

Material Composition Survey and Response Manual

Material composition survey sheet

The "Material Composition Survey Sheet" (hereinafter referred to as the "Survey Sheet") is an Excel format file which is used to survey and enter the names of substances contained in each component part of the product and their mass values.

The "Survey Sheet" is comprised of a "Basic information sheet", a "product information sheet" and a "Survey report sheet".

Entry method of Survey Sheet

- 1) Please refer to this manual and attached entry examples for the preparation of the Survey Sheet.
- 2) One Survey Sheet shall be prepared for each surveyed product.
- 3) The Survey Sheet is made on the assumption that your supplied products are subparts or materials. In the case of the complex subpart composed of plural subparts (for example, relays or cooling fans), please treat it as one subpart and if it is difficult, please consult with us .

Submission of Survey Sheet

- 1) Please submit the Survey Sheet duly entered in the form of the "Excel format file".
- 2) Please fill the "Material Composition Survey Report" in the "Survey Sheet" with required information to submit it to us in the printed form after putting your signature thereon. You may submit it in the form of the PDF file.

[Entry of Survey Sheet]

Please enter each item of "Information on respondent" in the "Basic Information Sheet".

- (1) Respondent's date of entry and respondent's reference No.
Please enter the date of preparation of the Survey Sheet. The format for entry is Y YYYY/MM/DD.
- (2) Please enter the information on the respondent.
Address, division name, telephone number, FAX number and E-mail address are given for the contact with the respondent.

Please enter each item of "Information on the surveyed product (subpart)" in the "Product Information Sheet".

- (1) Our product number, your product number, product name, product type
Please enter your product number etc. for the surveyed product. Please make sure that our corresponding product number is entered. Should our product number be unknown, please contact with our person in charge.
- (2) Product mass
Please enter the mass of the surveyed product per survey unit.
- (3) Mass unit/surveying unit
Please enter the unit for the mass to be reported (surveying unit) and the mass unit. Once that the mass unit/surveying unit is set, the mass unit/surveying unit in the Survey Sheet is unified into this unit.
 - 1) The mass unit means the unit for the mass of the surveyed product and the unit of mass (mass unit). Please choose an appropriate unit from mg, g and kg depending upon the surveyed product.
 - 2) The surveying unit means the unit used for reporting the mass of the product as described in the following.
 - a) For electronic parts, the survey unit is "piece".
Example: Mass unit/survey unit is **g/piece**.

b) For example, for wiring materials which are cut in proper length for use, the surveying unit may be "meter (m)".
 Example: Mass unit/surveying unit is **g/m**.

c) For example, for materials such as resin, ink, paint, solder, adhesive, the surveying unit will be "100g".
 Example: Mass unit/surveying unit is **g/100g**.

3) Materials the composition of which is changed during processing

For materials such as resin, ink, paint, solder, adhesive, please enter the date of the substance taken when they are solidified in our product. If such data are not available, the data in the state of delivery to us are acceptable.

Please enter each item of "Information on the composition of the surveyed product(subpart)" in the "Product information sheet".

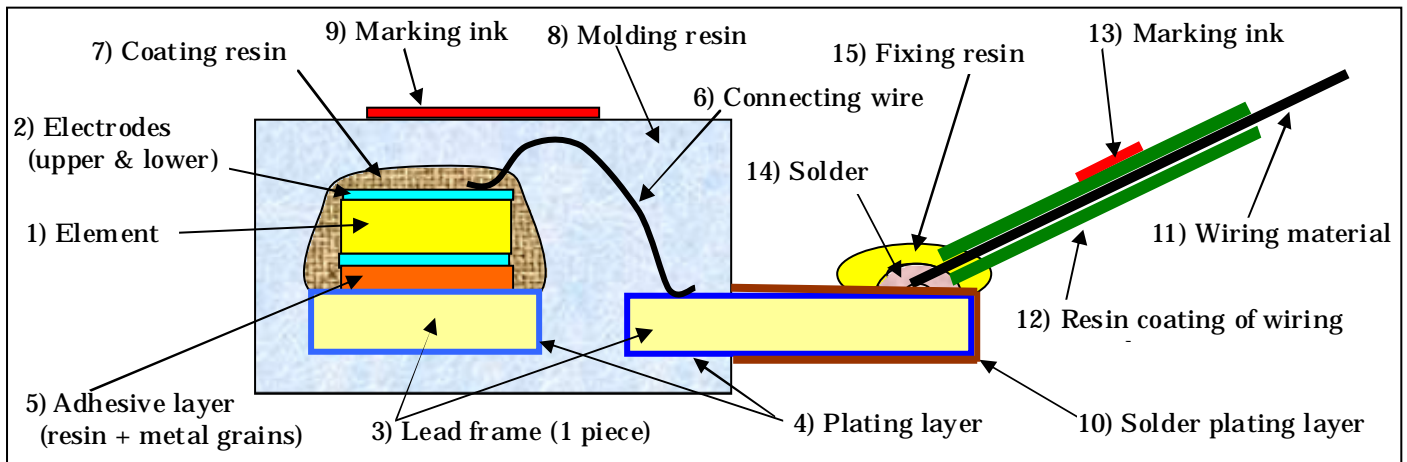
(4) Names of component parts

Please enter the names of component parts of the surveyed product in the column of the names of component parts. The names may be as used in your company.

There are 50 columns per product in the Survey Sheet, but if the columns are found to be insufficient for such products as complex products which have a number of component parts, please consult with us.

The "**component parts**" means the **homogeneous materials** such as resin material, glass material, metallic material, ceramic material, paper material, timber material and filler agents. Please refer to the following example.

Example: For this electronic part (a hypothetical part for explanation), **1) ~ 15)** are "**component parts**".



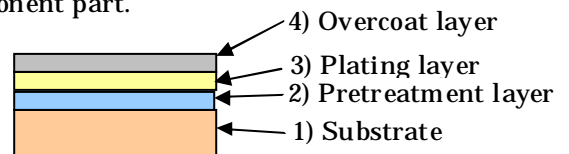
[Remarks]

- The adhesion part like 14) solder or 15) adhesive in the above figure is regarded as a component parts
- With respect to the micro part which does not contain any prohibited/managed substance, if the data relating to the contained chemical substance can not be obtained, the adjacent area may be included for data taking.

Example: In the above figure, in the event that 1) is a silicon chip in the semiconductor product, if the data for the surface passivation layer and 2) the electrode layer cannot be obtained, you may regard 1) silicon chip as a sole component part.

- Each of plural coating layers is regarded as one component part.

Example: In the case of a product plated on the substrate as shown below, component parts are counted as 4 from 1) to 4).



- The alloy in the electric contact of relay or switches is also regarded as one component part.
- It is not required to survey any component part which does not compose any part of our product.

(e.g. packing materials of your product)

Example: Tube or can containing adhesive agent need not be surveyed.

(5) Material manufacturers

Please enter the name of the material manufacturer of each component part.

[Remarks]

- The material manufacturer is requested to enter names of manufacturers of molding resin, ink, paint, printed circuit boards, wire/cable, lead frame, adhesive agent and solder etc.. This does not apply to chemical manufacturer, steel manufacturer or vendors like a trading company etc. supplying basic materials.
- For example, in the case of molding resin subparts, please enter the name of the manufacturer of resin who supplies molding resin, not the name of an entity processing the molding work.
- In the case of the surface coating layer, please enter the name of an entity which processes surface coating. (It is not required to survey the manufacturer of original plating solution, ingot for evaporation, surface treatment solution etc..)

(6) Mass of component part

Please enter the mass of each component part.

(7) Unit of mass of component part

The description of item (3) should be taken into consideration.

(8) Total mass of each component part

In case of need, please make fine adjustments to the mass of constituent materials in a manner that the total mass may approximately conform to the mass of each product entered in (2) and (3). (At least, when expressed in 2 digits of significant figures)

Please enter the “Prohibited/Managed substance group” of the “Product Information Sheet”.

(9) Prohibited/Managed substance groups

24 substance groups (JIG24 substance groups) are determined in accordance with the JIG (Joint Industry Guideline) agreed upon among the industrial associations of the U. S. A., Europe and Japan as substances to be surveyed for the electronic/electric equipment. Since a column is provided in the upper area of the Survey Sheet, please enter the contents of each substance for each component part of the surveyed product.

(10) Substance names

Chemical substance group names and the substance group category classification number specified by the JGPSSI (Japan Green Procurement Survey Standardization Initiative) are described.

(11) Threshold levels

The threshold levels of contents of prohibited substances and managed substances are described. The content rate of prohibited/managed substances contained in each component part shall not exceed these threshold levels.

(12) Contained or not contained

In accordance with the description of the threshold levels in the Survey Sheet, it is judged whether the prohibited substance or the managed substance is contained or not for each component part (“1” or “0”).

Please make judgment based on the reliable data such as the material specifications (same as for entering the mass of contained substances).

[Judgment and entry method]

Description of “threshold level” column	Judgment method	Judgment	Entry code
Level such as 1000ppm	In the case that the content rate exceeds the threshold level or the substance is intentionally added , even if the content is below the threshold level.	Contained	“1”
	In the case that the content rate is below the threshold level and the substance is not added intentionally .	Not contained	“0”
Intentional addition	In the case that the substance is intentionally added .	Contained	“1”
	In the case that the substance is not intentionally added .	Not contained	“0”

- **“Intentionally added or intentional addition” shall mean that the substance is contained to modify characteristics or performance.**
- In the case of **being contained “1”**, please enter the name of contained substance, purpose of addition and mass.
- In the case of **being not contained “0”**, no more entry for the substance group is required.

(13) Names of contained substances

Please enter the names of chemical substances actually contained in reference to the **examples for entering.**

In the case that chemical substances are used in the form of compound, please enter the name of the compound and when it is used as the single substance, please enter the name of elements.

The below table shows the chemical substances which are assumed as representative materials of the component part.

Materials of component parts	Kinds of assumed chemical substances
Resin	Resin component (.....resin), filler, flame retardant, flame retardant assistant, plasticizer, colorant, other additives
Ink, paint	Basic component, colorant, other additives
Metals	Contained metal elements
Glass, ceramic	Contained oxide etc.
Paper, timber	Natural components (may be entered as paper component, timber component), colorant, other additives

(14) Purposes of use

Please enter the brief description of the purpose of use. Since the survey of the purpose of use is not a main objective, please enter the purpose briefly in reference to the following examples.

Examples:

Improvement of thermal stability, improvement of heat resistance, improvement of electric characteristics, improvement of mechanical characteristics, rust proof, stabilizer, plasticizer, colorant, flame retardant, flame retardant assistant, filler, resin component, solid portion (of ink, paint etc.), glass component, ceramic component, main or sub component of alloy, solder component, impurities (contained substances without intentional addition)

(15) Mass of contained chemical substances

Please enter the mass of substances. The unit shall be identical to one described in paragraph (2) and (3).

(16) Metal conversion factor

In the case that the substance is metal or metallic compounds, please enter the metal conversion factor. The metal conversion factor is a numerical value converted into the mass of metallic element contained in the metallic compound. (The metal conversion factor is listed in the substance list found in the website of JGPSSI.)

$$\text{Metal conversion factor} = \text{mass of metal in metallic compound} / \text{mass of metallic compound}$$

(17) Metal conversion mass

In the case that the substance is metal or metallic compounds, the metal conversion mass is automatically calculated by multiplying the mass by the metal conversion factor to be displayed.

(18) The sum total of the mass of substances contained in the surveyed product is displayed for each substance.

Please enter “Other substances composing the product” in the “Product information sheet”.

(19) Other substances composing the product

It is requested by the manufacturer of electronic/electric equipment to grasp of what materials the surveyed product is composed as a whole. In general, JIG24 substance groups compose a product to be surveyed only partially. Therefore, the survey of other substances than the JIG24 substance groups is requested in this paragraph. The entry column is provided in the lower area of the Survey Sheet for the

contained chemical substances 25~48.

(20) Substance names

For 12 metals of magnesium, copper, gold, vanadium, silver, iron, aluminum, nickel, chromium, zinc, tin and silicon, an entry column is provided respectively. Other metals shall be entered in the column of "Other metals 1~2".

For resin, ceramic, glass and paper, a specific column for each material is provided for entry.

Please enter the any other substance except those above cited in the column of "Other substances 1~6".

Since the description of "intentionally added" is found in the threshold column, please take note of the following for entry.

- 1) Main components shall be disclosed without fail.
- 2) Negligibly small amount of components treated as know-how and trade secret may be abbreviated (less than 1% of mass of the component part).
- 3) In the case of compounds, they may be expressed in familiar names instead of scientific ones in consideration of confidentiality.

With respect to the entry method for resin, ceramic, glass and paper, please disclose the information on contained substances with reference to the following examples in consideration of the above 1)~3).

[Examples for entering]

If the product is composed of plural substances, please enter main components in the column of resin, ceramic, glass or paper and sub components in the dedicated column of the same substance or the column of other substances.

	Chemical substances assumed to be main components	Chemical substances assumed to be sub components
Resin	Epoxy resin, ABS resin	Flame retardant, filler, pigments
Ceramic	Alumina, Barium titanate	Lead titanate, lead zirconate, boron oxide
Glass	Silicon dioxide,	Lead oxide, arsenic oxide, zinc
Paper	Paper	Coating agent

[Remarks]

- Substances corresponding with the "managed substance group" should be entered in the column of the "managed substance group" and please enter substances here which do not correspond with the "managed substance group".
- For materials such as ink, paint, adhesives etc., please enter the date of the substance taken when they are solidified in our product. If such data are not available, the data in the state of delivery to us are acceptable.

(21) Subtotal of mass of substances composing component parts

For each component part, the sum total of mass of every substance composing the component part is calculated and displayed. Please adjust the mass of each substance in a manner that this value approximately (in 2 digits of significant figures) conforms to the mass of each component part (6).

(22) The sum total of mass of every substance is displayed.

[Remarks]

- Please adjust the mass of substances of each component part in a manner that each value of (2), (8) and (22) approximately conforms to one another (in 2 digits of significant figures). When substances composing the component part are a metal or metal compound, the sub total of mass of substances composing a component part (21) is the sum of the metal conversion mass. When the metal conversion factor is less than 1, the subtotal of mass of substances composing a component part (21) may be significantly different from the mass of substances of the component part (6). In this case, please make adjustment so that the subtotal of the mass of substances composing a component (21) approximately conforms to the mass of a component part (6) by adjusting the bigger mass of contained substances or setting "Other substance" for a substance name in a column "Other substances 1-6" and entering the difference between two values of masses as shown below.

a column " Other substances 1-6 "

Contained chemical substance 43							
Substance	Other substance 1			Threshold levels	Intentional addition		
note							
Contained / Not contained 1 / 0	Name of contained substance	Purpose of addition	Mass of chemical substance	g / piece	Metal conversion factor	Metal conversion mass	g / piece
1						0.0001	
1	Other substance		0.0001		1.00	0.0001	
					1.00	0.000000	
					1.00	0.000000	

setting " Other substance " for a substance name

entering the difference between two values of masses

Know-how information

The data which is received from our suppliers including your company will be processed by us so that the processed data may be submitted to our customers (equipment manufacturers). In this respect, we would like to assure you that neither your individual data nor ours will be disclosed publicly, although the equipment manufacturers may publish the aggregate data of contained substances relating to their equipment as a whole.

The data which we are requesting you to submit used to be treated as know-how or confidential information. In the meantime, the RoHS directive or ELV directive of the EU are now acknowledged as the global standards and a system called as the J-Moss is legislated in Japan in accordance with these directives. Since we are obligated to comply with relevant laws and regulations, the conventional definition of know-how may have to be modified to some extent. Needless to say, this is not only our issue, but also a universal issue for the whole industry. In consideration of the current situation, your kind understanding and cooperation for this survey would be much appreciated.