

Guidelines for the Management of Chemical Content

No. FG200503 ver.1

March 16, 2005



FUJIFILM group

Revision History

Revision No.	Content of Formulation/Revision	Date of Formulation/Revision
FG200503 ver.1	New Formulation	March 16, 2005

1. Background: Need for the Management of Chemical Content throughout the Supply Chain

[Global trend to enhance the management of chemical substances]

Agenda 21, in response to the global environment, was adopted at the UN Conference on the Environment and Development in 1992, giving the basic direction for the management of chemical substances, the “provision of information relating to hazardous properties and risks, and improvements to the management of chemical substances in all the countries of the world,” etc. (Chapter 19). Ten years later, in 2002, at the environmental summit held in Johannesburg, South Africa, methods for the use and production of chemical substances that will minimize significant adverse influences on human health and the environment were discussed and an agreement was reached to “establish methods for minimizing adverse influences on health and the environment by the use and production of chemical substances by 2020.”

[Progress of statutory regulations in each country]

In response to those requests from the UN, etc., laws regulating chemical substances contained in various products have been established, especially in Europe and the US.^(Note 1) Among them, the European RoHS protocol established in February, 2003 is an important regulation for companies related to electrical and electronic products. **The regulation will prohibit all equipment exported to Europe from July 1, 2006, onward from containing lead, mercury, cadmium, chromium VI, or specified brominated flame retardants (PBB, PBDE).**

(Note 1)

Representative laws regulating chemical content

1. RoHS protocol: 2002/95/EC

It is prohibited for electrical and electronic equipment marketed from July 1, 2006, onward to contain lead, mercury, cadmium, chromium VI, PBB or PBDE, except for those listed in the Annex.

(Similar laws are being considered in China, California, the US, and Japan)

2. Commission directive on end-of-life vehicles: 2000/53/EC (EU/ELV)

It is prohibited for parts of vehicles marketed from July 1, 2003 onward to contain mercury, chromium VI, cadmium, or lead, except for those listed in the Annex II.

3. Directive on regulation of cadmium content in plastics: 76/769/EEC

Sale and use of plastic products containing 0.01% or more of cadmium are restricted.

4. Danish cadmium regulations: Statutory order No. 1199 banning the sale, import, or manufacture of products containing cadmium, established on December 23, 1992.

Sale, import, or manufacture of products containing cadmium 0.0075% by weight or more in surface treatment agents, dyestuffs, and plastics stabilizers are prohibited.

5. Directive on packaging materials and packaging waste: 94/62/EC

Total content of lead, cadmium, mercury, and chromium VI in parts of packaging materials should not exceed the criteria of 100 ppm. (Similar laws are enforced mainly in the Eastern states of the US.)

6. State laws in the US concerning reporting of content, labeling, and use regulations for mercury

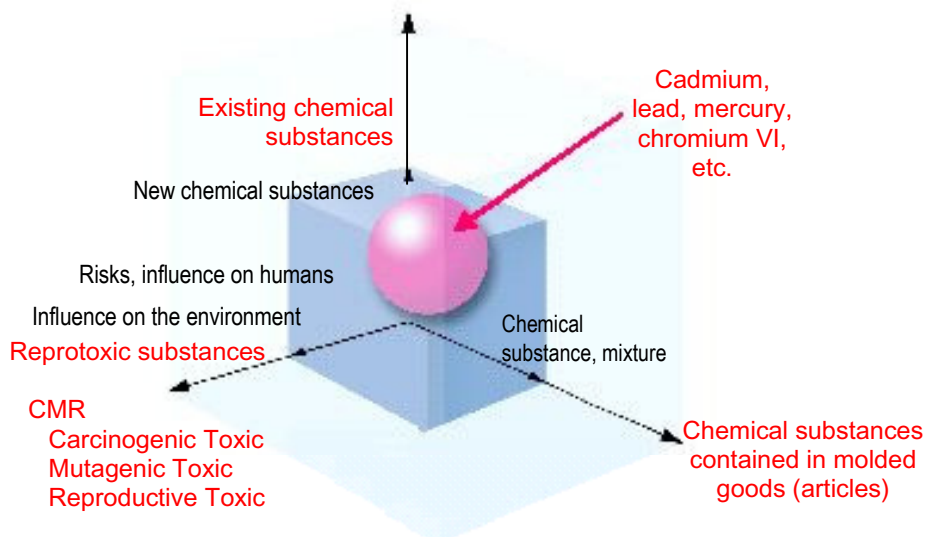


Fig. 1 Progress to improve the regulation of chemical substances

Former frameworks for regulation are expanding, represented by the regulation of cadmium, etc. as the first step.

[Progress in Japanese business fields]

In order to respond to the global trend to regulate chemical content described above, cooperation is sought from all enterprises relating to the supply chains from raw materials through products. Therefore, the Ministry of Economy, Trade and Industry proposed the concept^(Note 2) of the management of chemical content throughout the supply chain.

Following the guidance of the Ministry of Economy, Trade and Industry concerning the need to manage chemical content throughout the supply chain, and to establish and audit the in-house chemical content management system, JGPSSI^(Note 3) (JEITA^(Note 4)), the Japan Chemical Industry Association, etc. are studying how best to establish guidelines for managing chemical content.

(Note 2) “Study Report on a Management/Certification System for Information on the Chemical Content of Products” (Mizuho Information & Research Institute, Inc.), Chapter IV “Management Guidelines for the Chemical Content of Products” <http://www.mizuho-ir.co.jp/newsrelease/chemical040329.html>

(Note 3) Japan Green Procurement Survey Standardization Initiative

(Note 4) Japan Electronics and Information Technology Industries Association

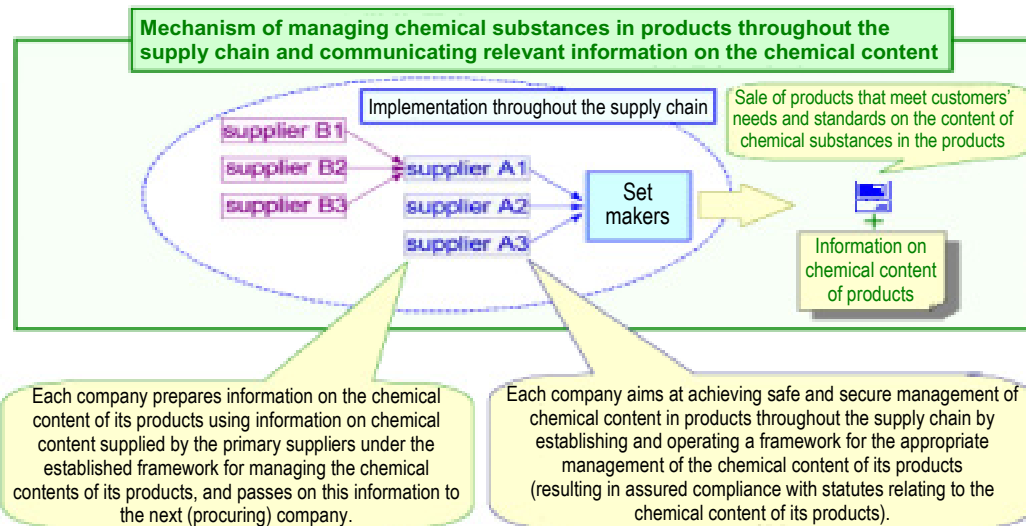


Fig. 2 Managing the chemical content throughout the supply chain

Each company in the supply chain needs to offer reliable information on chemical content to companies downstream.

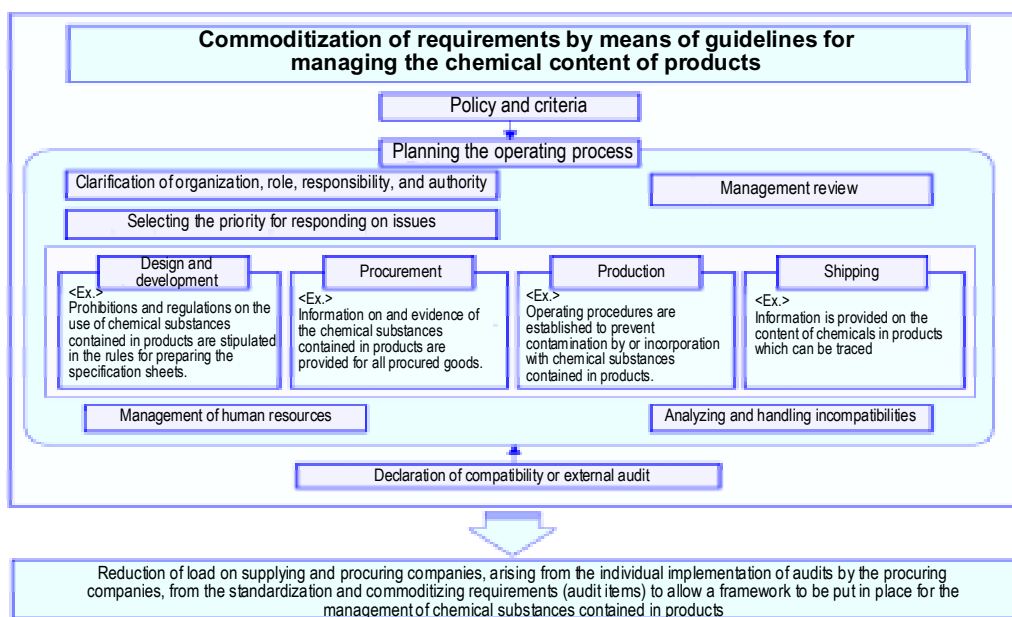


Fig. 3 Setting up and auditing an in-house system for managing chemical content

Each company linked to the supply chain is required to establish a reliable system for managing chemical content.

2. Purpose of the Guidelines

The purpose of these guidelines is to ensure that companies and organizations linked to the supply chain of the Fujifilm group clarify the essentials for performing accurate management of chemical content, and that they share such concepts to enable companies to join forces to effect the accurate and efficient management of chemical content.

One of the purposes of these guidelines is to improve the reliability of information on chemical content, and the other is to provide a method for managing information on chemical content.

The applicability of individual laws and regulations regulating chemical content needs to be judged separately, based upon the information on chemical content obtained from these guidelines.

3. Scope

These guidelines apply to Fujifilm group companies, products that Fujifilm group companies provide to their customers, and suppliers that provide the raw materials ^(Note 1).

4. Positioning of the Guidelines

These guidelines were prepared to assist the implementation of a system for managing chemical content by Fujifilm group companies and their suppliers, taking into consideration the domestic and international situation described under “Background.”

In the event that industry-wide guidelines are issued, these guidelines will be revised to be in line with those new guidelines.

5. Interpretation of Terms Used in the Guidelines

Refer to attached documents.

^(Note 1) Materials that are incorporated with the final product, including raw materials, chemical products, original parts, parts, products, packaging materials, etc.

6. Basic Concepts Behind the Guidelines

The following five concepts/methods form the basis of these guidelines for suppliers of electrical and electronic products to implement efficient management of the chemical content of their products.

1) Seven management schemes

The following seven schemes are used to manage the manufacturing processes for products. (For the concepts, see 6-1. For the scheme details, see “Seven Management Schemes.”)

- Scheme 1. “Raw Materials Purchasing” Management Scheme
- Scheme 2. “Raw Materials Manufacturing and Original Parts Manufacturing” Management Schemes
- Scheme 3. “Raw Materials Marketing” Management Scheme
- Scheme 4. “Original Parts Purchase and Parts Purchase” Management Scheme
- Scheme 5. “Parts Assembly” Management Scheme
- Scheme 6. “Original Parts Marketing, Parts Marketing, and Product Marketing” Management Scheme
- Scheme 7. Comprehensive Management Scheme

2) Common methods for communicating information on chemical content used in the industry

Methods commonly used in the industry are used. MSDSplus and MSDS are used for chemicals, and JGP files are used for parts, machines, and packaging materials. (See 6-2)

3) Substance groups generally used in the electrical and electronic industries

The 24 substance groups generally used in the electrical and electronic industries are adopted for managing chemical substances. (See 6-3)

4) Introduction of concept of special management

Mercury, lead, cadmium, chromium VI, PBB, and PBDE, for which adequate management is required mainly in Europe, are designated as specially managed substances, and methods of management established based on information ^(Note 1) from the UK’s Department of Trade and Industry are adopted. (See 6-4)

5) Introduction of self-audit

A self-audit of the management of each organization is conducted based upon the seven management schemes, the result is recorded, and the number of the self-audit record is recorded on specifications and other chemical content information. (See 7.)

These concepts and methods are explained in detail below.

(Note 1) The concept of specially managed substances was established based on information* from the UK’s Department of Trade and Industry.
*[http://www.dti.gov.uk/sustainability/weee/ROHS Compliance Full Report.pdf](http://www.dti.gov.uk/sustainability/weee/ROHS%20Compliance%20Full%20Report.pdf) 73p

6-1. Seven Management Schemes

6-1-1. Concept of original parts

Taking the PC as an example, the supply chain can be traced back through parts and subparts to the actual components manufactured from chemical substances, such as polymer pellets.

These parts manufactured from chemical substances determine the chemical content and are named “original parts” in these guidelines.

For the “management of chemical content” it is important to effect a precise management of the “weight of chemical content” in such original parts. That is, it is important to ascertain the weight of the chemicals contained in the raw materials used for creating the original parts and to ensure that the original parts manufacturing process is free from contamination.

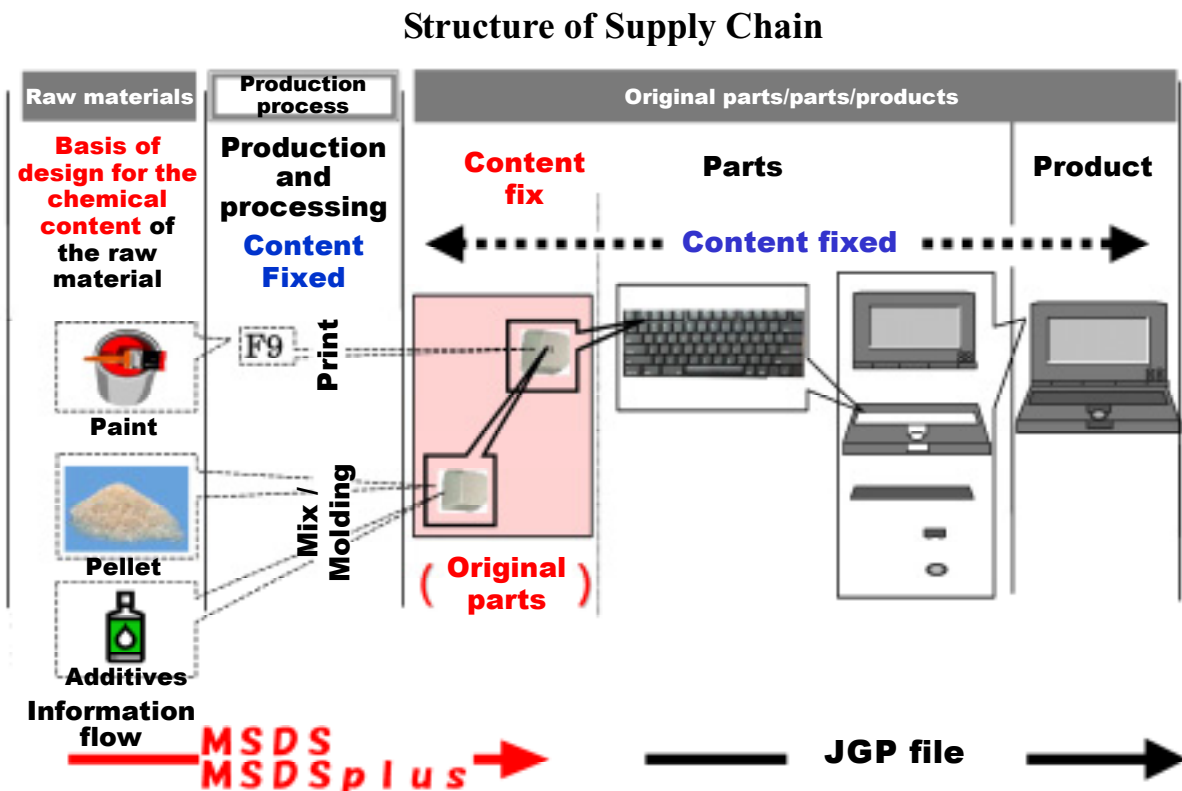


Fig. 4 Structure of the supply chain

From the viewpoint of managing the chemical content, management of the production process and raw materials for the “original parts” where the chemical content is fixed are important.

6-1-2. Four processes in the supply chain

This original parts manufacturing process is not unique to forming and articles manufacturers that undertake forming and coating but also includes parts manufacturers and equipment manufacturers. Thus, instead of establishing a management method based on the types of manufacturer in the supply chain, the concept was adopted to establish a management method based on four process units: the raw material manufacturing process; the original parts manufacturing process; the parts manufacturing process; and the finished product manufacturing process.

Managing the use of chemical substances and the chemical content of the supply chain

Solid line: managing the use of chemical substances
 Broken line: managing the chemical content

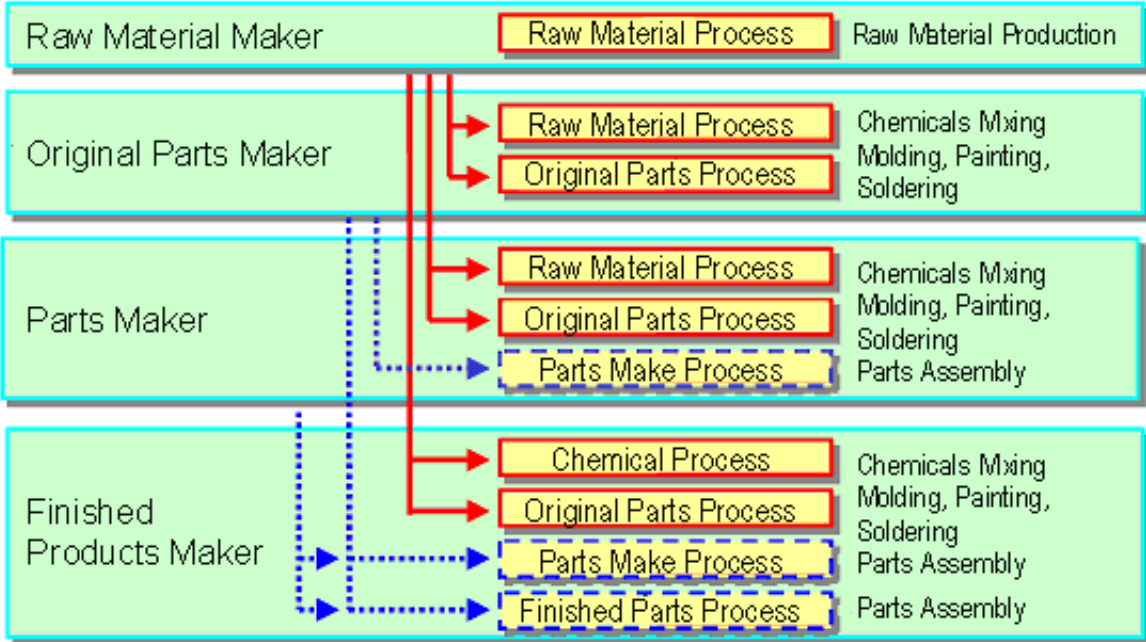


Fig. 5 Four processes in the supply chain
 There are four processes in the supply chain, including the original parts manufacturing process.

6-1-3. Concept of management with an emphasis on unit processes

While it is important to establish a management method based on the four process units described above, each process has its own management unit processes such as the purchase, manufacturing, and marketing of raw materials, and management should be based on these management unit processes.

A further detailed study reveals that the entire process has a total of only six management unit processes: the purchase, manufacturing, and marketing of raw materials, and the purchase, manufacturing, and marketing of original parts. In conclusion, establishing a management

method with reference to these six management unit processes will establish the management method for the entire supply chain.

Distribution companies, trading companies, and importers other than manufacturers and organizations that market the raw materials, original parts, parts, and products are also subject to these guidelines and will be required to manage their organizations based on the management of unit processes.

Management in accordance with these guidelines is also required for the reuse and recycling of products.

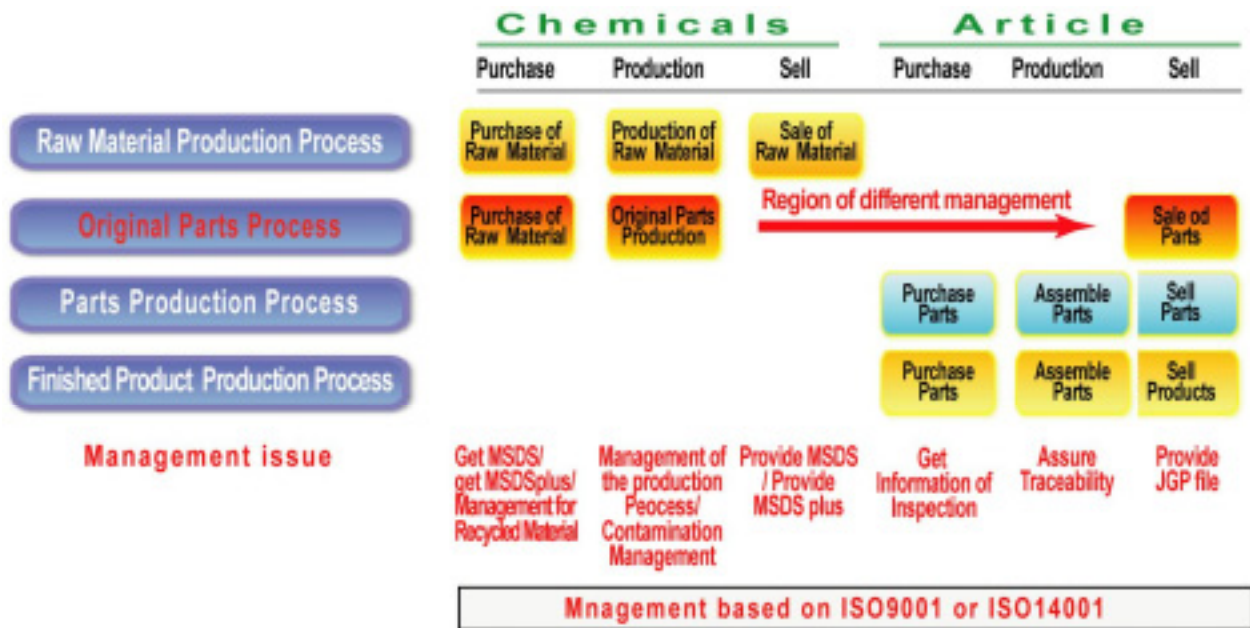


Fig. 6 Six unit processes in the supply chain

The supply chain includes the six unit processes to be managed, purchase, production, and marketing relating to chemical substances and molded products that should be managed as a whole according to ISO9001 and ISO14001.

6-1-4. Seven management schemes

In order to manage chemical content effectively, the six management unit processes described above need to be managed.

These guidelines clarify the management scheme required for each management unit process and recommend that the management of chemical content be based on that scheme.

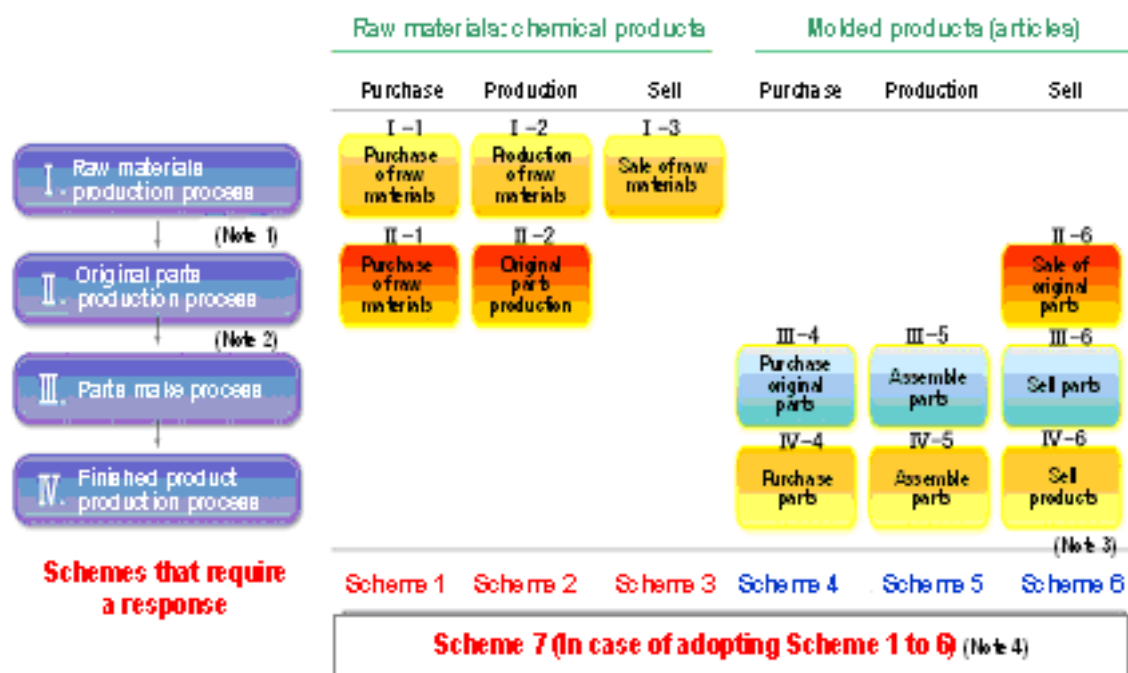


Fig. 7 Seven management schemes in the supply chain

The supply chain includes the six unit processes to be managed, purchase, production, and marketing relating to chemical substances and molded products that should be managed as a whole according to ISO9001 and ISO14001. There are a total of seven management schemes corresponding to each of them.

- (Note 1) “Raw materials” refers to chemicals such as coatings, polymer pellets and master batch in the forms of particle and powder, and those used after being melted such as solder. Materials such as grease, oil, and marking paint, named as auxiliary resources in some companies, are included if they remain in the products.
- (Note 2) “Original parts” refers to formings, printed matter, and substrates created using raw materials. Materials such as marking seals and general-purpose packaging materials (tapes, fixing bands, and bags), named as auxiliary resources in some companies, are included if they remain in the products.
- (Note 3) “Products” refer to that which is delivered to consumers. “Parts” refers to the components used in products.
- (Note 4) “Scheme 7” is a comprehensive management scheme and, in case any one of the schemes 1 to 6 is relevant, this comprehensive management scheme is also applied in addition to the relevant scheme.

6-2. Method of Communicating Information on Chemical Content

In managing chemical content in individual unit processes, the provision and reception of the correct information on the chemical content are essential. Especially when transferring the information between companies, it is essential to transfer the information using standardized formats.

The present guideline recommends the use of the formats shown below.

1. For chemical products and chemical substances
MSDSplus (Attached Document 1, Format 1) and MSDS
2. For original parts, parts, machines, and packaging materials
JGP file or file for handwriting (Attached Document 2, Format 2)

In order to transfer the correct information, do not leave entries for chemical substances blank, but enter “xx ppm or less” or “<xx ppm”.

6-3. Chemical Substances Targeted for Management

(Chemical substances targeted for management in parts, materials, packaging materials, and products and their classification)

The chemical substances targeted for management contained in the parts, materials, packaging materials, and procured products are established in accordance with the agreements of the Japan Green Procurement Survey Standardization Initiative (JGPSSI) concerning chemical substances targeted in the survey of procured products.

Concurrently, the substances targeted for management are classified as shown below taking the level of management required into consideration.

[Substances requiring special management]

No	Relevant chemical substances	JGPSSI classification No.	Management method
1	Cadmium and its compounds	A05	Analyzed and sampling-analyzed as necessary based on specifications and MSDS & MSDSplus
2	Lead and its compounds	A09	
3	Mercury and its compounds	A10	
4	Chromium VI and its compounds	A07	Based on specifications, MSDS and MSDSplus.
5	Polybrominated biphenyls (PBBs)	B02	
6	Polybrominated diphenyl ethers (PBDEs)	B03	

[Substances requiring general management]

No	Relevant chemical substances	JGPSSI classification No.	No	Relevant chemical substances	JGPSSI classification No.
1	Bis(tributyltin) oxide (TBTO)	A17	10	Nickel and its compounds*2	A11
2	Polychlorinated biphenyls (PCBs)	B05	11	Selenium and its compounds	A13
3	Polychlorinated naphthalenes (with 3 or more chlorine atoms)	B06	12	Tributyltins (TBTs), Triphenyltins (TPTs)	A18
4	Asbestos	C01	13	Poly(vinyl chloride) (PVC)	B07
5	Ozone-depleting substances*1	C04	14	Brominated flame retardants *3	B08
6	Antimony and its compounds	A01	15	Short-chained chlorinated paraffins *4	B09
7	Arsenic and its compounds	A02	16	Specific azo dyes and pigments *5	C02
8	Beryllium and its compounds	A03	17	Phthalates*6	C05
9	Bismuth and its compounds	A04	18	Radioactive substances	C06

*1 Substances in the Montreal Protocol. Class II substances are not banned but included as subjects of management.

*2 Alloys are excluded for nickel (e.g. stainless steel)

*3 Brominated flame retardants excluding PBBs and PBDEs

*4 Short-chained chlorinated paraffins with 10 to 13 carbon chains

*5 Azo dyes and pigments formed with amines specified by European Directive 76/769/EEC and the 19th Amended Directive. Limited to those used that come into prolonged direct contact with the skin.

*6 Subject substances are dibutyl phthalate, di(2-ethylhexyl) phthalate, diisononyl phthalate, diisodecyl phthalate, butylbenzyl phthalate for which an EU risk assessment is conducted.

6-4. Method of Management Introducing the Concept of Special Management

In order to implement management in accordance with these guidelines, raw materials, components, and materials that breach the laws in Europe and America are defined as “higher risk raw materials” and/or “higher risk materials.” Those substances have customarily been added to products on the market for many years and thus the risks may not have been fully understood, so that these guidelines specify strict operation.

[Higher risk raw materials] Following raw materials that have not been proved to contain none of the specially managed substances

Higher risk raw materials	Risk element
Cadmium, cadmium compounds and raw materials containing them	Cadmium
Lead, lead compounds, and raw materials containing them	Lead
Hexavalent chromium, hexavalent chromium compounds, and raw materials containing them	Hexavalent chromium
PBDE, PBB (bromine-based fire retardants), and raw materials containing them	PBDE, PBB
Minerals: natural minerals such as ores and clays	Cadmium, lead and mercury as impurities
Recycled materials, especially open-recycled materials	Cadmium, Lead, PBDE, PBB
Master batch (raw materials used for forming)	Lead, Cadmium
Paint	Lead driers, Lead, Cadmium
Solder	Lead
Materials on which information/analytic values have been obtained; including ones that indicate more than 50ppm of lead, mercury, cadmium, and/or hexavalent chromium is contained	Lead, Mercury, Cadmium, Hexavalent chromium
Above raw materials for which manufacturers' information is questionable	

[Higher risk materials and parts] **Following materials and parts that are not proven to contain none of the specially managed substances**

Higher risk materials and parts	Risk element
Red, orange, yellow, white, or with other colors mixed into them (green, pink, etc.) plastics	Cadmium, Lead (pigments)
Plastics - HIPS and others that use PBB and PBDE as flame retardants	PBDE, PBB
Plastics - PVC	Pb and Cd as stabilisers
Aluminium castings, galvanised steel parts	Hexavalent chromium, passivation coatings
Relay and switching contacts	Cadmium
Light sensors	Cadmium
Electric tapes	Cadmium, Lead
Materials on which information/analytic values have been obtained; including ones that indicate more than 50ppm of lead, mercury, cadmium, and/or hexavalent chromium is contained	Lead, Mercury, Cadmium, Hexavalent chromium
Above raw materials for which manufacturers' information is questionable	

[Higher risk processes] Processes involving the handling of higher risk raw materials and/or higher risk materials

Higher risk processes	Actions requested
Molding and forming processes	Fully clean after handling management-targeted substances and check the following lot for contamination
Processes using tanks and containers	
Processes using piping	
Processes using pressure such as with presses	Confirmation that higher risk raw materials/higher risk materials are not transcribed or transferred
Processes involving the melting of higher risk raw materials and parts	(Example: soldering) Isolation and measures against misuse (of jigs and tools)
Processes handling higher risk raw materials	Isolation, discriminative management (of raw materials) and measures against misuse and environmental pollution from the processes
Processes handling higher risk materials and parts	Isolation, discriminative management and measures against misuse (of higher risk raw materials and parts)

7. Items Recommended to be Implemented

1. Identification of purchase division, production division, and sales division concerning handling of products Fujifilm purchases
2. Identification of management schemes applied to each organization
3. Application of management schemes to each organization
 - (a) Identifying the actual processes
 - (b) Identifying the raw materials (chemical substances), materials, parts, etc. used in each process
 - (c) Procuring information on the chemical content of the raw materials (chemical substances), materials, parts, etc. used in each process
 - (d) Identifying the higher risk raw materials, higher risk materials and parts, and higher risk processes
 - (e) Implementing the relevant management scheme
 - (f) Managing and providing information on the chemical content (including content of specially managed substances and generally managed substances) products
4. Implementation of self-audits (every year if Fujifilm requests)

Recording the audit results for each organization/floor

[When a self-audit is carried out]

Registering the implementation results for self-audit and obtaining registration numbers
5. Entering the above registration numbers on the chemical content information sheets (specifications, green specs) for Fujifilm

[Reference] Example of identifying the schemes applying to our process

Process	Raw materials used (chemicals)	Materials and parts used (articles)	Relevant process	Schemes supported
Process A (Example)	Ink and solvents (toluene)	PET film	II. Original parts manufacturing process	Schemes 1, 2, 6 and 7

After identifying which scheme to apply, clarify the higher risk raw materials, higher risk materials, and higher risk processes.

Items requiring a response for the seven management schemes

Scheme 1. “Raw Materials Purchasing” Management Scheme (Corresponding to I-1 and II-1)

[Concepts]

In principle, always obtain an MSDS and MSDSplus in Japan Chemical Industry Association format (specific chemical content information sheet) from the raw materials manufacturer, composition table, specification sheet, millsheet, etc. If such information is unavailable, refer to the manufacturers to obtain the necessary information. Moreover, decide clearly whether the raw materials are higher risk raw materials, and if they are, they should be managed strictly; for example, by analyzing their content as needed.

Items needing a response	
1.1	Enter into transaction agreements with raw materials manufacturers.
1.2	Obtain information on chemical content, exchange specifications, and determine whether the raw materials are higher risk raw materials.
	Reference: Example of specifications exchanged with raw materials manufacturers
1.2.1	Exchange and retain specifications (green specifications) with raw materials manufacturers.
1.2.2	Obtain, examine the contents of, and store MSDS & MSDSplus.
1.2.3	Determine whether they are higher risk materials or not and keep a record of this.
1.3	Check specifications and inspection results by sampling the higher risk raw materials.
1.3.1	Analyze new raw materials at least once and store results.
1.3.2	Analyze as needed and keep a record of the results
1.3.3	Managing amendments to MSDS and MSDSplus Obtain amendment revision information from the raw material manufacturers and manage the amendment.
1.4	Receiving inspection
1.4.1	Create documents for the method of receiving inspection and the criteria for inspection results. Note: Keep a copy of the goods received records and inspection records (for 10 years after shipment) <ul style="list-style-type: none"> ○ Normally, examine inspection results from manufacturers against specifications as a receiving inspection. ○ Carry out strict goods received inspections for higher risk raw materials. ○ Manage chemical content strictly especially when open recycled materials and minerals are used as components of the raw materials. Analyze every receiving lot, for example. ○ Determine the inspection level of the raw materials according to risk and verify the content when information on the chemical content is unavailable, manufacturers’ specifications are questionable, or manufacturers’ management values are doubtful.
1.5	Pass on information on the chemical content to the downstream processes and customers.

You are recommended to incorporate the above into your ISO9001 or ISO14001 management systems in your segment.

Scheme 2. “Raw Materials Manufacturing and Original Parts Manufacturing” Management Schemes (Corresponding to I-2 and II-2)

[Concepts]

Concerning the management schemes, there are three main types of process control:

1. Contamination management in higher risk processes
 - (a) Identification and strict management of higher risk raw materials. Isolation management is desirable.
 - (b) Management to avoid handling pollution sources in the same process (examples: prevention of mixed use of cadmium in the same equipment such as kneaders, piping, and kilns, and misuse of equipment and jigs such as lead soldering smelters and soldering irons.)
 - (c) Management to prevent pollution derived from other sources (example: prevention of contamination by cadmium dye powder, dust, waste, and nonconforming products).

2. Design-intended management of the content of targeted chemical substances
 - (a) In-process management for changes in chemical substances (such as chemical reaction)
 - (b) In-process management for changes in content (such as vaporization and evaporation)

3. Shipment control
 - (a) Shipment inspection, lot control, and storage of records (10 years after shipment)
Strict shipment inspection, lot management, discriminative management and keeping of records are necessary, especially for higher risk materials (parts).
 - (b) Providing the next process and customers with chemical content information based on shipment inspection values.

Items needing a response	
2.1	Identify higher risk processes and perform process control.
2.1.1	Create reference documents.
2.1.2	Store operational records.
2.2	Perform shipment inspection and shipment management.
2.2.1	Create reference documents.
2.2.2	Store operational records.
2.3	Take action on any abnormalities. (Refer to Scheme 7 for details.)
2.3.1	Develop rules for coping with abnormalities.
2.3.2	Notify product recipients of occurrence of abnormal lots.
2.4	Create, manage, and provide chemical content information to the next process and customers.
2.4.1	Create, manage, and provide MSDS and MSDSplus (raw material manufacturing process).
2.4.2	Create, manage, and provide JGP files (original parts manufacturing process).
2.5	Notify downstream processes and customers of changes in factors.

You are recommended to incorporate the above into ISO9000 and ISO14000 management in your segment.

Scheme 3. “Raw Materials Marketing” Management Scheme (Corresponding to I-3)

[Concepts]

This scheme covers vendors who sell or offer raw materials to customers, such as raw materials manufacturers, distributors, importers, and businesses.

When marketing raw materials, provide MSDS and MSDSplus or other relevant information on targeted chemical substances.

Moreover, exchange the specifications for the content of targeted chemical substances, and attach the inspection results of the content of the targeted chemical substances of raw materials in connection with each delivery lot.

When raw material types, manufacturers, manufacturing machines, and manufacturing conditions are changed, inform customers’ relevant segments and recipients of this in writing. At this point, determine the necessity of revision of specifications, MSDS, and MSDSplus and provide any revised version to customers, as necessary.

Items needing a response	
3.1	Enter into agreements with manufacturing companies. (Internally, closely communicate with manufacturing segments).
3.2	Provide chemical content information.
3.2.1	Provide MSDS and MSDSplus.
3.2.2	Provide specifications for chemical content.
3.2.3	Provide inspection results of the contents of targeted chemical substances of raw materials relevant to delivery lots. ○ Provide the inspection results promptly in the case of higher risk raw materials in particular.
3.2.4	Re-provide specifications, MSDS, and MSDSplus to customers again if revised. ○ Provide these promptly in the case of higher risk raw materials in particular.
3.3	Notify changes in factors (notify any changes in raw materials and manufacturing conditions). ○ Notify customers if there are changes in raw materials used and manufacturing conditions where a change in the information on chemical content is anticipated.
3.4	Discriminative management, isolation, and management of higher risk raw materials and waste.
3.5	Take action on any abnormalities.
3.5.1	Notify customers if defective lots (outside the specifications) are discovered.
3.5.2	Isolate and dispose of defective lots outside the specifications.

You are recommended to incorporate the above into ISO9000 and ISO14000 management in your segment.

Scheme 4. “Original Parts Purchase and Parts Purchase” Management Scheme (Corresponding to III-4 and IV-4)

[Concepts]

Exchange specifications (green specifications) with original parts and parts suppliers, obtain information on chemical content by the means of JGP files, check to see if higher risks are involved through receiving inspection, and manage records.

Items needing a response	
4.1	Exchange trade agreements with trade partners
4.2	Exchange information on chemical content and specifications and determine special management. Reference: Example of specifications exchanged with manufacturers
4.2.1	Exchange and store specifications (green specifications) with manufacturers.
4.2.2	Obtain, examine the contents of, and store all information on chemical content such as JGP files.
4.2.3	Identify higher risk materials.
4.3	Check specifications and inspection results from manufacturers by sampling higher risk materials and parts.
4.3.1	Analyze new parts at least once and keep the analysis results.
4.3.2	Analyze as needed and keep the results.
4.3.3	Managing changes in the information on chemical content <ul style="list-style-type: none"> ○ Obtain change/revision information on the chemical content information such as JGP files, and manage the changes.
4.3.4	Analyze according to the level of information received. <ul style="list-style-type: none"> ○ Analyze according to the level of information received if chemical content information is unavailable, manufacturers’ specifications are questionable, or manufacturers’ management values are doubtful.
4.4	Perform discriminative management and isolation of higher risk materials and parts.
4.5	Receiving inspection
4.5.1	Create documents for the method of receiving inspection and the criteria for inspection results. Note: Keep a copy of the goods received records and inspection records (for 10 years after shipment) <ul style="list-style-type: none"> ○ Normally, check inspection results from manufacturers against specifications to make it receiving inspection. Perform strict goods received inspections on higher risk parts, and original parts. ○ Strictly manage chemical content especially when open recycled materials are used as a component of raw materials. Analyze every receiving lot, for example.

You are recommended to incorporate the above into ISO9000 and ISO14000 management in your segment.

**Scheme 5. “Parts Assembly” Management Scheme
(Corresponding to III-5 and IV-5)**

[Concepts]

Manage the relationship between the original parts and parts used and the products in a traceable form and consolidate chemical content information contained therein to maintain and manage chemical content information on parts and products provided to customers. Moreover, provide such management information to the segment that provides chemical content information to customers.

When it turned out that the content of targeted chemical substances of management of any product exceeds the management value, stop manufacturing immediately and stop and isolate the shipment of that lot. Then notify the recipients of an abnormal product through the segment that responds to customers. After that, consult with the recipients about the method of coping with the issue, including a recall, if necessary.

Items needing a response	
5.1	Identify higher risk processes and perform process control.
5.1.1	Create reference documents.
5.1.2	Store operational records.
5.2	Perform shipment inspection and shipment management.
5.2.1	Create reference documents.
5.2.2	Store operational records.
5.3	Take action on any abnormalities. (Refer to Scheme 7 for details.)
5.3.1	Develop rules for coping with abnormalities.
5.3.2	Notify product recipients of occurrence of abnormal lots.
5.4	Create, manage, and provide chemical content information to the next process and customers.
5.4.1	Create, manage, and provide JGP file.

You are recommended to incorporate the above into ISO9000 and ISO14000 management in your segment.

**Scheme 6. “Original Parts Marketing, Parts Marketing, and Product Marketing”
Management Scheme (Corresponding to II-6, III-6, and IV-6)**

[Concepts]

This scheme covers vendors who sell or offer “original parts and parts” to customers such as original parts manufacturers, distributors, and importers. Use information on chemical content based on precise information from the manufacturing segment.

When marketing original parts, parts, products, and packaging materials, provide information on chemical content based on the manufacturing data created by the manufacturing segment as a JGP file at the request of recipients and customers.

When raw material types, manufacturers, manufacturing machines, and manufacturing conditions are changed, ascertain whether the content of targeted chemical substances for management has changed. Consult with product recipients in advance when the content of targeted chemical substances of management is changed or the management values need to be changed. Provide a revised edition to customers when the contents of description are changed.

Provide customers with a revised JGP file promptly, and specifications if necessary, especially when information describing higher risk materials (parts) is revised.

Items needing a response	
6.1	Manage and provide JGP file to customers.
6.1.1	Manage and store the JGP file (for 10 years after shipment)
6.1.2	Provide customers with JGP file.
6.1.3	Provide revised editions to customers if the contents of descriptions have changed.
6.2	Notification of changes in process conditions

You are recommended to incorporate the above into ISO9000 and ISO14000 management in your segment.

Scheme 7. Comprehensive Management Scheme

[Concepts]

When any one of the above schemes 1-6 is applicable, perform comprehensive management with respect to such scheme. To that end, perform operational activities with consideration given to the following items as a minimum.

[Items needing a response]

[System]

	Items	Contents
1.	Clarification of system	Perform operational activities with respect to these Guidelines by clarifying responsibilities, authorities, and roles. Perform operational activities with attention paid to cooperation with raw materials, original parts, and parts receiving segments, the manufacturing segment, and the sales segment.
2.	Operational management	Supervise the operational status of these Guidelines and continuously improve the operational activities through periodic audits.
3.	Development and design of products with consideration given to chemical content	Develop and design products with consideration given to the content of targeted chemical substances described in these Guidelines.
4.	Response to customers' request	Respond based on manufacturing management information in a polite manner to any request from customers about surveys on green procurement, chemical content, and compliance with the law. At this point, you can provide information to the extent and in such a form that appropriate confidentiality is maintained.
5.	Education and training	Train the persons involved so that they can implement the guidelines.

[Common Management]

	Items	Contents
6.	Management by documents and storage of records	Store the reference documents and operational records resulting from these guidelines for 10 years after shipment of raw materials, original parts, parts, and products offered.
7.	Handling and correcting abnormalities	When the content of targeted chemical substances of management of any product exceeds the management values, stop and immediately isolate the shipment of that lot, and notify recipients of the abnormal product. After that, consult with recipients on the method of handling the abnormality and correct it.
8.	Notification to customers when raw materials and process conditions change	When raw materials and manufacturing conditions change, notify the recipients to that effect. When raw material types, manufacturers, manufacturing machines, and manufacturing conditions change, ascertain whether the management values of the content of targeted chemical substances of management are changed. Consult with the product recipients in advance when the management values of the content of targeted chemical substances of management are to be changed. Subject to the consent of recipients, revise and re-deliver specifications, MSDS, and MSDSplus to them.

[Management of Suppliers]

Items	Contents	Examples of format
9.	Agreements with suppliers	Enter into agreements with suppliers with respect to their compliance with these Guidelines, which include the following two paragraphs:
10.	Management of suppliers	Establish a favorable relationship with suppliers to enable necessary information to be provided from suppliers. Audit suppliers in accordance with these Guidelines and guide them as necessary to ensure that raw materials, original parts, and parts are properly managed by them.
11.	Confidentiality	No information that is received from the suppliers of raw materials, original parts, and parts in operating these Guidelines and that is received from the recipients of raw materials, original parts, and parts whose confidentiality is requested by them shall be provided to any third party without the prior consent of the information providers.

You are recommended to incorporate the above into ISO9000 and ISO14000 management in your segment.

Information sheet on the content of the specified chemical substances (MSDSplus)

Company name: XXX Company, Ltd.
 Location: ■■■Building, 1-20-51, ▲▲, XX-ku, Tokyo
 Section in Charge: △△Section, ◎◎Department, ▲▲Division
 Phone number: xx-xxxx-xxxx Facsimile number: xx-xxx-xxxx
 Preparation/revision date: _____ / _____

[Reference number] xx-xxxxx

Version of guidelines used for managing chemical content _____
 Self-audit result number _____

[Product name] _____

[Directions for use of the sheet]

Fujifilm is endeavoring to manage substances and collect information on its products even under normal circumstances. We have been providing our customers with information in MSDS in accordance with domestic statutes. Due to regulations covering statutes overseas, however, we receive an increasing number of requests for detailed content information on specific chemical substances. This sheet was prepared for the purpose of supplementing the MSDS in response to such requests.

[Investigation of specific chemical content in products]

Investigation was performed with emphasis on substances regulated by overseas statutes.

Substance group	Included/Not included 1)	Content (%) 1)	Comment 1)
Cadmium and its compounds	Yes/No		
Chromium VI and its compounds	Yes/No		
Lead and its compounds	Yes/No		
Mercury and its compounds	Yes/No		
TBTs and TPTs	Yes/No		
TBTO	Yes/No		
Chlorinated paraffin (short chain)	Yes/No		
PBBs	Yes/No		
PBDEs	Yes/No		
PCBs	Yes/No		
Polychlorinated naphthalenes (with 3 or more chlorine atoms)/	Yes/No		
Asbestos	Yes/No		
Specified azo compounds 2)	Yes/No		
Ozone-depleting substances	Yes/No		
Radioactive substances	Yes/No		

- 1) Content concentration was entered because the addition was intentional. When unintentional contamination is confirmed, the Comment column is completed accordingly.
 2) German law restricts the use (e.g. fibers contacting the skin) of AZO colorants emitting over 30 ppm of carcinogenic amines with the exception for those compounds tested for safety verification. Contact the suppliers of the compound for details. Also refer to the website of ETAD JAPAN.

[Other] For content of substances for which management is prescribed by the following domestic statutes, refer to Product Safety Data Sheets (MSDS).

- ◎ JCSCL, ◎ ISHL (Notification of required substances),
- ◎ PDSCL (Poisonous and deleterious substances)

Substances for which production and import are banned by the following domestic statutes are not intentionally added to the product.

- ◎ JCSCL (Class 1 Specified chemical substances),
- ◎ ISHL (Production prohibited substances), ◎ PDSCL (Specified poisons)

Prepared by: Director of Quality Assurance Department, ▲▲ Division, ○○ Company, Ltd. + + + + +

Person in charge

Seal

JGP file for handwriting (Chemical content investigation sheet)

[Investigation entruster and trustee information]

Reference number		Date of reply		
Date of entry				
Investigation entruster information	Company name			
	DUNS number			
	Department name			
	Location			
	Person in charge	Seal		
	Phone number			
	Facsimile number			
Email				
Investigation trustee information	Company name			
	DUNS number			
	Department name			
	Location			
	Entered by	Seal		
	Phone number			
	Facsimile number			
Email				

[Basic information on parts]

Parts number	Name of part	Name of manufacturer	Model number	Data version	Date of revision YYYY/MM/DD	Unit of investigation	Unit weight of investigation g	Ozone-depleting substances used (Yes/No)	Contains chemical substances in Table 2 (Yes/No)

[Chemical group content information] Version of guidelines used for chemical content management _____

Self-audit result number _____

	Substance class number.	Substance group	Detailed substance information is recorded	Content mg	Region of use	Purpose of use
Level A	A05	Cadmium and its compounds	(Yes/No)			
	A07	Chromium VI and its compounds	(Yes/No)			
	A09	Lead and its compounds	(Yes/No)			
	A10	Mercury and its compounds	(Yes/No)			
	A17	Bis (tributyltin) oxide (TBTO)	(Yes/No)			
	A18	Tributyltins (TBTs)/Triphenyltins (TPTs)	(Yes/No)			
	B02	Polybrominated biphenyls (PBBs)	(Yes/No)			
	B03	Polybrominated diphenyl ethers (PBDEs)	(Yes/No)			
	B05	Polychlorinated biphenyls (PCBs)	(Yes/No)			
	B06	Polychlorinated Naphthalenes (3 or more chlorine atoms)	(Yes/No)			
Level B	B09	Short-chained chlorinated paraffins	(Yes/No)			
	C01	Asbestos	(Yes/No)			
	C02	Specified azo dyes/pigments	(Yes/No)			
	C04	Ozone-depleting substances	(Yes/No)			
	C06	Radioactive substances	(Yes/No)			
	A01	Antimony and its compounds	(Yes/No)			
	A02	Arsenic and its compounds	(Yes/No)			
	A03	Beryllium and its compounds	(Yes/No)			
	A04	Bismuth and its compounds	(Yes/No)			
	A11	Nickel and its compounds	(Yes/No)			
A13	Selenium and its compounds	(Yes/No)				
B07	Poly (vinyl chloride) (PVC)	(Yes/No)				
B08	Brominated flame retardants	(Yes/No)				
C05	Phthalates	(Yes/No)				

[Chemical content information] For metals, alloys and metal compounds in groups A and D (Enter metal content)

Substance class number	Example substance class number	Substance name (in Japanese or English)	CAS number	Metal conversion factor	Content of compound	Metal content (mg)	Region of use	Purpose of use
Total								

[Chemical content information] For chemical substances in groups B and C (Enter chemical substance content)

Substance class number	Example substance class number	Substance name (in Japanese or English)	CAS number	Content of compound (mg)	Region of use	Purpose of use
Total						

Interpretation of terms used in the guidelines

1. CAS No.

This term refers to a registration number for chemical substances used in the chemical substance registration system of CAS (Chemical Abstract Service) produced by the American Chemical Society. A total of 36 million types of chemical substances (as of February 2002) that appear in the literature published since 1962 are registered. The CAS Registry Number assigns one number to one chemical substance and it is the only method of identifying chemical substances accurately.

2. JGP file

This term refers to the electronic file for providing survey replies that is used by JGPSSI. It is a highly versatile format that may be used with Excel and other software. The extension to the file name is “.jpg”.

This can be output by pushing the “SAVE JGP” button in the survey reply tool. Various data related to the survey reply are stored in this file in JGP format.

Refer to the website of JEITA: <http://home.jeita.or.jp/009.html>

3. JGPSSI

JGPSSI stands for Japan Green Procurement Survey Standardization Initiative. Refer to 8. Japan Green Procurement Survey Standardization Initiative (JGPSSI).

4. MSDS

This is a safety data sheet for chemical substances and products. The term is the abbreviated form of the expression “Material Safety Data Sheet.” In Europe, a similar data sheet is called SDS (Safety Data Sheet) while in the ISO standards, it is called Safety Data Sheet for Chemical Products (ISO 11014-4). The data sheet was produced and is provided in order to allow businesses that handle chemical substances to take the necessary measures for preservation of the environment and health and with respect to safety in the work. In Japan, the provision of MSDS is mandated under the Industrial Safety and Health Law, Pollutant Release and Transfer Register Law (PRTR Law), and Poisonous and Deleterious Substances Control Law. The method of completion of the data sheet is determined under ISO 11014-4 (the corresponding JIS standard is JIS Z 7250) and guidelines on producing MSDS have been published by the Japan Chemical Industry Association. Please refer to Part I page 12.

5. MSDSplus

MSDSplus is a format established by the Japan Chemical Industry Association to supplement MSDS and be used when providing information on the content of specific hazardous substances concerning minute quantities, such as for cadmium. It is used in combination with MSDS. Please refer to the website of Japan Chemical Industry Association:

http://www.nikkakyo.org/library/dioxin_lib_doc.php3?issueid=32

6. Articles

Also called “products.”

The new substances notification requirements under TSCA define an article as follows:

- (1) They are formed into a specific shape or design during manufacturing.

- (2) They have a final application function that depends on their shapes or designs when finally used.
- (3) Their chemical composition is not changed even when finally used or they have no other commercial purposes even if their composition is changed.

However, no products in the form of liquid or granules are regarded as articles irrespective of their shapes or designs. In the U.S. OSHA HCS and Toxic Chemical Substances Notification Report (40CFRPart372), the above condition (3) has been altered and added with the condition: "Articles shall be such that no dangerous or hazardous chemicals are exposed or released under normal use and processing conditions."

A term that contrasts with articles is chemical substances.

7. Open Recycled Materials

Recycled materials for which the identity of their raw materials is not managed.

8. Japan Green Procurement Survey Standardization Initiative (JGPSSI)

A council of volunteers, particularly from electric power companies, established in 2001 with the aim of standardizing surveys on green procurement. As of September 2004, it has 79 member companies and 5 member organizations and has standardized the breakdown list of targeted chemical substances and survey formats. It is now studying the creation of guidelines for raising the accuracy of survey and report data.

9. Minerals

This term refers to natural mineral sources such as ores of copper and tin, and clays such as kaolin, mica and smectite. These minerals may contain large quantities of impurities such as cadmium, mercury, and lead.

10. Compounds

Forming materials such that various additives, modifiers, assistants, pigments are optimally added to a base resin in accordance with various forming methods and applications.

11. Supply Chain

Essentially, the term supply chain generally refers to the processes of development, procurement, manufacture, transport, and sales that link the supplier to the consumer. In the green procurement survey, supply chain refers to all activities up to the manufacture of the final product. Raw material chemical substance manufacturers, fabrication and processing manufacturers, parts manufacturers, parts assembling manufacturers, and final product manufacturers are included in the supply chain.

12. Subparts

Parts used to make up other parts.

13. Scheme

Contents to be implemented in each unit process in order to manage chemical content.

14. Higher risk factor

A factor indicating the possibility of containing one or more of the six substances (lead, mercury, cadmium, hexavalent chromium, PBB, PBDE) prohibited from being contained when manufacturing products, parts, and raw materials under the RoHS directive. Composed of higher risk raw materials, higher risk materials, and higher risk processes.

15. Higher risk raw materials

Raw materials that may contain one or more of the six substances (lead, mercury, cadmium, chromium VI, PBB, PBDE) that are prohibited from being contained in products under the RoHS directive.

16. Higher risk materials and parts

Materials and parts with a high possibility of containing one or more of the six substances (lead, mercury, cadmium, hexavalent chromium, PBB, PBDE) that are prohibited from being contained in products under the RoHS directive.

17. Higher risk processes

Processes with the possibility of causing contamination by one or more of the six substances (lead, mercury, cadmium, hexavalent chromium, PBB, PBDE) that are prohibited from being contained in products under the RoHS directive. Or processes with the possibility of accidentally using parts and products containing one or more of the six substances.

18. Parts

Parts means parts used to make up products.

19. Master Batch

A high-concentration color compound composed of plastics (resin) and a large amount of dyes and/or pigments. Designed to provide an accurate color concentration by adding a small amount of this master batch to uncolored plastics. It features accurate measurement and causes no environmental contamination.

20. Millsheet

When steel mills receive orders for specified steel products they issue a document commonly referred to as a "millsheet" that verifies that the product satisfies the specifications. It is officially called a "Steel product inspection certificate" or just an "Inspection certificate." A steel product inspection certificate is issued only when the orderer requests one (including items).

21. Recycled Materials

While there is no strict definition of the term "recycle," in general it refers to the "reuse and retrieval as resource of waste or natural resource" and refers to materials that are reused and retrieved as a resource.

Recycled materials may be categorized in closed cycle materials with respect to which chemical substances that are intentionally contained in the material and the properties of the material are known and open cycle materials that are obtained on the market with respect to which the properties and chemical substance content are not known.

22. Processes

Processes used in the manufacture of raw materials, parts, and products.

23. Chemical Substances

This term refers to chemical substances that are the raw materials for the manufacturing of parts and components or chemical substances that are used in the manufacturing processes (for example, solvent, additives, resin pellets, etc.) or their admixtures (for example, polymers blended into ink, etc.).

24. Contain

In this document, the term "contain" (or contained/content or other grammatical forms thereof)

shall refer to the fact that chemical substances are contained in parts, materials, and products as ingredients or composite materials.

This green procurement survey is a survey of the “chemical substance content” in parts and materials. Chemical substances from nature that contaminate a product (impurities) or chemical substances that generally remain in the industrial manufacturing stage (residuals such as impurities, residual solvent, and non-reacting monomers) are also considered to be chemical substance content.

25. Chemical content

Raw materials and chemical substances such as pellets and ink and chemical substances contained in plastic sheets, parts, and electrical and electronic products. Not only main components but also several ten ppm of impurities contained are also covered. (Practical Application of Green Procurement, 2003, Maruzen)

26. Original Parts

This term refers to parts that are manufactured through such processes as fabrication, heating, or coating through which the chemical substance content of a solid article is fixed.

The amount of chemical substance contained in original parts is determined according to what chemical substance is mixed, how the composition or chemical substance changes during the manufacturing process, and to what degree the chemical substance is polluted during the manufacturing process.

27. Raw Materials

Primary or secondary materials used in manufacturing products.

28. Chemical Raw Materials

This term refers to chemical substances that are the raw materials for the manufacturing of parts and components or chemical substances that are used in the manufacturing processes (for example, solvent, additives, resin pellets, etc.) or their admixtures (for example, polymers blended into ink, etc.).

29. Specifications

Documents that establish items such as quality and delivery conditions with respect to receiving goods such as raw materials, parts, and components used in manufacturing with manufacturers or suppliers. They are usually documents aimed at providing a common recognition of the stable quality of received goods and standardized and safer manufacturing and, in these Guidelines, they refer to documents used to provide a common recognition of the types and quantity of chemical substances contained in received goods.

30. Management Unit Process and Unit Process

31. Products

Refers to products delivered to consumers.

Issued by
Environment/Quality Management Department,
CSR Promotion Division,
Fujifilm Co., Ltd.