Canon Green Procurement Survey
Survey Form Entry Manual
Ver. 9.01

Canon Inc.

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Contents

1. Purposes of This Manual

This Manual provides the following:

- The concepts behind surveys of chemical substances in products conducted using chemSHERPA tools, and the corresponding response procedures, with a focus on the operation of chemSHERPA within the Canon Group.
  (For universal usage of chemSHERPA tools, please refer to the manual posted on the CMP Consortium website at the URL below.)

  https://cmp-consortium.com/english/chemsherpa/tool

- An overview of other survey forms except for chemSHERPA that are unique to the Canon Group (explained on the next page).

2. Survey Forms

The survey forms used within the Canon Group can generally be classified into the following categories:

(1) chemSHERPA Surveys : Used to collect information on the content of chemical substances in parts and materials, primarily those used in electrical and electronic equipment.

(2) Canon Original Survey Sheet

(2)-1 : Canon Packaging Survey Sheet

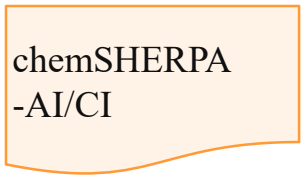
When the item subject to survey is used exclusively for packaging materials, this survey form is used to collect the necessary information on chemical substance content and other relevant details.

(2)-2 : Canon Additional Survey Sheet

This survey form is used to survey items that cannot be surveyed by chemSHERPA. There are several types of survey forms and they are provided by our company as needed—for example, to obtain eco-label certifications, information on additional groups of chemical substances required by OEMs or customers, or environmental information related to materials that are also used in packaging.

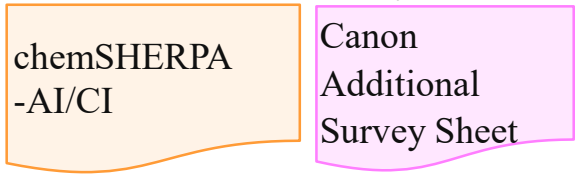
【Types of Surveys Conducted by the Canon Group】

1. Survey of only chemSHERPA



Applied when chemSHERPA alone is sufficient for surveying parts and materials.

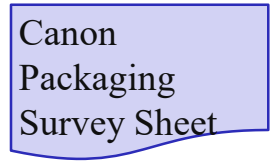
2. chemSHERPA + Canon Additional survey sheet } Set survey



Applied when compliance with customer requirements or the acquisition of eco-labels requires information beyond chemSHERPA.

* There may be cases where we request only an additional survey.

3. Survey of only Canon Packaging Survey Sheet



Applied when only packaging materials are subject to the survey.

3. Precautions for Green Procurement

Please provide the maximum values for all chemical substances that may be contained in the product.

【3-1. How to Respond to Surveys for Green Procurement】

When preparing your answers, please do so using scientifically derived data and information for which your firm can take responsibility to the Canon Group. Therefore, this survey does not necessarily require your company to conduct analytical testing, measurements, or similar procedures.

When reporting substance masses and composition amounts, please enter scientifically based data derived from:

- Actual measurement values (such as analyzer data)
- Theoretical or calculated values (using logical methodologies with a scientific basis)
- Design values (amounts of substances used to provide specific functions to parts or materials)

The following situations may apply:

- when there are variations in content levels between manufacturing lots;
- when the composition ratio of a standard material ranges widely (for example, JIS standard materials such as free-cutting steel or brass);
- when the same part or material is manufactured at different sites.

In such cases, please report the maximum value of the substance mass, in principle.

When the types of substances present differ because the same part or material is manufactured at different sites, please report all substances that may possibly be present.
(e.g., Chemical substance a is contained in products from Factory A, and chemical substance b is contained in products from Factory B → report both a and b as contained.)

【3-2. Definition of Terms】

As a general rule, the definitions of terms and the fundamental concepts follow the Canon Green Procurement Standards.

4. Survey Responses Using chemSHERPA

【4-1. How to Respond to Surveys Using chemSHERPA-AI】

Operation of chemSHERPA-AI within the Canon Group

About the request of the survey using chemSHERPA-AI by the Canon Group, please provide the following information:

- Compliance information (including SCIP compliance when SVHC are contained): Required
- Composition information: Required

For information on SCIP database registration requirements and how to input data into chemSHERPA, please refer to the "chemSHERPA Guideline for SCIP" section of the CMP Consortium website.

* https://cmp-consortium.com/english/chemsherpa/tool

4. Survey Responses Using chemSHERPA

Basic information to be included

■ Data to be given when the survey is requested

	All	CPS	CPL	Requester		Product					
				Product name	Product number	Product name *	Product number *	Manufacturer name	Mass *	Unit of mass *	Product series name	Reporting unit *
1	☐	Show	Show	Sample A	A123			A maker				
2	☐	Show	Show	Sample B	B456			B inc				
3	☐	Show	Show	Sample C	C789			C corporation				

Names of the survey targets managed by the Canon Group and IDs of part numbers, etc. are listed. Do not change the information listed in the field of Product name or Product number.

Product number of the survey targets and Manufacturer name are listed in advance in as much detail as possible. Please modify or edit them appropriately when responding to the survey. Please enter the Product name and Product number in alphanumeric characters (half-width).

For materials (e.g., shafts, steel plates, tapes), please enter a Mass of "1", with Unit of mass set to [g] and Reporting unit set to [g].

4. Survey Responses Using chemSHERPA

■ Data to be entered regarding information for Compliance

Although this item is optional under the chemSHERPA rules, **Canon requires that both "Usage" and "Portion used" be completed**.

Subject substance		Candidate item	Content above the threshold	Content rate (ppm)	Quantity of content		Usage code	Usage	Portion used
p	Substance/Substance group	Show "ON" only	Show "Y" only		Quantity of content	Unit	Input: Cell double-click		
		Clear	Batch "N"						
			*	*	*	*			
01	Asbestos	☐							
02	Azocolourants and azodyes whic···	☐							
03	Boric acid	☐							
04	Brominated flame retardants (ot···	☐							
06	Cadmium/Cadmium compounds	☐					Please enter the data.		
							Please enter the data.		

Required

Required

■ For information on component details, issuer/authorization details, and other related items, please refer to the operation manual and input manual issued by the CMP Consortium.

When sending the response data, please ensure that it is in the "Authorization" status and not in the "Temporary Save" status.

4. Survey Responses Using chemSHERPA

【4-2. How to Respond to Surveys Using chemSHERPA-CI】

Basic information to be included

■ Data to be given when the survey is requested

Requester		Product			
Product name △	Product number △	Product name △	Product number △	Manufacturer name △	Product series name △
General material/Material number	MX0001			Material Maker A	
Resin material/Grade No./Coloring No./Color	MY0010			Material Maker B	
Metal material/Metal Type/JIS symbols/Thickness	MZ0100			Material Maker C	

Names of the survey targets managed by the Canon Group and IDs of part numbers, etc. are listed. Do not change the information listed in the field of Product name or Product number.

Manufacturer name is listed in advance in as much detail as possible. Please modify or edit them appropriately when responding to the survey. Please enter the Product name and Product number in alphanumeric characters (half-width).

■ For information on component details, issuer/authorization details, and other related items, please refer to the operation manual and input manual issued by the CMP Consortium.

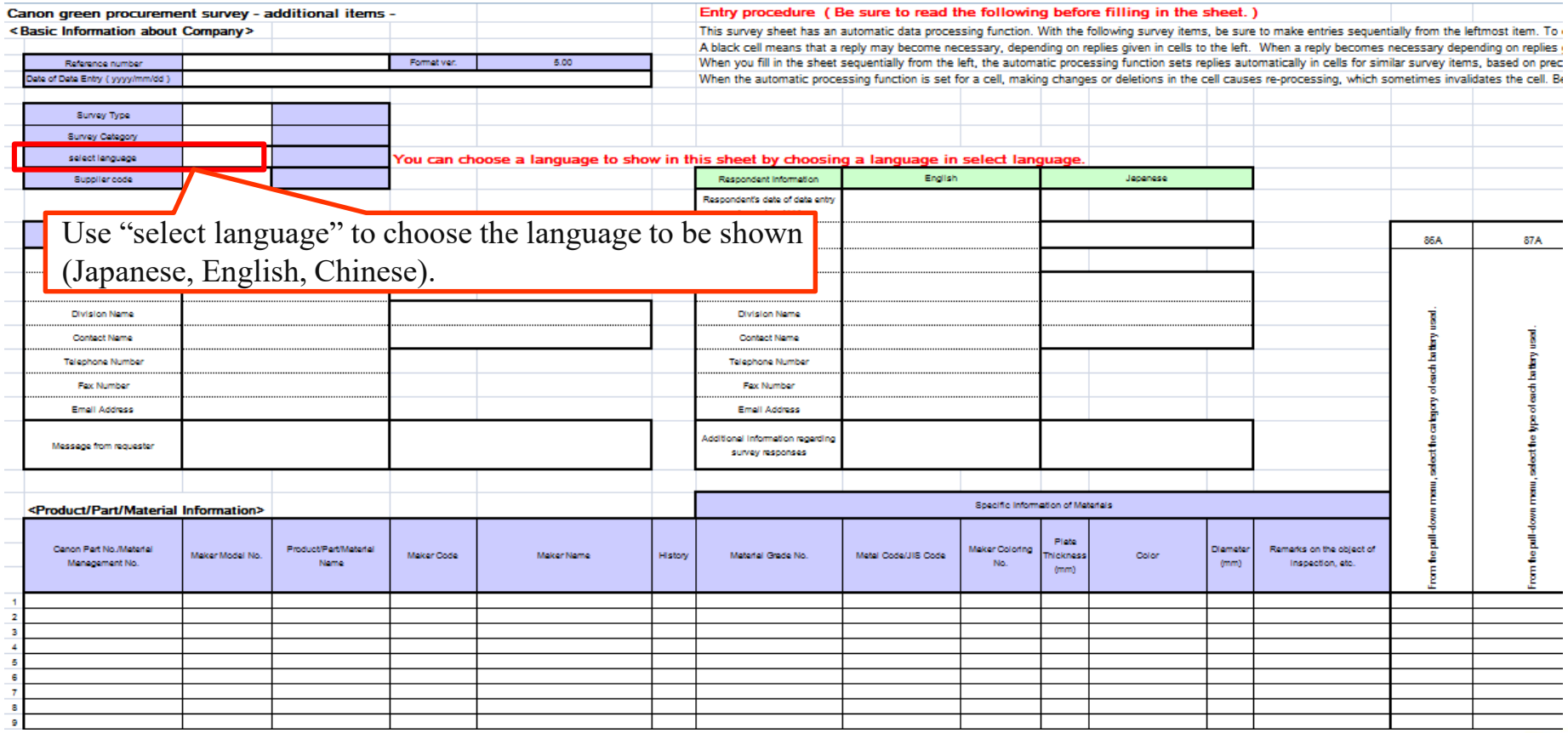
When sending the response data, please ensure that it is in the “Authorization” status and not in the “Temporary Save” status.

5. Explanation of Canon Original Survey Sheet

Canon Original Survey Sheet

The proprietary survey forms are used when the item being surveyed is used exclusively for packaging materials or when information that cannot be assessed through chemSHERPA must be surveyed. We will provide the appropriate survey form according to the type of survey required.

【Sample Display of Canon Original Survey Sheet】

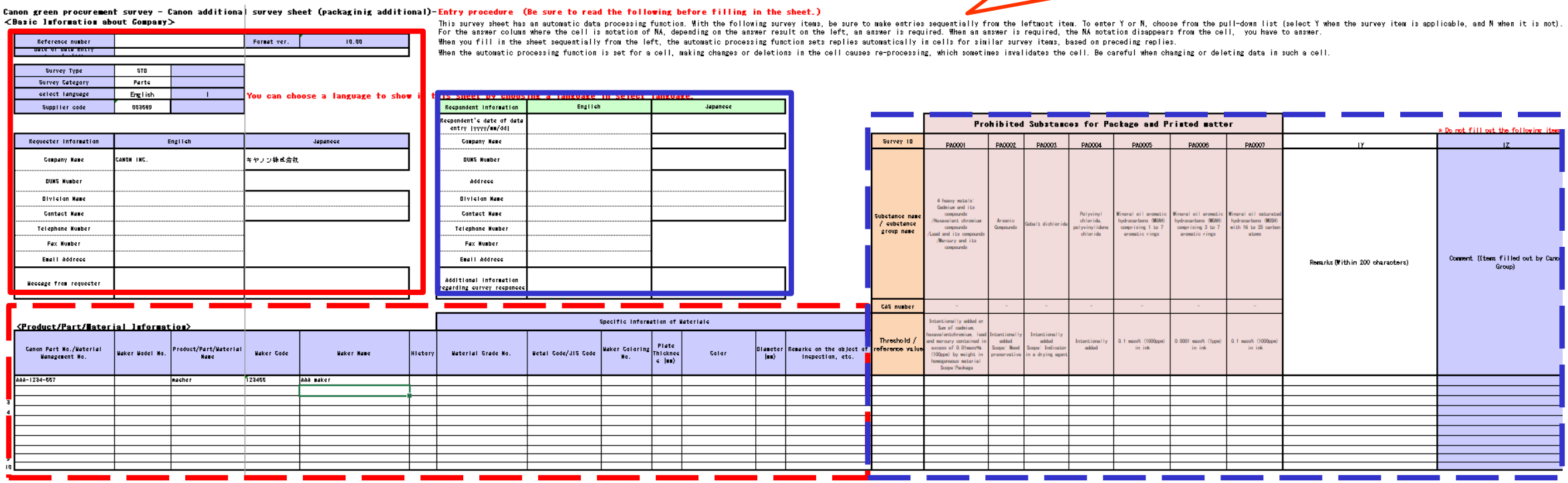


5. Explanation of Canon Original Survey Sheet

Filling in basic information, checking parts or materials to survey

Make sure to read the notes before replying.

【Sample Display of Canon Original Survey Sheet】



The area framed in red indicates requester information from the Canon Group.

The area framed in blue indicates the information you are required to enter.

⇒Please enter the date of completion using the format [yyyy/mm/dd].(e.g., January 1, 2025 → 2025/01/01)

The area framed by a red dotted line shows Product/Part/Material Name information that has already been entered.

In the area framed by a blue dotted line, you are requested to enter your answers for every applicable part and material after checking the items to be surveyed shown in the area framed by the red dotted line.

6. Other

【6-1. Regarding the File Format for Canon Original Survey Sheet】

Please keep the file format of the proprietary survey sheet as originally provided by the Canon Group when submitting your completed form.

【6-2. Updating Submitted Data 】

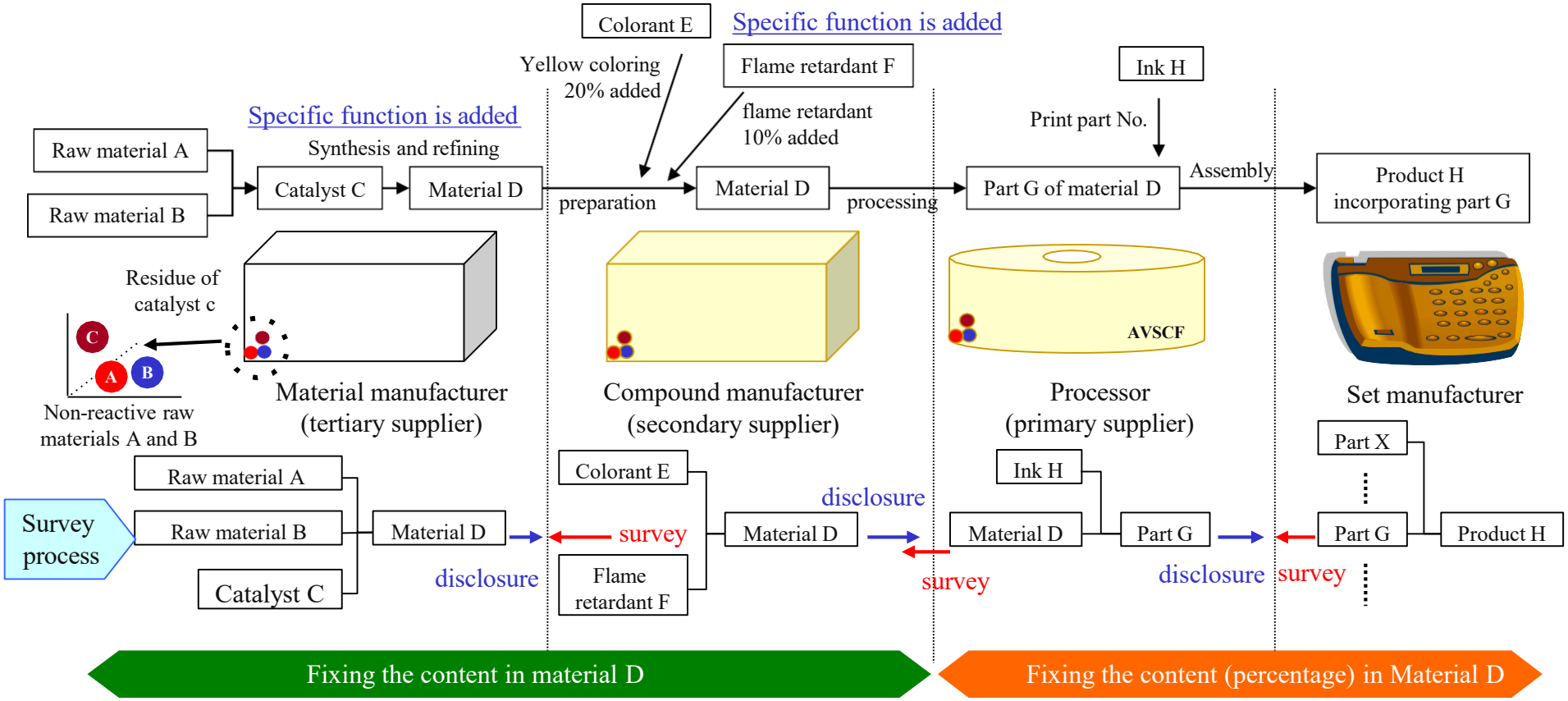
If, after sending your reply to the Canon Group, changes or revisions occur to the submitted data due to specification changes or entry mistakes, please notify the requesting department of the Canon Group promptly.

Finally, we are attaching examples of the Canon Group's approach to matters related to chemical substance content (Section 7: References and Examples) as referenced above. Please use them as a reference when preparing your responses.
We appreciate your cooperation with our Green Procurement activities.

7. References and Examples

Determining Substance Inclusion

Example 1: from resin material synthesis to product



Chemical substances used in all manufacturing processes throughout the supply chain may be present in the product, regardless of process history.
When chemical substances (raw material A, raw material B, catalyst C, colorant E, flame retardant F, and ink H) used in the manufacturing processes are clearly identified as

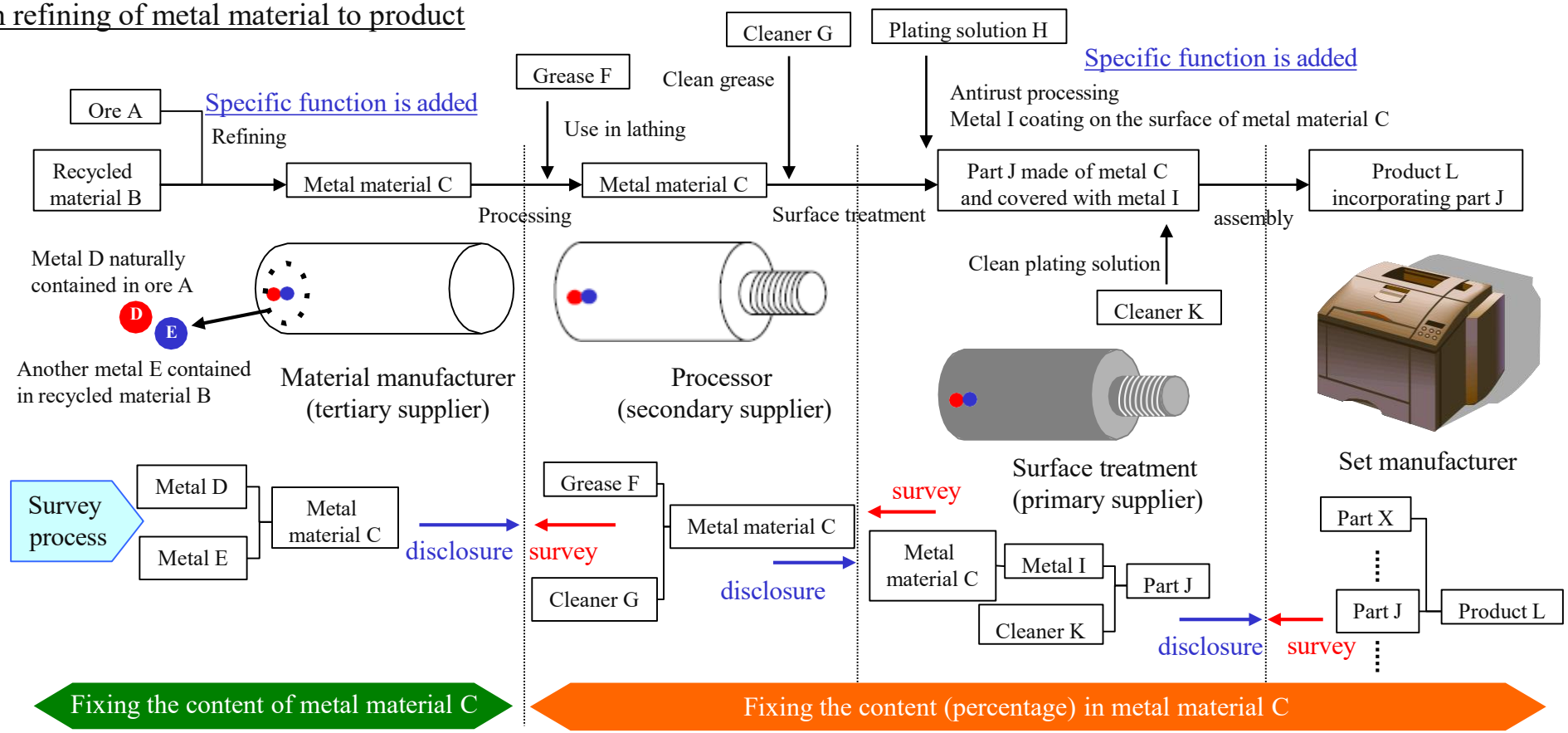
- Intentional use (raw material D, colorant E, flame retardant F, ink H), or
- Impurities (raw material A, raw material B, catalyst C)

and found to be subject to a survey, whether or not chemical substances are contained in product is determined by their threshold values.

7. References and Examples

Determining Substance Inclusion

Example 2: from refining of metal material to product



Chemical substances used in all manufacturing processes throughout the supply chain may be present in the product, regardless of process history. When chemical substances (ore A, recycled material B, metal material C, grease F, plating solution H, metal I, cleaner K) used in the manufacturing processes are clearly identified as

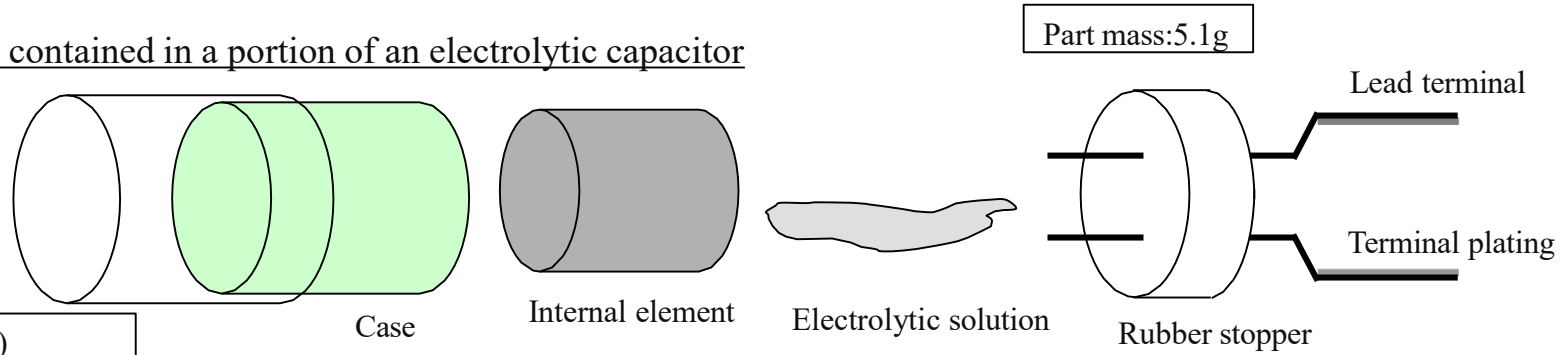
- Intentional use (metal material C and metal I), or
- Impurities (metal D, metal E, grease F, cleaner G, plating solution H, and cleaner K)

and found to be subject to a survey, whether or not chemical substances are contained in product is determined by their threshold values.

7. References and Examples

Example of calculating the ppm content

Example 1: Pb is contained in a portion of an electrolytic capacitor

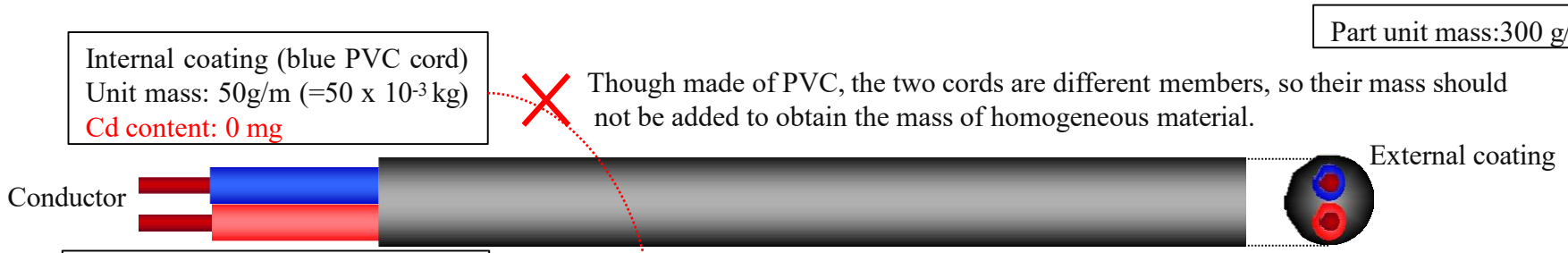


Sleeve (outer tube)
Mass:0.3 g (=0.3 x 10^{-3} kg)
Pb content: 0.06 mg

"content of concerned substance" / "mass of homogeneous material" =
0.06 mg / 0.3g = 0.06 mg / (0.3 x 10^{-3}) kg = 200 mg /kg = 200 x 10^{-6} =200 ppm

The ppm of Pb content in the sleeve of this electrolytic capacitor is 200 ppm.

Example 2: Cd is contained in a portion of an electric cable (composed of multiple parts made of the same material)

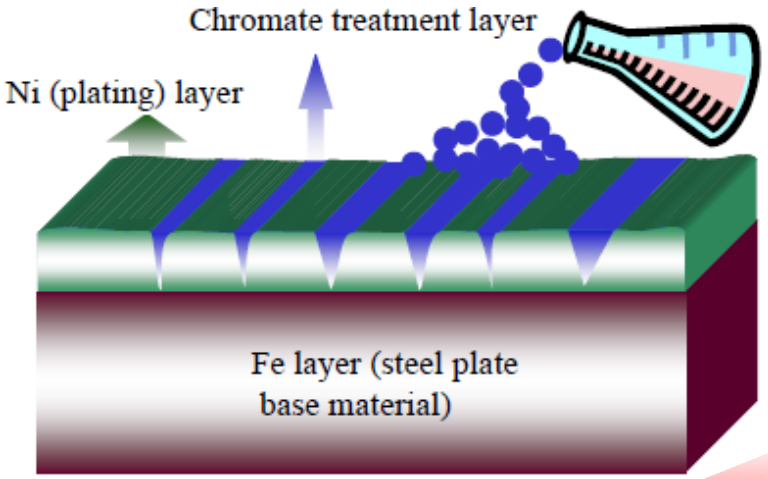


Percentage of Cd content in the red PVC cord of this cable is 500 ppm.

7. References and Examples

Example of calculating the ppm content

Example 3: Hexavalent chromium is contained in the plating layer of steel plate



Unit material mass: (A+B+C) kg /m^2

(Content mass of the concerned chemical substance)
Content per unit area of the concerned chemical substance is the mass per unit area of chrome metal in the hexavalent chromium compound that has entered into Ni-layer gaps during chromate treatment: D mg/m^2

(Mass of homogeneous material of the element containing the concerned chemical substance)
1. Mass per unit area of Fe layer, Ni layer, and chromate treatment layer: (A+B+C) kg /m^2
2. Mass per unit area of Ni layer and chromate treatment layer: (B+C) kg /m^2
3. Mass per unit area of chromate treatment layer: C kg /m^2

Which case applies ?

Interpretations 1 to 3 are possible.

Case 1.: Since Fe and Ni layers can be mechanically (e.g., grinding) disjointed, they are not considered as a homogeneous material containing the concerned chemical substance.

Case 2.: Chromate treatment layer is thought as a purely homogenous material, but it is difficult to mechanically disjoin this layer from the Ni layer. Accordingly, it is not considered as a homogeneous material as defined for the green procurement survey.

Case 3.: Although Ni and chromate treatment layers dissolve uniformly, chromate can be considered as an additive contained in the Ni layer in this case. Accordingly, Ni and chromate treatment layers are an element of homogeneous material containing hexavalent chromium.

Accordingly, in this case, the percentage content can be obtained by: D mg / (B+C) kg.

7. References and Examples

Example of content calculations when the amount contained varies in a manufacturing lot

Example 1: When the amount of application or addition varies greatly in the manufacturing process

1-1: Calculating a content in solder applied to a PCB (example: metal X is contained)

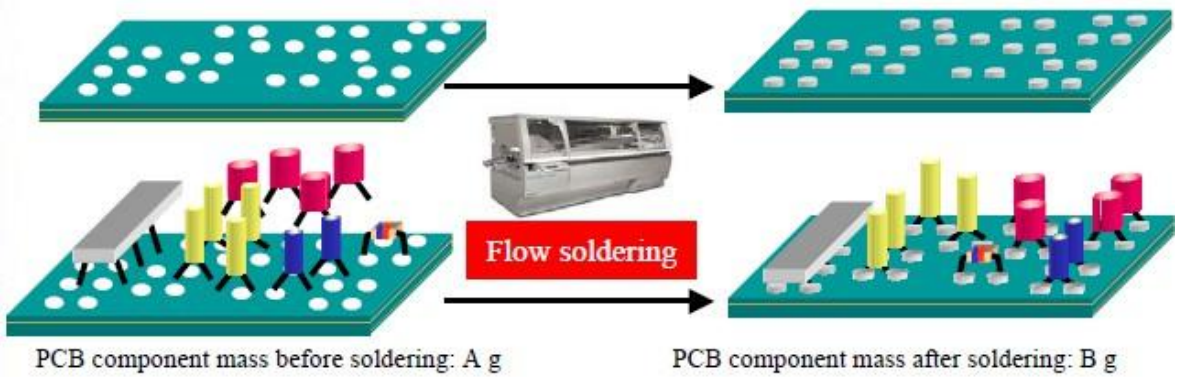
Below are examples of calculating contents when the amount of solder varies greatly.
Suppliers and manufacturers may use another calculation method based on scientific grounds.

The following expression can be used.

Content of metal x = Solder mass x Percentage of metal X content in solder

Calculation based on difference in mass before and after soldering	Calculation

1. Calculation using a sample PCB



2. Calculation using surveyed PCB components (pot soldering: same as flow soldering)

- Solder amount around 1 through hole
- Area of 1 through hole
- Selection of mounting process
- Mounting conditions (temp., time)
- ▪ ▪ ▪

Amount of solder calculated based on above conditions or empirical rules: Z g

Use solder amounts (y-x) g, (B-A)g, or Z g obtained to calculate the content of metal X. At this time, it is desirable that multiple samples be measured and the maximum value be used for calculation. When a control value is set for the solder amount in consideration of cost, and this value is based on adequate grounds as in these examples, the value may be used.

7. References and Examples

Below are examples of calculating contents when the amount of solder varies greatly.
Suppliers and manufacturers may use another calculation method based on scientific grounds.

Content of metal X = Solder mass x Percentage of metal X content in solder

Reflow soldering	Flow soldering
As for the percentage of metal X content, use solder composition analysis data, survey data, or a publicized composition table. 1. When the same type of solder is used: Solder made by company A: percentage of X content 800 ppm When solder composition varies greatly, use its highest value. 2. When several types of solder are used: Solder made by company A: percentage of X content 800 ppm Solder made by company B: percentage of X content 400 ppm Solder made by company C: percentage of X content 1000 ppm In this case, the highest value of 1000 ppm should be used as the percentage content.	In the flow soldering process, solder is replenished into the flow solder bath. This causes fluctuations in the concentration of metal X in the bath. Use the highest concentration data of metal X in the solder bath. That is, use the maximum value as the percentage of metal X content. Thus, the concept of the percentage content obtained here differs from that obtained in the reflow soldering process (where the percentage content is determined by the type of solder). However, when a control system is set up in accordance with the soldering criteria recommended by the Canon Group, and the solder bath is analyzed periodically and a control value is set, the control value may be used. Note: difference between metal contained in PCB components and in the flow solder bath • Flow solder bath contains Pb-free solder, but PCB component leads contain lead. • Flow solder bath contains non-bismuth solder, but PCB component leads use bismuth solder. In such cases, metal not originally included in solder may be present in the flow solder bath, so care must be taken..

The content of metal X can be calculated from **the solder mass and the percentage of metal X** in the solder described earlier.

Lead contained in solder

Lead is known to be mixed into lead-free solder as an impurity. The Canon Group requests suppliers and manufacturers to report the percentage of lead content exceeding 1000 ppm. However, when suppliers or manufacturers have data of 1000 ppm or less for process control or other purposes, the Canon Group requests them to provide the data as much as possible.

7. References and Examples

Example of content calculations when the amount contained varies in a manufacturing lot

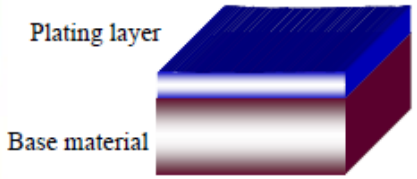
Example 1: When the amount of application or addition varies greatly in the manufacturing process

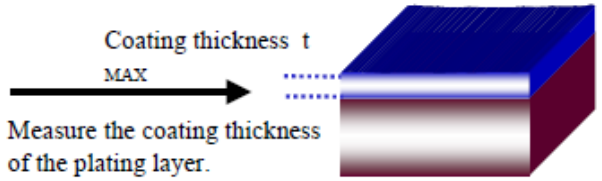
1-2: Calculating content in the plating layer with metal surface treatment

Below is a example of calculation. Suppliers/manufacturers may use other calculation methods based on other scientific grounds.

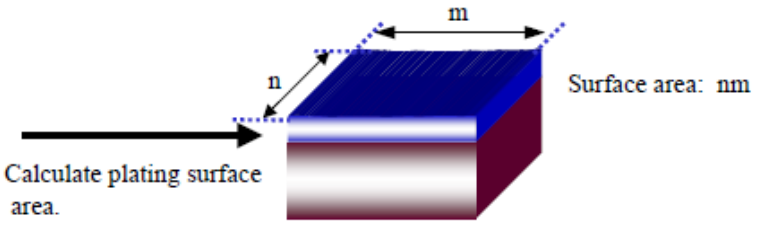
Plating layer

If the coating thickness of the plating layer is specified by a process control value, use the process control value. If not, use the maximum value of measurements.





No. of samples: N



Calculating percentage content (by means of plating layer analysis and examination)

When calculating the percentage content, be careful of the following:

percentage content in plating layer ≠ percentage content in plating solution

The concentration of plating solution increases as replenishing is repeated more. Measure percentage content in the plating layer formed using solution immediately before replenishment, which has the highest concentration. Obtain percentages after several replenishments, then use the maximum value as the percentage content of each substance.

Examples:

percentage contents in layer formed by solution right before 1st replenishment
Cr^{6+}:1000 ppm Cd: 60 ppm
Percentage contents in layer formed by solution right before 2nd replenishment
Cr^{6+}:900 ppm Cd:90 ppm
percentage contents in layer formed by solution right before 3rd replenishment
Cr^{6+}: 1100 ppm Cd:50 ppm
In this case, use the maximum value of each substance.
Cr^{6+}:1100 ppm Cd:90 ppm

Calculate plating layer mass.

Plating layer volume: surface area x coating thickness = nm x t_{MAX}

As plating layer density, use the density of the main metal component constituting the layer. In the case of an alloy, use the higher density value. When a density is obtained by measurement, use this value.

Plating layer mass: volume x density = (nm x t_{MAX}) x d

Content of chemical substances in plating layer

Mass of plating layer x percentage content:
volume x density = ((nm x t_{MAX}) x d) x percentage content

In the plating layer in a complicated shape, the substance content may be calculated by:

- Calculate surface area using drawings, CAD, etc. and measure coating thickness
- Calculate from breakdown test data
- Calculate from difference in part weight before and after the soldering process

When there is a large variation, use the maximum mass value of the plating layer.

When only a plating solution registered by Canon is used and process control is judged to comply with the criteria specified by Canon

Percentage contents of Cr^{6+}, Cd, and Pb may be judged below thresholds.

Contact the requesting department in the Canon Group for plating solutions registered and process control specified by Canon.

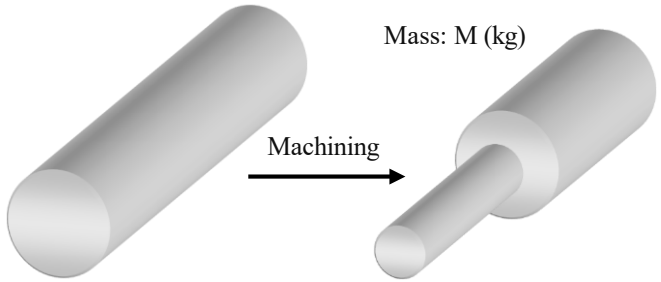
7. References and Examples

Example of content calculations when the amount contained varies in a manufacturing lot

Example 2: Calculating content when component ratios vary greatly with standard materials

Below is a example of calculation. Suppliers/manufacturers may use other calculation methods based on other scientific grounds.

2-1: Pb contained in a free-cutting steel part made of JIS standard material (example: SUM24L)



Chemical composition of SUM24L (source: JIS G 4804 Free-cutting carbon steels)

Symbol	Chemical composition %				
	C	Mn	P	S	Pb
SUM24L	0.15% or less	0.85 to 1.15	0.04 to 0.09	0.26 to 0.35	0.10 to 0.35

Calculating mass of application (part) containing SUM24L

Normally, the mass of SUM24L can be obtained by measuring the mass of the part itself. However, when the mass varies greatly due to part machining, measure multiple samples and use the maximum measurement value.

Calculation of percentage content (by means of standards, analysis, and examination)

The percentage content is determined by a component ratio in the standard range; however, the following percentages may be used for calculating contents:

- When a range of control values is specified for the delivery management of the material, use its maximum value as the percentage content.
  Example: When Pb composition is controlled in the range 0.30 to 0.33%, use 0.33% (3,300 ppm) as the percentage content.
- When the control value is below the highest value specified for the standard composition, or when no control value is specified, use the highest value of the standard composition as the percentage content.
  Example: Referring to the above chemical composition table, use 0.35% (3,500 ppm) as the percentage content.

Calculation of Pb content

In the above examples,

- When the control value of Pb composition for delivery management is 0.30 to 0.33%, use 0.33% (3,300 ppm) as the percentage content:
  Content = M × 3,300 = 3,300 M (mg).
- Referring to the chemical composition table shown above, use 0.35% (3,500 ppm) as the percentage content:
  Content = M × 3,500 = 3,500 M (mg).

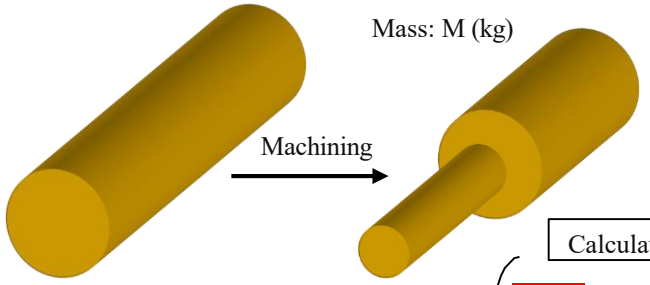
7. References and Examples

Example of content calculations when the amount contained varies in a manufacturing lot

Example 2: Calculating content when component ratios vary greatly with standard materials

2-2: Pb and Cd contents in free-cutting brass bar made of JIS standard material (example: C3604)

Below is a example of calculation. Suppliers/manufacturers may use other calculation methods based on other scientific grounds.



Chemical composition of C3604 (Copper and copper alloy rods and bars)

Symbol	Chemical composition %				
	Cu	Pb	Fe	Sn	Zn
C3604	57.0 to 61.0	1.8 to 3.7	0.50 or less	Fe+Sn 1.2 or less	remainder

Calculate the mass of application part containing C3604

Normally, the mass of C3604 can be obtained by measuring the mass of the part itself. When the mass varies greatly due to part machining, measure multiple samples and use the maximum measurement value.

Use this mass to calculate the content.

Calculation of percentage content and content (by means of standards, analysis, and examination)

Pb

The percentage of Pb content is determined by a composition ratio in the standard range, but the content may be calculated as follows:

- When a range of control values is specified for the delivery management of the material, use its maximum value as the percentage content.
  Example: When Pb composition is controlled in the range 3.0 to 3.5%, use 3.5% (35,000 ppm) as the percentage content.
  Content: M × 35,000 = 35,000 M (mg)
- When the control value is below the highest value specified for the standard composition, or when no value is specified, use the highest value of the standard composition as the percentage content.
  Example: According to the chemical composition table above, use 3.7% (37,000 ppm) as the percentage content.
  Content: M × 37,000 = 37,000 M (mg)

Cd

General-purpose Zn refined by distillation is generally known to contain about 0.2% of Cd. The percentage of Cd content may be calculated as follows:

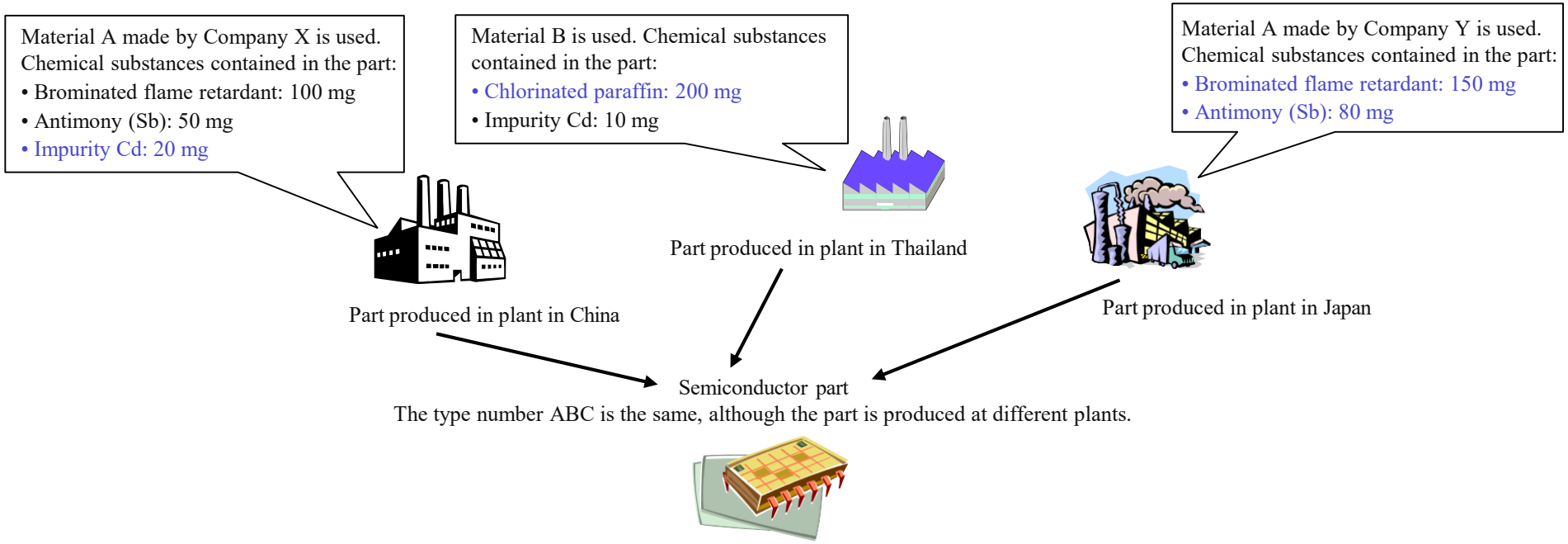
- When a control value is specified for the delivery management of the material, use that value as the percentage content.
  Example: The percentage content is controlled at 70 ppm by periodic analysis. In this case, the percentage of Cd content is 70 ppm.
  Content: M × 70 = 70 M (mg)
- Multiply the maximum percentage of Cd composition by the highest percentage of Cd content specified by the standard for the type of Zn in use, and use the obtained value as the maximum value.
  Example: The maximum percentage of Zn composition in the remainder is 40%, and only a regular type of zinc base metal specified by JIS H 2107 is used. The highest value of Cd composition specified by the standard is 0.01%. At this time, the percentage of Cd content is calculated as follows:
  40% x 0.01 = 0.4 x 0.0001 = 0.00004 = 0.004% = 40 ppm
  Content is M x 40 = 40 M (mg).

7. References and Examples

Example of content calculations when the amount contained varies in a manufacturing lot

Example 3: Calculating content when the same part or material is made at different manufacturing sites

When a part or material with the same type number and grade is manufactured at multiple plants, different parts and materials may be used to make the part or material. In this case, the types and contents of chemical substances contained may differ.



At this time, all chemical substances that may be included at any manufacturing site shall be considered in scope, and for each substance, use the maximum content across all sites.
The substances concerned in the above example are:

- Brominated flame retardant
- Chlorinated paraffin
- Antimony
- Cd

Maximum content of all the manufacturing sites

- Brominated flame retardant: 150 mg
- Chlorinated paraffin: 200 mg
- Antimony: 80mg
- Cd : 20 mg

8. Revision History

- December 2005: Issued Version 1.00
  This manual compiled the concepts and entry methods for the Canon Group's new green procurement survey, based on JGPSSI Version 3, which was to be issued in January 2006.
- April 2008: Issued Version 2.00
  This revision updated the contents in line with the releases of the Green Procurement Standards Ver. 5.0 and JGPSSI Ver. 3.34.
- September 2009: Issued Version 3.00
  This revision updated the contents in line with the releases of the Green Procurement Standards Ver. 6.0 and JGPSSI Ver. 4.00.
- October 2010: Issued Version 4.00
  This revision updated the contents in line with the release of JGPSSI Ver. 4.10 and the revision of the Green Procurement Standards Ver. 7.00.
- June 2012: Issued Version 5.00
  In conjunction with the revision of the packaging survey sheet and additional survey sheets, related explanations and response procedures were added.
- September 2013: Issued Version 6.00
  Changes were made in response to the compatibility requirements of IEC 62474 and the publication of the Green Procurement Standards Ver. 9.0.
- June 2015: Issued Version 7.00
  This revision updated the contents in accordance with the publication of the Green Procurement Standards Ver. 11.0.
- June 2019: Issued Version 8.00
  This revision updated the manual to support chemSHERPA.
- September 2019: Issued Version 8.10
  This revision updated the manual to support chemSHERPA Ver. 2.0.
- December 2020: Issued Version 8.20
  This revision updated the manual to support chemSHERPA Ver. 2.02.
- September 2021: Issued Version 8.30
  This revision changed composition information to a mandatory requirement for chemSHERPA-AI surveys.
- March 2026: Issued Version 9.01
  This revision updated the contents in line with current operational requirements.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