectrometry (with hydride generator for Hg)
- IC: Ion Chromatography analysis method
- UV-Vis: Ultraviolet-Visible absorption spectroscopy (e.g. diphenylcarbazide absorptiometry)
- GC-MS: Gas Chromatography-Mass Spectrometry (e.g. quadrupole gas chromatography-mass spectrometer)
- GC-HRMS: Gas Chromatography High-Resolution Mass Spectrometry

#### 9-4. Notes regarding pretreatment and measurement methods for the six substances specified in the EU RoHS Directive

- Dissolution methods EN 71-3:1994, ASTM F963-96a, and ISO 8124-3 should not be applied.
- Because JIS K0102-55 test for industrial waste water only specifies a measurement method, and therefore must be combined with a pretreatment method.
- BS EN 1122:2001 should not be applicable as a pretreatment method for lead analysis.  
If sulfuric acid is used in pretreatment for lead analysis, insoluble lead sulfate may be produced. If precipitation is formed, the alkali dissolution method etc. must be used to completely dissolve the sample.
- If it is difficult to precisely analyze hexavalent chromium, total chromium (T-Cr) analysis may be used to show the hexavalent chromium analysis result, but total chromium (T-Cr) analysis results must be less than the allowable concentration.
- When analyzing hexavalent chromium with the absorptiometry method, the presence of other substances may interfere quantification. If this makes it difficult to calculate analyzed values, analyze with the ion chromatography analysis method.
- In the pretreatment for PBB and PBDE analysis, solutions and/or extracts will contain resin content etc., so it is necessary to clean these up for disposal. Clean up methods include reprecipitation in a weak solvent and centrifugal separation, absorption by silica gel column, etc.

#### 9-5. Basic concept on pretreatment and analysis methods for packaging/packing materials

The objective of this analysis is to measure the content of cadmium, lead, hexavalent chromium and mercury in packaging/packing materials.

The combination of pretreatment and measuring equipment should be able to guarantee determination limits of less than 5ppm for cadmium, less than 30ppm for lead, less than 5ppm for total chromium, and less than 5ppm for mercury.

Because it is difficult to analyze hexavalent chromium in packaging/packing materials, total chromium (T-Cr) may be analyzed; and if the total of cadmium, lead, total chromium and mercury in packaging/packing materials is 100ppm or above, it is necessary to perform a verification analysis of hexavalent chromium within total chromium.

9-6. Pretreatment and measurement methods for Cd, Pb, Hg, and Cr<sup>6+</sup> in packaging/packing materials

Table 12: Analysis Methods for Packaging/Packing Materials

Substance name	Preparation method	Measurement method	Reference standard: Pretreatment method
			Reference standard: Measurement method
Cd Pb Hg Cr <sup>6+</sup>	Same as the pretreatment methods in 9-3. Pretreatment and measurement methods for the six substances specified in the EU RoHS directive (excluding PBB and PBDE)	Same as the measurement methods in 9-3. Pretreatment and measurement methods for the six substances specified in the EU RoHS directive (excluding PBB and PBDE)	9-3. Pretreatment and measurement methods for the six substances specified in the EU RoHS directive (excluding PBB and PBDE)

9-7. Methods for decomposing azo compounds and extracting amines

Major methods of decomposing azo compounds such as pigments, dyes etc. and extracting specific amines

- (1) CEN ISO/TS 17234:2003 "Leather-Chemical tests-Determination of certain azo colorants in dyed leathers"
- (2) EN 14362-1:2003 "Textiles-Methods for the determination of certain aromatic amines derived from azo colorants -Part 1: Detection of the use of certain azo colorations accessible without extraction"
- (3) EN 14362-2:2003 "Textiles-Methods for the determination of certain aromatic amines derived from azo colorants -Part 2: Detection of the use of certain azo colorations accessible by extraction the fibers"

9-8. Methods for analyzing formaldehyde

- (1) Chamber method: EN 717-1:2002 (Wood based panels; determination of formaldehyde release; formaldehyde emission by the chamber method)
- (2) Perforator method: EN120 (Wood based panels; determination of formaldehyde content; extraction method called perforator method; EN 120:1992)
- (3) Desiccator method: JIS A 5905 (Fiberboards), JIS A 5908 (Particleboards)

9-9. Methods for analyzing phthalate esters

Table 13: Methods for Analyzing Phthalate Esters

Chemical substance name	Pretreatment method	Measurement method
Phthalate Esters	- Dissolution: dissolving in an organic solvent like tetrahydrofuran (THF) - Soxhlet extraction (8 hours or more): the sample is reduced to a powder of grains less than a few hundred µm in diameter by freezing and crushing etc., then extracted with an organic solvent like toluene - After dissolution and extraction, a silica gel column treatment is performed.	GC-MS GC-HRMS LC-MS

9-10. Analysis methods for chemical substances the use of which is prohibited in toys/childcare articles

Analysis methods for the substances described in "4-4. Chemical substances the use of which is prohibited in toys/childcare articles" are based on "Safety of toys EN71-3:1994".

## Minebea Group Green Procurement Standard 3rd Edition revised on December 1, 2007

### Explanation of Revisions

The third edition of the Standard reflects changes in relevant regulations, and customer requirements since the issue of the second edition, and brings the Standard up-to-date by incorporating items already requested to suppliers in written communications.

In the second edition series of operations are divided into sections like "4. Operation of the Standard" and "5. Data Request for Submission" (explanation of requested data and analysis methods), but in the third edition they are consolidated in "7.Operation".

In relation with this revision, the "Operational Documents for Minebea Group Green Procurement Standard 2nd Edition" shall be void.

In addition to changes for simplifying the wording, clarifications, and amending errors without altering the contents, the following items were amended, deleted or added.

#### Positioning of the Standard

In Paragraph (5), handling of laws and customer requirements not specified in the Standard is added; the original paragraph (5) is now paragraph (6).

#### 3. Definition of Terms

In 3-2, prohibited chemical substances are divided into three categories, called Group I, Group II and Group III, and definitions and requirements that should be fulfilled for each group are added.

It is clarified that the controlled chemical substances in 3-3 are the chemical substances subject to Minebea's Environmental Hazardous Substances Survey.

"3-10 Report on containing of prohibited chemical substances" is deleted and changed to "3-10 Report of Analysis Results".

A specified format for the Report of Analysis Results (format conveyed to suppliers in document number MGP-06-0801) has been prepared, so the explanation is omitted.

3-11 Analysis Report is added.

3-12 ISO/IEC17025 Certified Bodies is added.

#### 4. Prohibited Chemical Substances

Tables of prohibited chemical substances are organized and simplified. Deadlines for prohibited chemical substances are deleted, and exempt items and principal usages are compiled in separate tables.

##### 4-1 Group I Prohibited Chemical Substances

Group I Prohibited Chemical Substances are defined as the six substances specified in the EU RoHS Directive, and allowable concentration of all uses is changed from "100ppm" to "75ppm" except exemption for cadmium (Cd) and those listed above.

##### 4-2 Group II Prohibited Chemical Substances

From nineteen prohibited chemical substances in the second edition, thirteen substances excluding the six substances specified in the EU RoHS Directive are defined as Group II Prohibited Chemical Substance. No. 19 polyvinyl chloride and its composites have been prohibited for use in packaging/packing materials, but there was no mention of other uses. Therefore, "other uses will be handled individually" is added.

##### 4-3 Group III Prohibited Chemical Substances

Class I and II Specified Chemical Substances in the Law concerning the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (hereinafter referred to as Chemical Evaluation Law) and specified toxic substances in the Poisonous and Deleterious Substances Control Law are defined as Group III Prohibited Chemical Substances. In addition, the following substances were added.

2-(2'-hydroxy-3',5'-di-tert-butylphenyl) benzotriazole

Perfluorooctane sulfonate (PFOS)

Beryllium oxide

Certain phthalate esters (prohibited in toys/childcare articles)

4-4 Chemical substances prohibited for use in toys/childcare articles by "Safety of toys EN71-3:1994" are added.

- Antimony & its compounds
- Arsenic & its compounds
- Barium & its compounds
- Cadmium & its compounds
- Chrome & its compounds
- Lead & its compounds
- Mercury & its compounds
- Selenium & its compounds

4-5 Prohibited Chemical Substances Related to Batteries

These were partially listed as the prohibited chemical substances in the second edition, but in this third edition a new section 4-5 is added for them.

5. Controlled Chemical Substances

No. 26 fire retardants (fire retardants other than halogens) are combined as No. 23, fire retardants (bromine fire retardants (fire retardants other than PBB, PBDE), halogen fire retardants excluding bromines, fire retardants other than halogens), and No. 24 is changed to halogen and halogen compounds (organic/inorganic compounds). Numbering was changed to reflect this.

7. Operation

Matters related to operation of the Standard are consolidated.

The fundamentals of the operation method were consolidated as "7-1 Basics of operation method", and treatment for requirements even stricter than the allowable concentration stipulated by this Standard is explicitly noted.

It is clarified that control of chemical substances is implemented based on the Guidelines for the Management of Chemical Substances in Products of the JGPSSI (Japan Green Procurement Survey Standardization Initiative).

The following paragraphs are added.

- 7-4 Occurrence of abnormalities, noncompliance
- 7-7 Requirements not stipulated in this Standard
- 7-8 Survey of new regulated chemical substances
- 7-9 Management of receiving inspections

8. Data Requested for Submission

Item number 5 was changed to 8.

"5-1 Principle of data for submission" was changed to "8-1 Basis for information submission", and the contents are partially revised.

"5-3. Report Containing Prohibited Chemical Substances" is deleted.

"5-5. Analysis Results Report" was divided into "Report of Analysis Results" and "Analysis Report".

The contents are revised to reflect changes that were already informed to suppliers in document number MGP-06-0801.

The analysis items are changed from Cd and Pb to the six substances of the EU RoHS Directive (Cd, Pb, Hg, Cr<sup>6+</sup>, PBB, PBDE) for plastic resin (including rubber), inks, pigments, dyes, paints, grease, oil, adhesives etc.

Alloy including zinc in the subject part is changed to metals, metal alloys, plating, ceramics, glass etc., and the analysis item for such materials is changed from Cd to four of the substances of the EU RoHS directive (Cd, Pb, Hg, Cr<sup>6+</sup>).

The validity period of analysis reports is defined as one year from the date of measurement, and the need for annual update management was clarified.

English or Japanese languages are specified for use in the analysis reports.

Items to be entered in the analysis report, required analyses by ISO/IEC17025 certified laboratories, and analyses for substances other than the six substances specified by EU RoHS are added.

8-2 Methods of response for the data to be submitted

"5-10. List of supporting data and requirements" in the second edition is revised and consolidated as "Table 10: Types, requirements and formats of the data to be submitted".

"Report of Content" and "Report of Content list attachment" are deleted.

These have been discontinued as they are no longer used.

"Constituent table", and "MCDS" are deleted.

These have been discontinued because this information is now in the Environmental Hazardous Substances Survey Report.

Analysis Report is added.

This is added to clarify that there are two types of report; Report of Analysis Results, and Analysis Report.

#### 9. Analysis Methods

It is clearly stated that analysis methods should be based on IEC 62321, which is under consideration as the analysis method for the six substances specified by EU RoHS Directive.

Analysis method described in the text is summarized in "Table 11: Recommended analysis methods for the six substances specified in the EU RoHS directive".

Recommended analysis methods for PBB and PBDE are added.

IC (Ion Chromatography) is added as a method for analyzing hexavalent chromium to be used when the absorptiometry analysis method cannot be used due to interfering substance.

Recommended analysis methods for phthalate esters are added.

## **Minebea Group Green Procurement Standard 2nd Edition revised on April 20, 2006**

### **Explanation of Revisions**

The second edition of the Standard reflects changes in environment-related laws and regulations worldwide, customer requirements as well as trends in regions and organizations that have occurred since the issue of the first edition.

In the second edition the management portion and reference material portion are separated and the scope within which each plant can act individually in accordance with its respective operating profiles.

In addition to revising incomprehensible expressions and errors, the following items were revised, deleted or added:

#### 1. Definitions of terms

Terms considered necessary for the operation of this Standard --"parts, etc.," "prohibited chemical substances," "controlled chemical substances," "exemption," "inclusion," "impurities," "allowable concentration (threshold value)," "homogeneous materials," "Certificate of non-use of prohibited chemical substances," "Report on containing prohibited chemical substances," and "analysis value" are clarified.

#### 2. Clarification of scope of application and exemption

In the second edition scope of application is clarified by separating parts, etc. and products, and the following exemptions are also clarified:

- This Standard shall not apply to Minebea-specified parts, etc. that are used in products directly related to the lives and safety of people in fields such as aerospace, transportation and medical applications, etc.
- This Standard shall not apply to parts, etc. that are procured for equipment manufactured by Minebea Group and used within Minebea Group and specified by Minebea Group that cannot be replaced with alternative technologies due to safety and reliability requirements.

#### 3. Prohibited chemical substances

- Polychlorinated Taphenyl is added to halogen organic compounds.
- To clarify that this Standard restricts only specific organic tin compounds, reference to "organic tin compounds" is deleted, and the names of chemical substances to be prohibited are specifically listed instead.

#### 4. Details of the prohibited chemical substances

- Use of the chemical substances for which the target dates of prohibition has passed is designated as "immediate prohibition," and their descriptions are organized.

At the same time, "immediate prohibition," "target date of prohibition," "no target date of prohibition" and "exempt" are used to clarify status in the "target date of prohibition" column for prohibited chemical substances.

Consequently, the list of exemptions is removed.

- Controls on packaging materials are summarized in paragraph 6-4.
- "Alloys including zinc" and "aluminum and aluminum alloys" are added to cadmium, and the allowable concentration was set to 75ppm. Also, "analysis value" is specified as a mandatory item.
- The allowable concentration of lead in solder alone of the lead-free solder group is changed from 1000ppm to 500ppm.
- The allowable concentration of items soldered beforehand using lead-free solder is retained as 1000ppm same as before.
- Applications and portions to be regulated of short-chain chlorinated paraffin is changed to "All uses." The content of chlorine was changed from 50% to 48%.
- Description for "Azo dyes and pigments \*3" is revised as "specific amine and specific azo compounds" to indicate that the restrictions are limited.
- The use of polyvinyl chloride (PVC) in packaging/packing materials is changed to "immediate prohibition."



- The "target date of prohibition" for polyvinyl chloride (PVC) is changed from "(January 1, 2006)" to a system that reflects individual customer request.

#### 5. List of controlled chemical substances

The following modifications and additions are made to the "List of Controlled Chemical Substances" indicating substances to be surveyed:

- Addition of halogen (F, Cl, Br, I, At) and halogen compounds (organic and inorganic)
- Change of the description for ozone-depleting substances to Group I, Annex C, Montreal Protocol (HCFC)
- Substances other than bromine fire retardants are made as subjects of survey (bromine retardants are retardants other than PBB and PBDE).
- ABS, PC, PC+ABS, PC+PS, PE, PET, PP, PPE, PS etc. were added as the thermoplastic plastics.
- Phenol was changed to "Phenol and phenolic resin."

#### 6. Analysis methods

- BSEN1122/ASTM F963-96a/ISO8124-3 are eliminated from the applicable pretreatment methods for lead analysis.
- Inductively Coupled Plasma Mass Spectroscopy (ICP-MS) with Hydride Generation is added to the low concentration mercury analysis methods.

## Certificate of Non-Use of Prohibited Chemical Substances

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

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

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

Organization: \_\_\_\_\_

Person Responsible \_\_\_\_\_

Person in Charge \_\_\_\_\_

E-mail: \_\_\_\_\_

Phone: \_\_\_\_\_

FAX: \_\_\_\_\_

We certify that the Group I and Group II chemical substances prohibited by Minebea Group as listed below are not used in the components etc. (raw materials, parts, components, packaging or packing materials) that are delivered to the Minebea Group.

We further certify that in the case of prohibited chemical substances to which allowable concentration is specified, concentration in the application and the part are not exceeding such allowable concentrations.

Product/part name: \_\_\_\_\_

Type/specification etc.: \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Minebea part code: \_\_\_\_\_

Our part code: \_\_\_\_\_

Item code: \_\_\_\_\_

Non-Use Certification List is attached (Attachment-A) separately due to number of parts to be reported.

Please tick ( ✓ ) the box to indicate that a Non-Use Certification List is attached.

### Group I and Group II Chemical Substances Prohibited by Minebea Group

Please draw a circle (○) in the Check column if compliant.

No.	Substance name	Allowable concentration	Check column
1	Cadmium & its compounds		
	Plastic, ink, grease, adhesives, etc.	<5ppm	
	Solder	<20ppm	
	Other applications	<75ppm	
2	Lead & its compounds		
	Plastic, ink, grease, adhesives, etc.	<100ppm	
	Lead-free solder	<500ppm	
	Other applications	<1000ppm	
3	Hexavalent chromium compounds	<1000ppm	
4	Mercury & its compounds	<1000ppm	
5	Polybrominated biphenyl (PBB)	<1000ppm	
6	Polybrominated diphenyl ether (PBDE)	<1000ppm	

No.	Substance name	Check column
7	Bis (tributyl tin) = oxide (TBTO)	
8	Tributyl tin (TBT) Triphenyl tin (TPT)	
9	Polychlorinated biphenyls (PCB)	
10	Polychlorinated naphthalene (PCN)	
11	Polychlorinated taphenyl (PCT)	
12	Short-chain chlorinated paraffin	
13	Asbestos	
14	Specified amines and specified azo compounds	
15	Ozone depleting substances: Substances subject to Montreal Protocol	
16	Radioactive substances	
17	Formaldehyde	
18	Dioxins	
19	Polyvinyl chloride and its composites	

Details on prohibited chemical substances, can be found in the Minebea Group Green Procurement Standard (3rd Edition).

When substance that falls under exemption is intentionally used, put a circle (○) in the Check Column, and enter the substance name, part, and legal basis, in the box below.

Substance name: Part: Exempt application, Attached Document No.:
--

## Non-Use Certificate List

Company Name \_\_\_\_\_

Plant/Manufacturing Department \_\_\_\_\_

Company name (your company): \_\_\_\_\_

Minebea part code	Your company's part code	Product/Part name	Type/specification etc.	Manufacturer	Exemption, Attached Document No., Usage

\* Fill out Exemption, Attached Document No., add Usage column only when applicable

## Sample Non-Use Certificate List

PAGE : 1 OF 1					
Company Name <u>Minebea Co., Ltd.</u>					
Plant/Manufacturing Department <u>Karuizawa Plant/ Rod End</u>		Company name (your company): <u>XYZ Co., Ltd.</u>			
Minebea part code	Your company's part code	Product/Part name	Type/Specification etc.	Manufacturer	Exemption, Attached Document No., Usage
1234-5678	ABC-DEF-GHI	Lubricant	FKX-001	abc Co., Ltd.	
2000-0001	RST-UVW-XYZ	Lubricant	GKX-001	abc Co., Ltd.	
9999-9999	NMO-PQR-STU	Lubricant	HKZ-001	abc Co., Ltd.	

PAGE : 1 OF 1					
Company Name <u>Minebea Co., Ltd.</u>					
Plant/Manufacturing Department <u>Karuizawa Plant/ Rod End</u>		Company name (your company): <u>XYZ Co., Ltd.</u>			
Minebea part code	Your company's part code	Product/Part name	Type/Specification etc.	Manufacturer	Exemption, Attached Document No., Usage
34-56-789	ABC-DEF-GHI	Lubricant	FKZ-001	abc Co., Ltd.	
12-34-567	RST-UVW-XYZ	Lubricant	FKY-001	abc Co., Ltd.	

PAGE : 1 OF 1					
Company Name <u>Minebea Co., Ltd.</u>					
Plant/Manufacturing Department <u>Karuizawa Plant/ Rod End</u>		Company name (your company): <u>XYZ Co., Ltd.</u>			
Minebea part code	Your company's part code	Product/Part name	Type/Specification etc.	Manufacturer	Exemption, Attached Document No., Usage
001-001	NMO-PQR-STU	Lubricant	HKZ-001	abc Co., Ltd.	
456-789	ABC-DEF-GHI	Lubricant	FKZ-001	abc Co., Ltd.	

**[ Environmental Hazardous Substances Survey Report ]**

Minebea Co., Ltd.

To

**Applicable standard : "MINEBEA Group Green Procurement Standard 3rd Edition"**

Date	
Name of company	
Section/department	
Person in charge	
E-Mail Address	

Request No.	
Product name	
Model No.& Spec. etc.	
RoHS Compliance (Y=OK/N=No)	

Part name	Raw material name	Manufacturer	Parts No./Type name	Part mass		CAS No.	Substance name	Content mg	Weight Ratio / Product (%)	Weight Ratio / Part (%)	Purpose of inclusion/intended use (including exempt usages)	Intentional or Impurity		
				mg/m <sup>2</sup>	mg/m <sup>2</sup>									
<b>G.Total</b>												0.0000	0.0000	0.0000



I Environmental Hazardous Substances Survey Report I - Sample

=Notes=  
 Data contained in the response document can be either theoretical or calculated values.  
 Minebea Group prohibited chemical substances, and controlled chemical substances are required items.  
 Please enter values confirmed by analysis as response data.

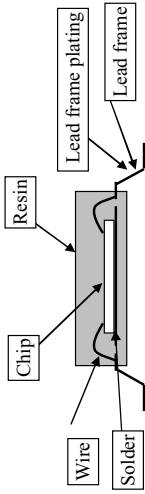
Request NO. :

Product name	O△□
Model No. &Spec	O△□
Passes RoHS(Y=ok/N=no)Y	

Date	YYYY/MM/DD
Name of company	O△□
Section/department	O△□
Person in charge	O△□
E-Mail Address	O△□

... PCS

**ASSEMBLY**



Drop-down list that can be used to change the selection.  
 Drop-down list: mg/pcs, mg/in, mg/m2, g/pcs, g/in, g/m2

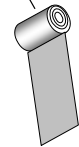
Part name	Raw material name	Manufacturer	Parts No./Type name	Part mass		Substance name	CAS No.	Content		Weight Ratio /Product (%)	Purpose of inclusion/intended use (including exempt usages)	Intentional or Impurity
				mg/pcs	QTY			mg	mg			
Chip	Silicon	Company A	111	1.5000	1	Silicon	7440-21-3	1.5000	1.5000	2.0464	Elemental material	Intentional
Solder	High-melting point	Company B	222-22	0.3000	1	Tin	7440-31-5	0.0105	3.5000	0.0143	Solder material	Intentional
						Silver	7440-22-4	0.0045	1.5000	0.0061	Solder material	Intentional
						Lead	7439-92-1	0.2850	95.0000	0.3888	High-melting point solder	Intentional
Wire	Gold wire	Company C	3-333	0.2500	2	Gold	7440-57-5	0.5000	100.0000	0.6821	Wire material	Intentional
Lead frame	Copper alloy	Company D1	444	40.0000	1	Copper	7440-50-8	35.5000	88.7500	48.4311	Frame material	Intentional
						Nickel	7440-02-0	4.0000	10.0000	5.4570	Frame material	Intentional
						Tin	7440-31-5	0.5000	1.2500	0.6821	Frame material	Intentional
Resin	Silver plating	Company D2	555-5	0.5000	1	Silver	7440-22-4	0.5000	100.0000	0.6821	Plating	Intentional
	Epoxy resin	Company E	666	30.5000	1	Epoxy resin	29690-82-2	29.5000	96.7213	40.2456	Primary constituents	Intentional
						Phenol resin	9003-35-4	0.5000	1.6393	0.6821	Hardener	Intentional
						Antimony trioxide	1309-64-4	0.4000	1.3115	0.5457	Fire retardant	Intentional
						Carbon black	1333-86-4	0.1000	0.3279	0.1364	Inactive ingredients	Intentional
<b>G.Total</b>								73.3000		100.0000		

Please enter data so that the total is 100%

Same value

... ROL(PCS) mg/m2

**TAPE etc.**



Sheets (paper etc) for exfoliation should not be included in reply.

Drop-down list that can be used to change the selection.  
 Drop-down list: mg/pcs, mg/in, mg/m2, g/pcs, g/in, g/m2

Part name	Raw material name	Manufacturer	Parts No./Type name	Part mass		Substance name	CAS No.	Content		Weight Ratio /Product (%)	Purpose of inclusion/intended use (including exempt usages)	Intentional or Impurity
				mg/m2	QTY			mg	mg			
Substrate film		Company A	111	30.0000	1	Polyethylene terephthalate	25038-59-9	29.5000	97.0395	98.3333	Primary constituents	Intentional
Adhesive		Company B	222-22	0.4000	1	Antimony trioxide	1309-64-4	0.5000	1.6447	1.6667	Fire retardant	Intentional
						Acrylic resin	Trade secret	0.4000	1.3158	100.0000	Primary constituents	Intentional
<b>G.Total</b>								30.4000		100.0000		

Please enter data so that the total is 100%

Same value

**WIRE/TUBE etc.** ... ROL/PCS) mg/m



Drop-down list that can be used to change the selection.  
Drop-down list: mg/pcs, mg/m, mg/m<sup>2</sup>, g/pcs, g/m, g/m<sup>2</sup>

Part name	Raw material name	Manufacturer	Parts No./Type name	Part mass	QTY	Total mass	Substance name	CAS No.	Content	Weight Ratio /Product (%)	Weight Ratio /Part (%)	Purpose of inclusion/intended use (including exempt usages)	Intentional or Impurity
				mg/m		mg/m			mg				
Insulator	PVC	Company A	1111	30.0000	1	30.0000	PVC	9002-86-2	29.5000	97.0395	98.3333	Primary constituents	Intentional
Conductor	Copper	Company B	222-22	0.4000	1	0.4000	Antimony trioxide	1309-64-4	0.5000	1.6447	1.6667	Fire retardant	Intentional
<b>G.Total</b>				Same value		30.4000	Copper	7440-31-5	0.4000	1.3158	100.0000	Primary constituents	Intentional
										Please enter data so that the total is 100%			

Same value

**ADHESIVE (RESIN etc) & RAW MATERIAL** ... CAN,PCS,gram,kg,LTR

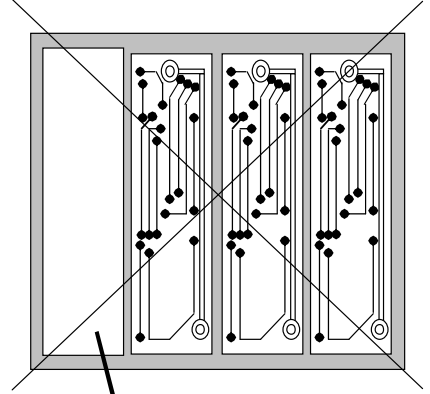
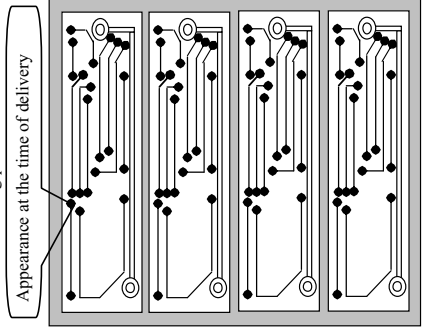


Drop-down list that can be used to change the selection.  
Drop-down list: mg/pcs, mg/m, mg/m<sup>2</sup>, g/pcs, g/m, g/m<sup>2</sup>

Part name	Raw material name	Manufacturer	Parts No./Type name	Part mass	QTY	Total mass	Substance name	CAS No.	Content	Weight Ratio /Product (%)	Weight Ratio /Part (%)	Purpose of inclusion/intended use (including exempt usages)	Intentional or Impurity
				mg/m		mg/m			mg				
Resin	Epoxy resin	Company D	1111				Epoxy resin	29690-82-2		96.7213		Primary constituents	Intentional
							Phenol resin	9003-35-4		1.6393		Hardener	Intentional
							Antimony trioxide	1309-64-4		1.3115		Fire retardant	Intentional
<b>G.Total</b>							Carbon black	1333-86-4		0.3279		Inactive ingredients	Intentional
										Please enter data so that the total is 100%			

**PCB**

mg/pcs



However, please submit data in **Excel file** when making a response in the style delivered to MINEBEA (multiple quantities).



## [Report of Analysis Results]

Request №

Product Name	
Model Name	

Date	
Company	
Address	
Section/department	
Person responsible	
Person in charge	
Telephone number	
Email address	

Enter analysis result values in ppm.

No.	Part name	Material name (model) Manufacturer	Cd	Pb	Cr <sup>6+</sup>	Hg	PBB	PBDE
			Report №	Report №	Report №	Report №	Report №	Report №
			Measurement Date	Measurement Date	Measurement Date	Measurement Date	Measurement Date	Measurement Date
			Analysis result values	Analysis result values	Analysis result values	Analysis result values	Analysis result values	Analysis result values

If analysis result is N.D., enter N.D. (determination limit). Example: N.D. (5ppm)  
 Indicate the following items in the analysis report submitted with the Report of Analysis Results.

- Sample name
- Pretreatment method
- Measurement method
- Name of analysis laboratory, corporate seal
- Name of responsible person at the analysis laboratory, name of person who performed measurements
- Date of measurement, date of issue
- Measurement results
- Analysis flowchart

**[Report of Analysis Results] - Sample**

Product Name	
Model Name	

Request №

Date	
Company	
Address	
Section/department	
Person responsible	
Person in charge	
Telephone number	
Email address	

Enter analysis results in ppm.

No.	Part name	Material name Type name (model) Manufacturer	Cd	Pb	Cr <sup>6+</sup>	Hg	PBB	PBDE
			Report №	Report №	Report №	Report №	Report №	Report №
			Measurement Date	Measurement Date	Measurement Date	Measurement Date	Measurement Date	Measurement Date
			Analysis result values	Analysis result values	Analysis result values	Analysis result values	Analysis result values	Analysis result values
1	Printing ink	PET printing ink	INK-1	INK-1	INK-1	INK-1	INK-1	INK-1
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD
			N.D. (5ppm)	8.1	N.D. (2ppm)	N.D. (2ppm)	N.D. (5ppm)	N.D. (5ppm)
2	Aluminum foil (+ or -)	Aluminum foil for capacitor BBB-222 Manufactured by AAA Co.,Ltd.	AL-2	AL-2	AL-2	AL-2	-	-
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	-	-
			N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	-	-
3	Sealing rubber	Butyl-rubber CCC-333 OOO Co.,Ltd.	B-005	B-005	B-005	B-005	B-005	B-005
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD
			N.D. (5ppm)	14.0	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)
4	Lead wire (+)	TPC Wire DDD-444 O Co.,Ltd.	R001-1	R001-1	R001-1	R001-1	-	-
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	-	-
			N.D. (5ppm)	19.0	N.D. (5ppm)	N.D. (5ppm)	-	-
5	Lead wire plating	Nickel plating DDD-444 O Co.,Ltd.	R001-2	R001-2	R001-2	R001-2	-	-
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	-	-
			N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	-	-
6	Outer tube	PET EEE-555 Manufactured by EEE Co.,Ltd.	CH-01	CH-01	CH-01	CH-01	CH-01	CH-01
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD
			N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)
7	Case	Aluminum case FFF-666 Manufactured by ABC Co.,Ltd.	ALK03	ALK03	ALK03	ALK03	-	-
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	-	-
			N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	-	-
8	Electrolytic paper	PP Tape GGG-777 Manufactured by DEF Co.,Ltd.	PP001	PP001	PP001	PP001	PP001	PP001
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD
			N.D. (2ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)
9	Electrolytic solution	Electrolytic Solution AB Manufactured by HHH-888 in-house	DAB-01	DAB-01	DAB-01	DAB-01	DAB-01	DAB-01
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD
			N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)
10	Lead wire (-)	TPC Wire DDD-444 Manufactured by DDD Co.,Ltd.	TPC-03	TPC-03	TPC-03	TPC-03	-	-
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	-	-
			N.D. (5ppm)	19.0	N.D. (5ppm)	N.D. (5ppm)	-	-
11	Lead wire plating	Nickel plating DDD-444 Manufactured by DDD Co.,Ltd.	TPC-04	TPC-04	TPC-04	TPC-04	-	-
			YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	YYYY/MM/DD	-	-
			N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	N.D. (5ppm)	-	-

If analysis result is N.D., enter N.D. (determination limit). Example: N.D. (5ppm)

Indicate the following items in the analysis report submitted with the Report of Analysis Results.

- Sample name
- Pretreatment method
- Measurement method
- Name of analysis laboratory, corporate seal
- Name of responsible person at the analysis laboratory, name of person who performed measurements
- Date of measurement, date of issue
- Measurement results
- Analysis flowchart

## Structural Drawing and Bill of Material (Entry Sample)

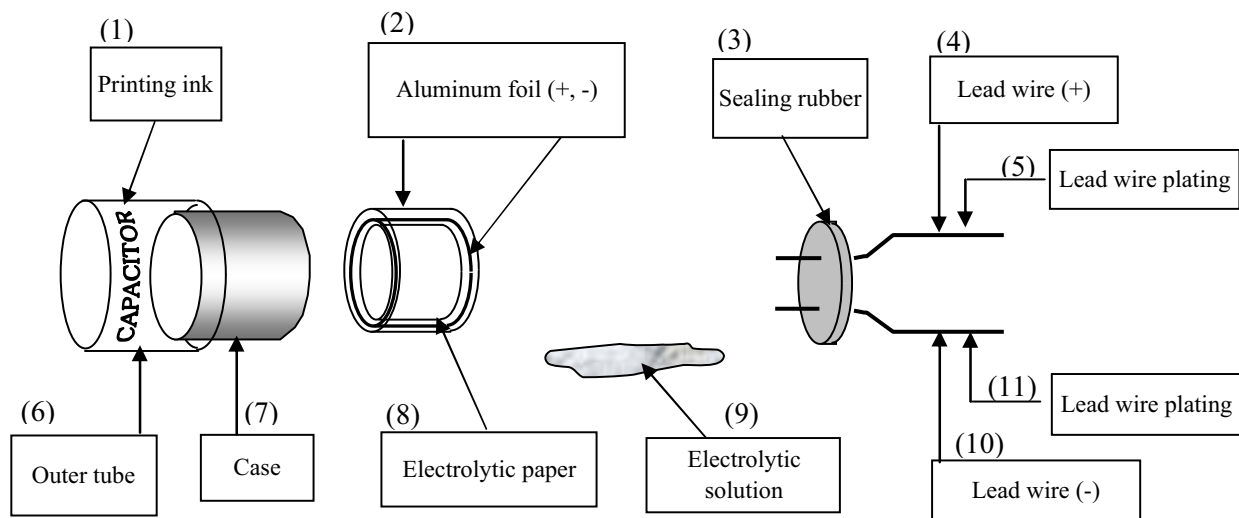
Product Name	
Model Name	

Date Prepared:

Person responsible	
Prepared by	

### Structural drawing

\*If the product is composed of a single material (raw material, film, sheet etc.) there is no need to submit a structural drawing/bill of material.



### Bill of Material

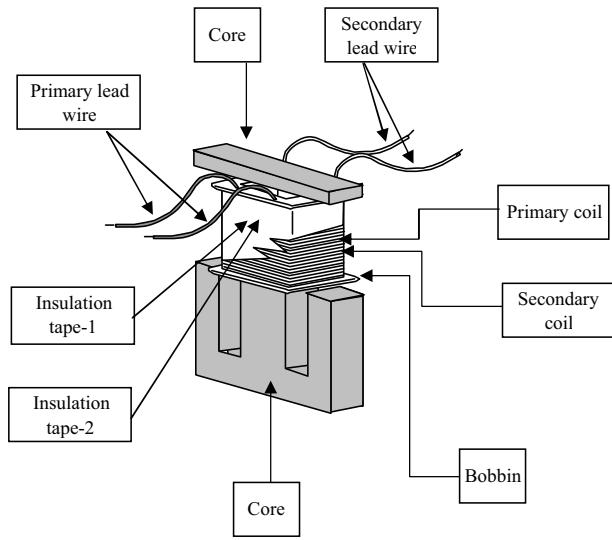
\*If the product is composed of a single material (raw material, film, sheet etc.) there is no need to submit a structural drawing/bill of material.

No	Part name	Material name	Type name (model), manufacturer
(1)	Printing ink	PET printing ink	AAA-111 Company OOOO
(2)	Aluminum foil (+, -)	Aluminum foil for condenser	BBB-222 Manufactured by company AAA
(3)	Sealing rubber	Butyl-rubber	CCC-333 Company OO
(4)	Lead wire (+)	TPC Wire	DDD-444 Company O
(5)	Lead wire plating	Nickel plating	DDD-444 Company O
(6)	Outer tube	PET	EEE-555 Manufactured by company EEE
(7)	Case	Aluminum case	FFF-666 Manufactured by company ABC
(8)	Electrolytic paper	PP Tape	GGG-777 Manufactured by company DEF
(9)	Electrolytic solution	Electrolytic Solution AB	HHH-888 Manufactured in-house
(10)	Lead wire (-)	TPC Wire	DDD-444 Company O
(11)	Lead wire plating	Nickel plating	DDD-444 Company O



### Component List (Bill of Material)

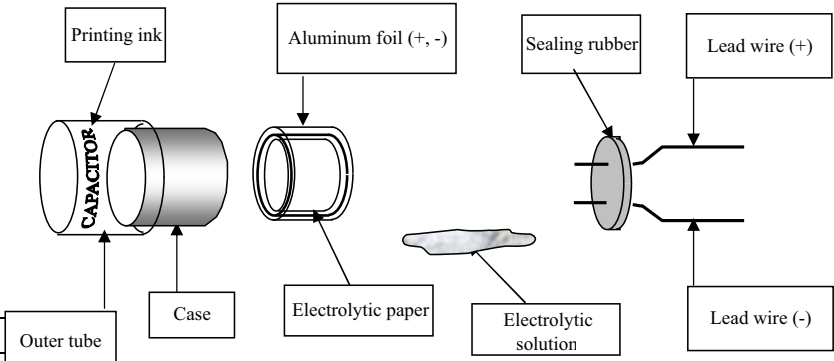
Sample - 1



Product Name	Transformer
Model Name	TR-5555, 100V

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	Bobbin	No.3	-	-	
2	Primary coil	-	-	-	
3	Secondary coil	-	-	-	
4	Insulation tape-1	No.10	-	-	
5	Insulation tape-2	No.11	-	-	
6	Primary lead wire	-	-	-	
7	Secondary lead wire	-	-	-	
8	Core	No.18	No.19	-	

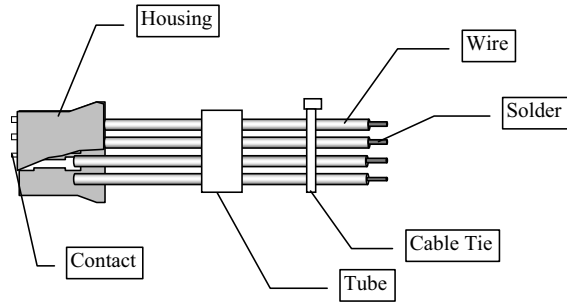
Sample - 2



Product Name	Electrolytic condenser
Model Name	100μ F/100V

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	Case	-	-	-	
2	Sealant rubber	No.B-01	-	-	
3	Electrolytic solution	No.C-02	-	-	
4	Lead wire (+)	No.D-03	-	-	
5	Lead wire (-)	No.E-03	-	-	
6	Aluminum foil (+)	-	No.F-02	-	
7	Aluminum foil (-)	-	No.G-02	-	
8	Electrolytic paper	No.H-02	-	-	
9	Outer tube	No.I-03	-	-	
10	Printing ink	No.J-03	-	-	

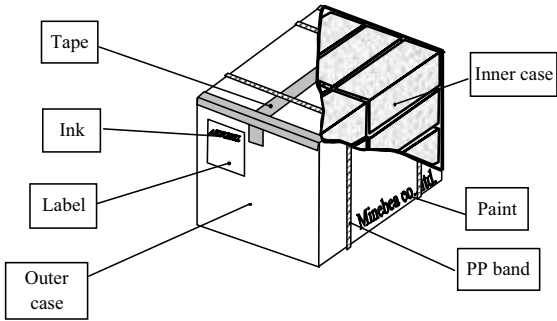
Sample - 3



Product Name	WIRE ASS'Y
Model Name	46WA-□□□ □□□

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	Wire	-	-	-	
2	Solder	002-1	-	-	
3	Housing	003-2	-	-	
4	Contact	-	-	-	
5	Tube	005-6	-	-	
6	Cable Tie	006-2	-	-	

Sample - 4

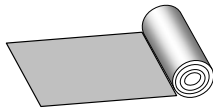


Product Name	Package
Model Name	Pack paper./Ink.

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	Outer case	No.001-6	-	-	
2	Inner case	No.002-6	-	-	
3	Tape	No.003-3	-	-	
4	Ink	No.004-6	-	-	
5	Label	No.005-6	-	-	
6	Paint	No.006-6	-	-	
7	PP band	No.007-5	-	-	

Sample Attachment-5 (3rd Edition)

Sample - 5



Product Name	TAPE
Model Name	*****_**_*

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	-	TP0001	-	-	

Sample - 6



Product Name	FILM SHEET
Model Name	*****_**_*

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	-	MSDS-1	-	-	

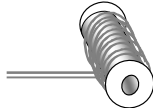
Sample - 7



Product Name	TUBE
Model Name	*****_**_*

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	-	NO.1	-	-	

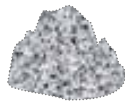
Sample - 8



Product Name	WIRE
Model Name	*****_**_*

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	-	W-01	-	-	

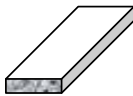
Sample - 9 (RAW MATERIAL)



Product Name	RESIN
Model Name	*****_**_*

NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	-	A-1	-	-	

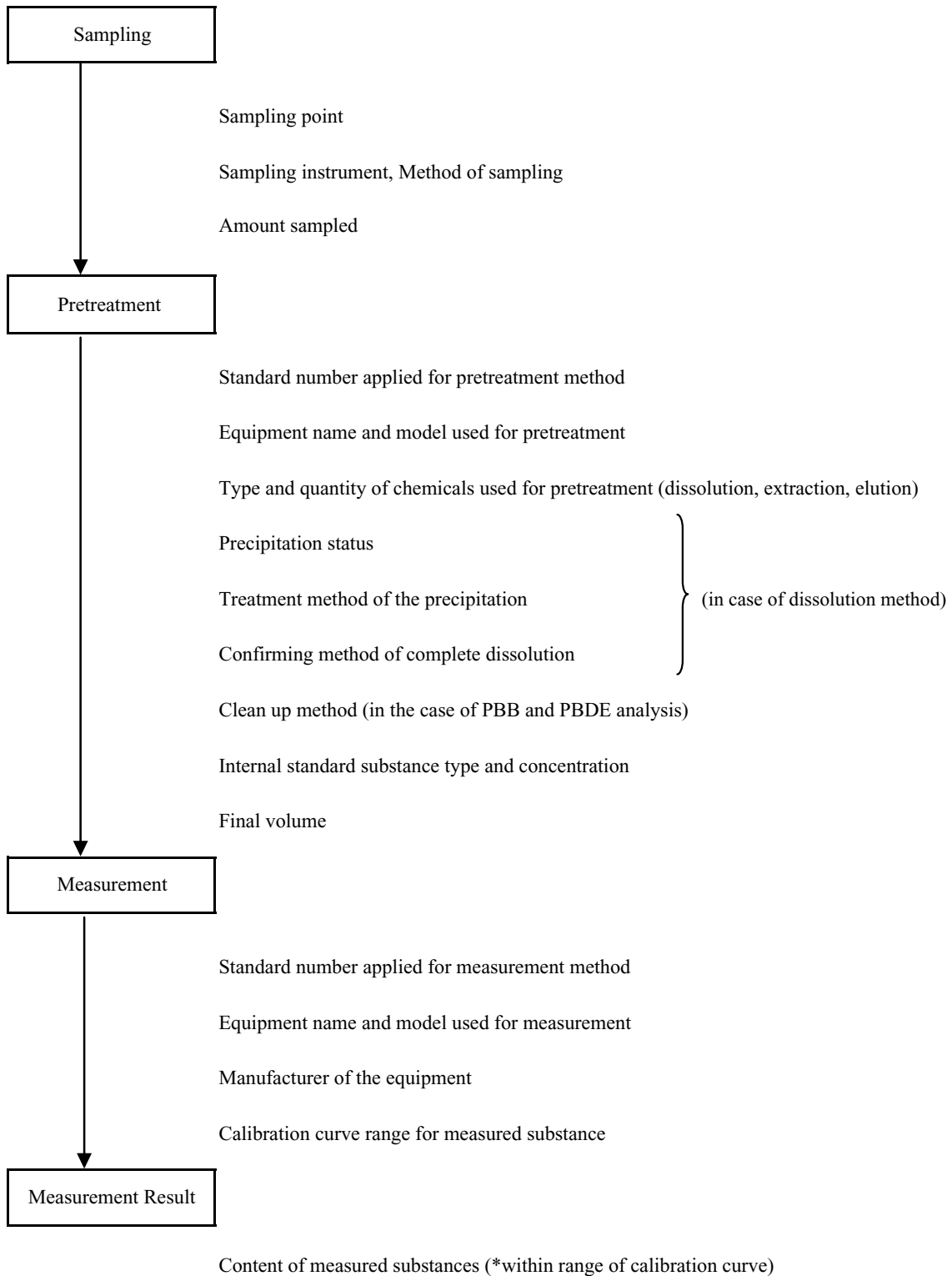
Product Name	STEEL
Model Name	*****_**_*



NO.	Component Name	MSDS Data No.	Mill Sheet Data No.	Other Data No.	Remarks
1	-	-	1	-	

Sample Attachment-6 (3rd Edition)

Sample Analysis Flow Chart





## Appendix-1

Applications of lead, mercury, cadmium and hexavalent chromium, polybrominated biphenyls (PBB) or polybrominated diphenyl ethers (PBDE), which are exempted from the requirements of Article 4(1)

Substance	No.	Application and concentration of exemption
Mercury (Hg)	1	Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.
	2	Mercury in straight fluorescent lamps for general purposes not exceeding: <ul style="list-style-type: none"> <li>-- halophosphate 10 mg</li> <li>-- triphosphate with normal lifetime 5 mg</li> <li>-- triphosphate with long lifetime 8 mg</li> </ul>
	3	Mercury in straight fluorescent lamps for special purposes.
	4	Mercury in other lamps not specifically mentioned in this Annex.
Lead (Pb)	5	Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.
	6	Lead as an alloying element in steel containing up to 0.35% lead by weight, aluminum containing up to 0.4% lead by weight and as a copper alloy containing up to 4% lead by weight.
	7	-- Lead in high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead), -- Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunications, -- Lead in electronic ceramic parts (e.g. piezoelectric devices).
	9 b	Lead in lead-bronze bearing shells and bushes
	11	Lead used in compliant pin connector systems.
	12	Lead and coating material for the thermal conduction module c-ring
	13	Lead and cadmium in optical and filter glass
	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.
	15	Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.
	16	Lead in linear incandescent lamps with silicate coated tubes.
	17	Lead halide as radiant agent in High Industry Discharge (HID) lamps used for professional reprography applications.
	18	Lead as activator in the fluorescent power (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) as well as when used as speciality lamps for diazo-printing reprography, lithography, insect traps, photochemical and curing process containing phosphors such as SMS((Sr,Ba) <sub>2</sub> MgSi <sub>2</sub> O <sub>7</sub> :Pb).
	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)
	20	Lead oxide in glass used for bonding front and rear substrates of flat fluorescent lamps used for Liquid Crystal Displays(LCD)
	21	Lead and cadmium in printing inks for application of enamels on borosilicate glass.
22	Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used for fiber optic communications systems	
23	Lead in finishes of fine pitch components other than connectors with a pitch of 0.65mm or less with NiFe lead frames and lead in finishes of the fine pitch components other than connectors with a pitch of 0.65mm or less with copper lead frames.	

Lead (Pb)	24	Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacities.
	25	Lead Oxide in plasma panels(PDP) and surface conduction electron emitter displays(SED) used in structural elements; notably in the front and rear glass dielectric layer, the bus electrode, the black stripe, the address electrode, the barrier ribs, the seal frit and frit ring as well as in print pastes.
	26	Lead oxide in the glass envelope of Black Light Blue(BLB) lamps.
	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.
	29	Lead bound in crystal glass as defined in Annex I (categories 1,2,3 and 4) of Council Directive 69/493/EEC.
	31	Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)
	32	Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes
Cadmium (Cd)	8	Cadmium and its compounds in electrical contacts and cadmium plating except for *applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations.
	13	Lead and cadmium in optical and filter glass.
	21	Lead and cadmium in printing inks for application of enamels on borosilicate glass.
	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
Hexavalent chromium (Cr <sup>6+</sup> )	9	Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators
	28	Hexavalent chromium in corrosive preventive coatings of unpainted metal sheetings and fasteners used for corrosion protection and Electromagnetic Interference Shielding in equipment falling under category three of Directive 2002/96/EC (IT and telecommunications equipment). Exemption granted until 1 July 2007

### Appendix-3 Examples of Analysis Laboratories

The representative analysis laboratories are shown in the table below, but it is not intended to limit only to those shown.

In consideration of costs and delivery dates, analysis laboratories other than those shown in Appendix-3 may be used as far as they can produce an analysis report in accordance with the analysis methods and determination limit values specified in the Green Procurement Standard.

If analysis is performed in-house, please contact Minebea department in charge.

Location	Vendor	Phone No.	Fax No.	Address
Japan	Nihon Environmental Services Co., Ltd.	045-780-3848	045-780-3859	Sachiura 2-1-13, Kanazawa-ku, Yokohama, Kanagawa, 236-0003 Japan
	Shimadzu Techno-Research Inc.	075-811-3181	075-821-7837	Nishinokyo Sanjo Botcho 2-13, Nakagyo-ku, Kyoto, 604-8435 Japan
	TORAY RESEARCH CENTER, Inc.	03-3245-5633	03-3245-5789	3-1-8, Nihonbashi Muromachi, Chuo-ku, Tokyo, 103-0022 Japan
	SGS Japan Inc.	045-330-5000	045-330-5006	2-2-1, Minatomirai, Nishi-ku, Yokohama, Kanagawa, 220-8138 Japan
China	SGS-CSTC STANDARDS TECHNICAL SERVICED CO.,LTD.	(86-21)64951616	(86-21)64951717	10F, 3 <sup>rd</sup> Building, No.889 Yishan Road, Shanghai 200233, China
	Intertek Shanghai Laboratory			No.19, Lianhe Road, Shanghai Chemical Industry Park, Jinshan District, Shanghai 201507, China
Thailand	SGS(Thailand) LIMITED	66-26830541-47	66-26830758	41/23 Soi 59 Rama 3 Road, Chongnonsee, Yannawa 10120 Bangkok, Thailand
	Intertek Bangkok			60/1 Monririn Building, Suite 601B, Soi Phaholyothin 8, Samsaennai, Phayathai, Bangkok 10400, Thailand
Korea	SGS Korea Co., Ltd	(82-2)709-4500	(82-2)797-1674	98-38, Galwol-dong, Yangsanku 11/12FL, Chongryong Bldg, 140-150 Seoul, Korea
Singapore	ALS TECHNICHEM(S) PTE LTD	(65)6283-9268	(65)6283-9689	14 Little Road, #07-01 & #08-01, Tropical Industrial Building Singapore 536987