

# **Manual for Survey of Chemical Substances Contained in Parts and Materials**

Supplemental Edition of Green Procurement Standards for Parts and Materials

Ver.1 (July 2004)



Furuno Electric Co., Ltd.

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## 1. Purpose

The purpose of this manual is to provide the information to enable our suppliers (vendors) to conduct surveys of chemical substances contained according to Furuno's "Green Procurement Standards for Parts and Materials, First Edition" and submit the survey results. To this end, this manual defines the additional contents which supplement the "Manual for Survey of Chemical Substances Contained in Parts and Materials, Ver.2" (hereinafter called "JGPSSI Survey Manual") formulated by the Japan Green Procurement Survey Standardization Initiative (JGPSSI).

## 2. Differences from JGPSSI's "Manual for Survey of Chemical Substances Contained in Parts and Materials (JGPSSI Survey Manual)"

Our surveys of chemical substances are conducted by using our company survey tool based on the JGPSSI survey tool. Our own special columns and operational methods are included in our company survey tool. The differences between the this Furuno survey details and the JGPSSI Survey Manual are listed in the table below.

JGPSSI Survey Manual		Furuno Survey Activity (Related Chapter)	
2. Scope of application of the survey		All packaging materials and secondary materials delivered with products are subject to the survey. Packaging materials used for transportation and storage are excluded from the survey as the JGPSSI specifies.	3
3. Survey item	(1) Basic information survey Surveying company information	Column 1 "Response due date"	7-1
	Surveyed company information	It is not necessary to enter the "DUNS number" and the "supplier code" in Column 4. (They are entered by Furuno)	7-3
			7-1
	Surveyed company Columns	Surveyed Company Column 1": "Necessity of replacement for reduced substances." Surveyed Company Column 2: "Replacement schedule."	7-2
	Use of ozone-depleting substances in the manufacturing process	This item is not used. (The ozone-depleting substances contained in the products are subject to the survey.)	7-3
	(2) Survey of chemical substances contained Purpose of use	Purpose of use is specified depending on material information, inclusion status (impurities) and the RoHS directive.	8-1
4. Notes on chemical substances contained	(1) Concept about the chemical substances contained	A threshold value is set for every chemical substance. All intentional use or overlimit use shall be reported. Impurities below the threshold values shall be reported wherever possible.	4,5
Attachment 1	Level A substances	(The ban date for banned and reduced substances is specified.)	4,5
	Level B substances	(9 substances are specified as controlled substances.) Magnesium and 4 kinds of precious metals are not subject to the survey.	

Attachment 5	Chemical substances used in the manufacturing process		Not used.	7-3
Attachment 7	Survey reply format		Details of files are summarized. It is possible to enter the survey results without reading the attachments. Refer to it for information of number-of-letter restriction, etc.	-
Attachment 8	Survey reply tool operating manual 2. Entry of response details Cases where we you enter your response by the chemical substance name		In principle, this item is not used. But it is useful for calculating the metal content.	8-2 Example 2
	Cases where there is a request for survey of the chemical substances which are not stated in the list of chemical substances subject to the survey.		Not used.	-
	5. Response data confirmation		To confirm the response data, use the Furuno Electric Confirmation Tool.	11

### 3. Scope of Application of the Survey

The surveys apply to all parts and materials used to construct our products (all Furuno-brand products and all other products produced at and shipped from Furuno). (Packaging materials and secondary materials that enter the market along with our products are also included.)

### 4. Chemical Substances Subject to the Survey

Our surveys are applied to a total of 24 substances below. They are classified into 3 categories, banned, reduced and controlled substances specified in Attachment 1 to Furuno's "Green Procurement Standards for Parts and Materials, First Edition." Of the substances specified by the JGPSSI, the 5 substances, gold, silver, copper, palladium and its compounds and magnesium - are excluded from our survey.

Category	Chemical Substance (Group)	Ban Date
Banned substances (9 substance groups)	Tributyltin Oxide (TBTO) Tributyltins (TBTs) and Triphenyltins (TPTs) Polychlorinated Biphenyls (PCBs) Polychlorinated Naphthalenes (Cl 3) Short Chain Chlorinated Paraffins Asbestos Azo Colorants Ozone-depleting Substances Radioactive Substances	Immediately
Reduced substances (6 substance groups)  <Substances prohibited by the RoHS directive>	Cadmium and its Compounds Hexavalent Chromium Compounds Lead and its Compounds Mercury and its Compounds Polybrominated Biphenyls (PBBs) Polybrominated Diphenyl Ethers (PBDEs)  Note: "Reduced substances" refer to the substances whose use will be phased out by the designated ban date.	1/Aug/2005
Controlled substances (9 substance groups)	Antimony and its Compounds Arsenic and its Compounds Beryllium and its Compounds Bismuth and its Compounds Nickel and its Compounds Selenium and its Compounds Brominated Flame Retardants Vinyl Chloride Polymer (PVC) Phthalates	Undecided

Refer to Attachment 1 to Furuno's "Green Procurement Standards for Parts and Materials, First Edition" for further details.

### 5. Response on Content and Threshold Value

If the content exceeds the threshold value specified by Furuno's "Green Procurement Standards for Parts and Materials, First Edition," enter the content.

If the substance was intentionally added, enter its content even though the content is below the threshold value. If the substance was not intentionally added, it is treated as an impurity, and you are asked to enter every possible impurity that can be measured, even though it is below the threshold value. (Refer to 7.2 of this manual for the way of entering your survey response.)

## **6. General Notes on Use of Furuno Electric Survey Tool**

### **6-1. Survey tool**

In general, the standard survey tool provided by the JGPSSI is used for surveys, but we added our original settable survey items to it to create our company survey tool called "Furuno Electric Survey Tool." It is provided at our company's website under "Environmental Activities" (URL below). Please download it and use it for your survey.

*<http://www.furuno.co.jp/kankyo/index.html>*

Refer to the JGPSSI Survey Manual for the basic operations of the Furuno Electric Survey Tool. (The JGPSSI Survey Manual is provided at our company's website above, too. Please download it.)

### **6-2. Notes when using survey tool**

#### **(1) Version of Excel**

The Furuno Electric Survey Tool is designed based on the JGPSSI Survey Reply Tool Ver.2.02, and compatible with Excel 97, Excel 2000 or Excel 2002. Our survey tool is not compatible with Excel 95 or Excel 2003. If you cannot use an Excel version compatible with our survey tool, please contact us.

\*Excel is a trademark of Microsoft Corporation in the U.S.A. and other countries.

#### **(2) How to Download the Data**

We will provide you with a list of parts and materials subject to the survey using (JGP file) (xxxx\_xx.jpg). Save the JGP file in "My Document," etc. in the hard disc of your personal computer. Enter necessary contents according to the instructions from page 21 of the GPSSI Survey Manual.

#### **(3) Macro Setup**

Excel Macros are used for our survey tool. Please select the "Enable Macro" button.

\* Set the security level to "Middle," if the current level has been set to "high."

**7. Notes on Use of Furuno Electric Survey Tool**

**7-1. Columns 1 through 6 and surveying company columns**

These columns are/will be entered by our company when there is a request for survey. Please do not make any changes or deletion at the time of survey response.

- **"Response Due Date":** The deadline date for your submitting the survey response to us is stated.
- **"Supplier Code":** The supplier code that our company has assigned to each supplier to identify the supplier is stated.

Reference Number		FormatVersion	2.00	Response Date		YYYY/MM/DD
Date of Data Entry		YYYY/MM/DD				
<b>Surveying Company</b> Company Name: FURUNO ELECTRIC CO.,LTD. DUNS Number: Division Name: PRPDUCTION ENGINEERING DE Contact Name: SHICHI SANYAMA Telephone Number: +81-798-63-1113 Fax Number: +81-798-63-1117 Email Address: shichisanyama@furuno.com				<b>Surveyed Company</b> Company Name: DUNS Number: Address: Division Name: Contact Name: Telephone Number: Fax Number: Email Address:		
Column 1	Response Due Date			Column 4	Supplier Code	00000
Column 2				Column 5		
Column 3				Column 6		

No	Parts Number (used at surveying company)	Parts Name	Surveying Company Column 1	Surveying Company Column 2	Surveying Company Column 3	Manufacturer's Name	Parts Number (used at surveyed company)	Surveyed Company Column 1	Surveyed Company Column 2
			Model Name	Standard	Abbreviated Name of Manufacturer			Necessity of Replacement for Reduced Substances	Replacement Schedule

- Surveying Company Column 1: "Model Name" - - - The model name for order is stated.
- Surveying Company Column 2: "Standard" - - - The status at the time of order is stated. (Example: Specification No.)
- Surveying Company Column 3: "Abbreviated Name of Manufacturer" - - - The abbreviated name of manufacturer assigned by our company (4 letters) is stated.
- Manufacturer Name: The name of the manufacturer of parts and materials is stated.
- Model Number: The model number controlled by the manufacturer is stated.

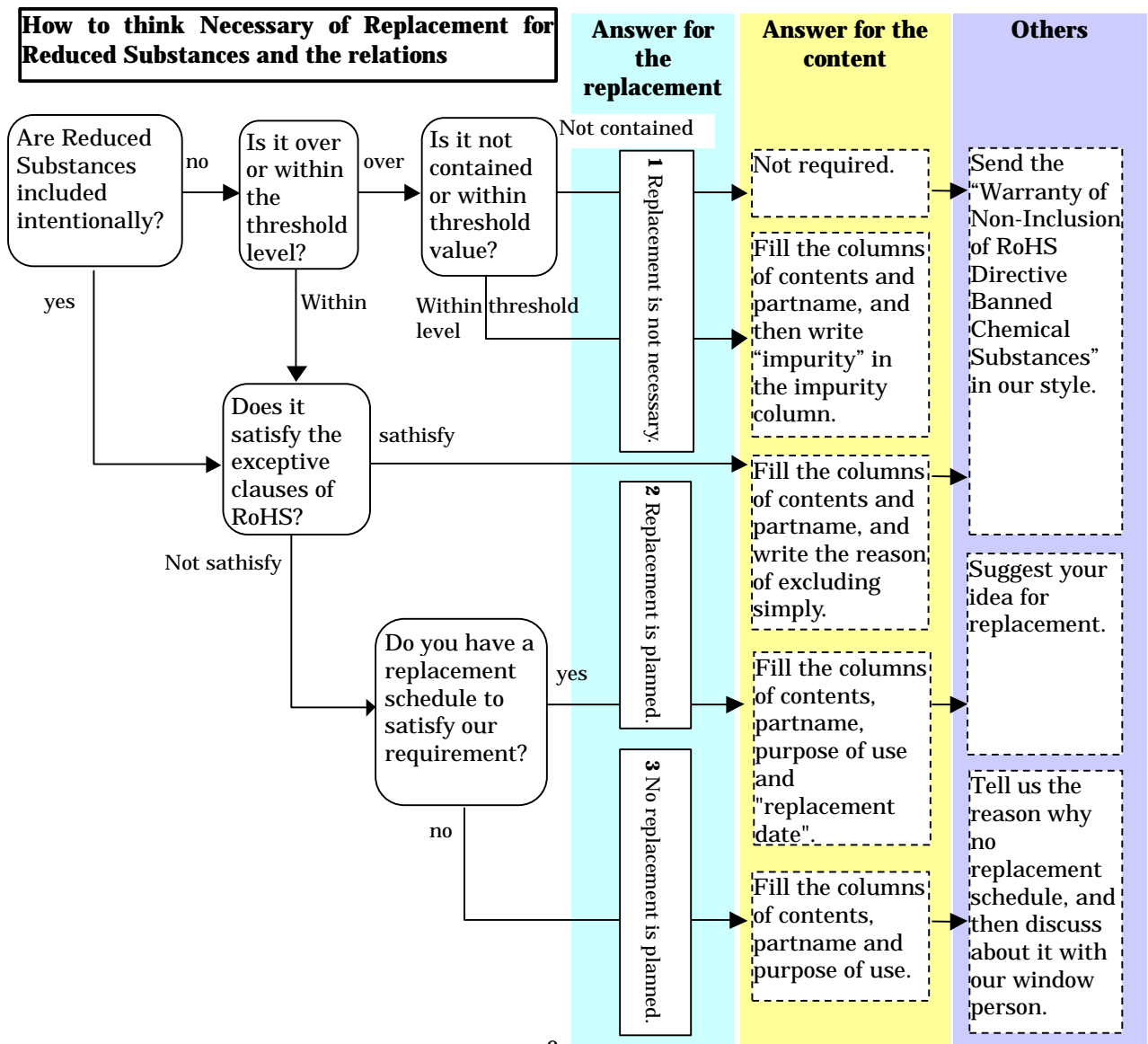
**7-2. Surveyed company columns**

**- "Necessity of Replacement for Reduced Substances" Column:**

Regarding the necessity of replacement for the reduced substances, select one from the following choices (1, 2 or 3) according to our company's criteria for the reduced substances (6 substances prohibited by the RoHS directive) (refer to Attachment 1 to Furuno's "Green Procurement Standards for Parts and Materials"). Use a single-byte numerical character for entering your response.

- "1": Replacement is not necessary. (Cases where there is no need for replacement, because no reduced substances are contained at the time of response or the content complies with our company's standards.)
- "2": Replacement is planned. (Cases where reduced substances are contained at the time of response but the replacement in order to comply with our company's non-inclusion standards is planned.)
- "3": No replacement is planned. (Cases where reduced substances are contained at the time of response but no replacement in order to comply with our company's non-inclusion standards is planned.)

No	Parts Number (used at surveying company)	Parts Name	Surveying Company Column 1	Surveying Company Column 2	Surveying Company Column 3	Manufacturer's Name	Parts Number (used at surveyed company)	Surveyed Company Column 1	Surveyed Company Column 2
			Model Name	Standard	Abbreviated Name of Manufacturer			Necessity of Replacement for Reduced Substances	Replacement Schedule



- **"Replacement Schedule"**: If you entered "2" in the "Necessity of Replacement for Reduced Substances" column, enter the replacement schedule (time when the delivery of the replacement to our company will become possible. Please enter the year and month (YYYY/MM, use single-byte characters) as shown below.

- Example -

If it is possible to deliver the replacement from January 2005, enter "2005/01."

No	Parts Number (used at surveying company)	Parts Name	Surveying Company Column 1	Surveying Company Column 2	Surveying Company Column 3	Manufacturer's Name	Parts Number (used at surveyed company)	Surveyed Company Column 1	Surveyed Company Column 2
			Model Name	Standard	Abbreviated Name of Manufacturer			Necessity of Replacement or Reduced Substances	Replacement Schedule

**7-3. Items that are not used in our survey**

Of the survey items specified by the JGPSSI, there are two items that are not used in our survey.

- **"DUNS Number"** (Basic information survey )

Response Date		YYYY/MM/DD
Surveyed Company		
Company Name		
DUNS Number		
Address		
Division Name		
Contact Name		
Telephone Number		
Fax Number		
Email Address		
Column 4	Supplier Code	00000
Column 5		
Column 6		

- **"Use of Ozone-depleting substances 0: No, 1: Yes"** (Basis information survey):

This item is not used in our survey, because this item is asking whether or not ozone-depleting substances are used in the manufacturing process (JGPSSI Survey Manual, page 3 ).

Note that the ozone-depleting substances contained in the products are subject to the survey. If the ozone-depleting substances are contained in the products, you are required to report that in your survey response. (Refer to the JGPSSI Survey Manual, page 5 (7).)

Revision Date YYYY/MM/DD	Unit	Parts Mass g	Use of Ozone-depleting Substances 0:No 1:Yes	List A Substances Contained 0:No 1:Yes	Input List A substances	Copy List A substances	Clear List A substances
	piece						

## 8. Notes when Entering Your Response

### 8-1. How to enter the "Purpose of Use"

In accordance with the JGPSSI Survey Manual, page 3, (2) , enter the purpose of use of chemical substances contained. In cases below, enter your response as stated in the Examples below.

- If chemical substances are contained in accordance with a standard, enter the standard followed by its purpose of use in parenthesis. (Refer to Examples 1, 2 and 5.)
- If impurities (substances which are contained in natural materials and whose removal as industrial materials by refinement is technically impossible or non-removal substances generated during chemical reaction) are contained, enter "impurities." (Refer to Example 3.)
- If the reduced substances (the 6 substances prohibited by the RoHS directive) are contained but they are excluded items from the survey, enter "Excluded item:" followed by a brief reason of the exclusion. (Refer to Example 4.)

(If the substance is an excluded item and is lead in alloy, enter the standard following "Excluded item: Reason of the exclusion.") (Refer to Example 5.)

- Examples -

Example 1	Plating	For galvanization, enter "MFZN4-C (rust-prevention)."
Example 2	Chemical conversion coatings	Enter "Alodin #1200 (rust-prevention)" or "Alusurf #1200 (rust-prevention)" used for aluminum parts.
Example 3	Impurities	Enter "Impurities."
Example 4	Excluded item from the RoHS directive	For lead in the glass of an electronic part, enter "Excluded item: Lead in the glass of an electronic part."
Example 5	Alloy which is excluded item from the RoHS directive	For brass, enter "Excluded item: Lead in the copper alloy: Brass: C3604 (alloy content)."

### Chemical Substance Survey (1)

Substance Groups	Breakdown Substances	Total Sum	Content on Group Level	Application	Purposes of Use
Cadmium and Cadmium Compounds					
Hexavalent Chromium Compounds			0.050	Plating	MFZN4-C (rust-prevention)
Lead and Lead Compounds			13.000	Lead part	Excluded item: Lead in the cop
Mercury and Mercury Compounds					
Tributyl Tin Oxide (TBTO)					
Tributyl Tins & Triphenyl Tins					

Substance Groups	Breakdown Substances	Total Sum	Content on Group Level	Application	Purposes of Use
Cadmium and Cadmium Compounds			0.200	Main part	Impurities
Hexavalent Chromium Compounds					
Lead and Lead Compounds			12.000	Protection film	Excluded item: Lead in the gla
Mercury and Mercury Compounds					
Tributyl Tin Oxide (TBTO)					
Tributyl Tins & Triphenyl Tins					

**8-2. Notes when responding on substances by chemical substance units**

The survey response by the chemical substance name (not in chemical substance group units but in chemical substance units) using the "Chemical Substance Survey (2)" sheet (JGPSSI Survey Manual, page 26 ) is not required in our survey. However, you may use this sheet to calculate the metal content (the amount of metal contained). If the amount of compound contained is entered in the compound content column, the metal conversion factor will automatically be used to calculate the metal content and the result will be displayed. (Refer to Example 1.) Please note that, if you enter the survey response by the chemical substance name in the "Chemical Substance Survey (2)," make sure to enter the "application," "purpose of use" in the relative substance group row in the "Chemical Substance Survey (1)" sheet, too. (Refer to Example 2.)

- Example 1 -

Chemical Substance Survey (2)							
Unit		Parts Number	Parts Name	Surveying 1			
mg		000-00000	R CHIP	A			
		Manufacturer	Parts Number	Surveyed 1			
		BBB ELECTRIC CO	RRR-12345	1			

A09. Lead and Lead Compounds							
Classification No.	Breakdown Substances	CAS No.	Conversion Factor to Metal Mass	Compound Content	Metal Content	Chemical Formula	Application(Parts)
A09001	Lead	7439-92-1	1.000			Pb	
A09002	Lead(II) carbonate	598-63-0	0.775			PbCO <sub>3</sub>	
A09003	Lead(IV) oxide	1309-60-0	0.866			PbO <sub>2</sub>	
A09004	Lead(II,IV) oxide	1314-41-6	0.907			Pb <sub>3</sub> O <sub>4</sub>	
A09005	Lead(II) sulfide	1314-87-0	0.866			PbS	
A09006	Lead(II) oxide	1317-36-1	0.928	0.030	0.028	PbO	Glass material inside resistance Excluded item:
A09007	Lead(II) carbonate basic	1319-46-6	0.801			2PbCO <sub>3</sub> ·Pb(OH) <sub>2</sub>	
A09008	Lead hydroxidcarbonate	1344-36-1	0.801			2PbCO <sub>3</sub> ·Pb(OH) <sub>2</sub>	

- Example 2 -

Chemical Substance Survey (1)				Parts Number	Parts Name	Surveying 1
				000-00000	R CHIP	A
Unit		Manufacturer	Parts Number	Surveyed 1		
mg		BBB ELECTRIC CO	RRR-12345	1		

Classification No.	Substance Groups	Breakdown Substances	Total Sum	Content on Group Level	Application
A05	Cadmium and Cadmium Compounds				
A07	Hexavalent Chromium Compounds				
A09	Lead and Lead Compounds		0.028		Glass material inside resistance Excluded item:
A10	Mercury and Mercury Compounds				
A17	Tributyl Tin Oxide (TBTO)				

**9. How to Save a JGP File**

Save a response data file under the following file name. (Refer to the JGPSSI Survey Manual, page 30, 3-(2). )

File name:  
 "Supplier Code" + " - (hyphen)" + "Abbreviated Name of Manufacturer (specified by Furuno)" + "File Identification Number" + "\_ (single-byte underbar)" + "Response Date (YYYYMMDD)" .jpg  
 Example: 01234-frn11\_20040820.jpg

\* Make sure to keep your response data file at your side. Sometimes we make an inquiry to you.

**10. How to Make a Change to the Submitted Survey Response**

If you need to make a change (changes) to the survey response that you have already submitted to us, use the previously submitted JGP file. Take the following steps and report the change.

- (1) Change the response date so that we can distinguish a new file from the previously submitted JGP file.
- (2) Enter "#" (single-byte) before the "part number" of the part whose information is needed to be changed. (Change will not be reflected if "#" is not entered before the "part number.")
- (3) Make a necessary change to the part information (such as "planned replacement for reduced substances," "content," etc.).
- (4) To distinguish new part information from the previously submitted part information, change the "revision date." (Enter the date when the data was revised.)
- (5) Regarding the parts for which no change is needed, do not make any changes or deletion of their part information and return it to us as it is.
- (6) Save a revised JGP file under the name where the response date has been changed. (Refer to Chapter 9 for details.)

Parts Number (used at surveying company)	Parts Name	Manufacturer's Name	Parts Number (used at surveyed company)	Surveyed Company Column 1 Necessity of Replacement for Reduced	Surveyed Company Column 2 Replacement Schedule	Revision Date YYYY/MM/DD
00061234500	DIODE	A Company	100D1	2	2005/01	2004/08/31
#0026589100	ELECTROLYTIC CAP	B Company	EEE-1H100P	1		2004/10/01
00010452600	INDUCTOR	C Company	LF-2536FG	1		2004/08/31
00026351200	IC(MPU)	D Company	S12PCT2654	2	2004/10	2004/08/31
00016895500	FIXED RESISTER	E Company	ERJ-7HU123J	2	2004/12	2004/08/31
00014902500	CONNECTOR	F Company	C-KU10P	2	2005/04	2004/08/31

**11. Items to be Checked before Returning the Survey Response**

Use the Furuno Electric Confirmation Tool and confirm that all of the check items listed in the table below have been covered before returning your response to us.

Please download the Furuno Electric Confirmation Tool at our company homepage (URL below).

<http://www.furuno.co.jp/kanky/index.html>

N.	Check Items
1	As for the part for which we request a survey, did you enter your response details without making any changes or deletion of the "part number," "part name," "model number," "standard," etc.?
2	Did you enter the "surveyed company information" and "response date" of the

	supplier?
3	As for the part in question, did you enter all necessary details "necessity of replacement for reduced substances," "revision date," "weight per survey unit" and "presence of substances contained"?
4	<p>Except in cases where the report on the content is not necessary (refer to 7.2 in this manual), did you enter the "content," "application" and "purpose of use" in the "Chemical Substance Survey (1)" sheet? (The "content" is at least one of the two, "total sum" and "content on group level." [*1][*2])</p> <p>[*1] "Total sum" column: The value (amount contained) is automatically calculated by entering necessary data in other cells and is displayed in this column.</p> <p>[*2] "Content on group level" column: You can enter the value (amount contained) manually in this column.</p>
5	Did you use a single-byte numerical character for the "necessity of replacement for reduced substances" column?
6	In cases where you entered "2" in the "necessity of replacement for reduced substances" column, did you enter the "replacement schedule"? Did you use single-byte characters when entering the replacement schedule (YYYY/MM) (Example: 2004/09)?
7	In cases where a change (changes) should be made to your previously submitted response, did you enter "#" (a single-byte character) before the "part number" whose part information should be changed?

#### 12. Where to Return the Response Data (JGP File)

- Make sure to save your response data not as an excel file but as a JGP file (refer to Chapter 9)
- Send it by e-mail to your dealer.

#### 13. How to Handle the Survey Information

In principle, the survey information is used within the Furuno Electric Group. If a nondisclosure agreement for your survey information is required, please separately contact us.