



Issued Date : July, 2005

Green Procurement Standard, Ver.1

For raw materials, containers, packaging materials, and resale products

- Responsible Care Headquarters
- Purchasing Division

Sanyo Chemical Industries, Ltd.



Contents

I .	Introduction	.....	Page 14-02
II .	Management Policy Concerning Responsible Care	.....	Page 14-03
III .	Basic Guideline for Green Procurement	.....	Page 14-04
IV .	Application Standard of Green Procurement Guideline	.....	Page 14-05
	Flowchart for judgment of contents of Environmental Impact Substances	.....	Page 14-08
	Investigation Report of Environmental Conservation Activities		:Form -A
	Concentration Investigation Report of Environmental Impact Substances in Procurement Materials		:Form -1
	Concentration Investigation Report of Specific Heavy Metals		:Form -2
	Non-content Certification of Specific Chemical Substances in Procurement Materials		:Form -3
Attached Document	: Interpretation of Chemical Substance Management Standard		
	: List of Environmental Impact Substances		

I . Introduction

It can be said that the structure of society based on mass production, mass consumption and mass disposal is now coming to an end and is becoming a sustainable recycling-oriented society.

The chemical industry supplies various useful products and raw materials for our daily life. However, these products and raw materials may cause serious damage to the ecosystem, including human beings and their environment, if handled inappropriately. We recognize that the chemical industry has a responsibility to minimize this risk (i.e. to reduce the impact on the global environment) which will lead to the establishment of a sustainable recycling-oriented society.

Sanyo Chemical Industries, Ltd. has tackled with Responsible Care (RC) activities since 1995. RC activities are voluntary activities concerned with *environmental conservation* and *safety* through the lifecycle of chemical products from development, manufacturing, delivery, and use to final disposal. As a chemical company, we are practicing RC activities and supplying environmentally-friendly products which contribute to a sustainable recycling-oriented society.

Green procurement, which is procuring raw materials with low environmental impact from the design and development stages, is indispensable in order to supply environmentally-friendly products.

Sanyo Chemical established its own green procurement standard, which prescribes for environmental concerns and the procurement of raw materials, in order to design for the environment and supply appropriate product information to society.

We will procure according to this standard and provide environmentally-friendly products to our customers.

We would like to ask for our suppliers continued understanding and support as this is necessary to promote green procurement.

II . Management Policy Concerning Responsible Care

Sanyo Chemical conducts its business operations based on its Management Philosophy, which is underpinned by our company motto, "Let us contribute to building a better society through our corporate activities." We voluntarily and actively tackle issues relating to pollution prevention, accident prevention, employee safety and hygiene, product safety and the global environment, practicing Responsible Care (RC) activities in the process.

1. One of management's priorities is to maintain harmony with the global environment by constantly promoting trouble-free and accident-free operations.
2. We comply with the policies of administrative authorities and international regulations in all areas of our operations.
3. We consistently work to improve the environment and safety throughout the entire product life cycle from product development to production, distribution, use, final consumption and disposal.
4. To reduce environmental impact, we strive for product development and production that would be conducive to the reduction of greenhouse gas emissions as well as energy and resource conservation, while also promoting recycling and the reduction of waste and chemical substance emissions.
5. In addition to providing safe products that achieve customer satisfaction, we always search out the latest information regarding product safety and supply it to our customers.
6. We constantly work to deepen communication with relevant administrative authorities and regional communities concerning our environmental conservation activities.

Established: Nov. 1, 1996
2nd version revised: Aug. 6, 1999
3rd version revised: Jun. 2, 2005

III) Basic Guideline of Green Procurement

<Definition>

We define Green Procurement as procuring materials with low environmental impact.

<Objective>

Article 1 We establish this guideline in order to procure materials with low environmental impact in order to supply environmentally-friendly products to society.

<Scope of application>

Article 2 This guideline is applied to materials which we procure.
i.e. raw materials, containers, packaging materials and resale products. These are referred to as *procurement materials* below.

<Procurement selection standard>

Article 3 We judge on not only *quality, pricing and supply stability* but also the *environment* when new procurement materials are selected.
As for the *environment*, the following two criteria are essential.

- (1) Environmental activities of the supplier and the manufacturer
- (2) Environmental impact of the substances in the procurement materials
i.e. Not-using products or materials that contain substances that have a serious impact on the environment.

<Supplier selection standard>

Article 4 We give priority to the suppliers who also engage in environmental conservation activities as follows under standards such as ISO14001 and EMAS.
Although we do not require acquisition of ISO14001 certification, etc., we consider that it is necessary for the supplier to execute environmental conservation based on environmental management systems.

- (1) Operating under the established environmental management system
- (2) Conserving energy and preventing global warming
- (3) Conserving resources and reducing waste
- (4) Reducing chemical emissions to the environment
- (5) Preventing air, water and soil pollution
- (6) Developing environmentally-friendly products
- (7) Operating the established chemical substances management system
- (8) Complying to the RoHS and ELV regulations of the EU

<Material selection standard>

Article 5 We procure materials adapted to our Chemical Substance Management Standard.
In the case of chemical products, not only the products but also their containers, packaging and shipping materials are included.
It is required that in *procurement materials*,

- 1) our prohibited substances are not contained
- 2) the concentration of our limited use substances are controlled.

<Implementation>

Article 6 In implementing this guideline, we establish detailed rules in the Green Procurement Operation Manual as the basis of selection standards of Article 4 and 5.

<Additional clause>

This guideline shall be revised at any time by changes of law and social situations.

IV) Green Procurement Operation Manual

We judge on not only *quality, pricing and supply stability* but also the *environment* when new procurement materials are selected.

As for the *environment*, the following two criteria are essential.

- (1) Environmental activities of the supplier and the manufacturer
- (2) Environmental impact of the substances in the procurement materials
i.e. Not-using products or materials that contain substances that have a serious impact on the environment.

1.Evaluation of suppliers

■Method of evaluation

We give priority to the suppliers who also engage in environmental conservation activities as below under environmental management standards such as ISO14001 and EMAS.

We do not always require the acquisition of ISO14001 certification, etc.

ISO14001, EMAS

Other environmental management systems

Ecoaction21 (Ministry of Environment), KES (Kyoto Environment Management System), Environmental audit by RICOH, FUJITSU, Sony Green Partner, etc.

Company-based environment management systems

■Procedure of evaluation

Investigation Report of Environmental Conservation Activities, attached as Form-A, is required.

In accordance with this form, a self-evaluation of factories where procurement materials are produced should be done. Both the reports and evaluation results are used only for internal documents according to our Privacy Policy and will not be made public.

■ Specific evaluation method

Please self-evaluate and report the information by answering the questions concerning environmental management systems (50 point full marks) and environmental conservation activities (50 point full marks) on Form-A.

The investigation is regularly executed at the frequency once every a few years for the customers of the AA rank (90 points or more), and annual frequency for the customers below A rank (less than 90 points). Improvement is occasionally requested based on the evaluation results.

<Table 1 Rank of evaluation>

Rank	Points	Evaluation	Evaluation Frequency
AA	90-100	EMS is excellent	Once every a few years
A	80-89	EMS is good	} Once a year
B	50-79	EMS level-up is required.	
C	Less than 50	Establishment of EMS is required	

2.Evaluation of procurement materials

■Method of evaluation

- (a) MSDS, Concentration Investigation Report of Environmental Impact Substances in Procurement Materials, Concentration Investigation Report of Specific Heavy Metals and Non-content Certification of Specific Chemical Substances in Procurement Materials, attached as Form-1 to Form-3, are required.
These reports are the certification and guarantee of concentration of our Environmental Impact Substances.
- (b) When the material compositions and the manufacturing processes are changed, please inform us in advance in writing.
- (c) The information is evaluated in our company.

■Procedure of evaluation

- (a) We define both Prohibited Substances (level 1) and Limited Use Substances (level 2) as Environmental Impact Substances. Please inform us of the concentration of these substances in the procurement materials.
When the investigation results change, please inform us in advance in writing immediately.

- (b) If procurement materials are chemicals, that is raw materials or resale products for us, please report each measured value of cadmium, lead, mercury and hexavalent chromium as much as possible.
We do not require the analysis report annually, but occasionally require them according to our customer needs.
- (c) RoHS adaptation guarantee of procurement materials is required. That is, guarantee of non-contain of six substances regulated in [2000/95/EU] in procurement materials is required. Moreover, investigation report of use history of these substances in factories is required.
- (d) Both the reports and evaluation results are used only for internal documents according to our Privacy Policy and will not be made public.
Improvement is occasionally requested based on the evaluation results.

■ Requirements for reporting Form-1 to Form-3

- (a) Concentration Investigation Report of Environmental Impact Substances in Procurement Materials (Form-1) and Concentration Investigation Report of Specific Heavy Metals (Form-2) are required for each procurement material.
- (b) Non-content Certification of Specific Chemical Substances in Procurement Materials (Form-3) is required for each factory where procurement materials are produced.
- (c) These forms should be signed by a manager or director of the environment or quality control division.
- (d) The content of Environmental Impact Substances are to be judged according to the flowchart on page 8.
- (e) In Form-1 Concentration Investigation Report of Environmental Impact Substances in Procurement Materials,
 - i) If procurement materials are chemicals, that is raw materials or resale products for us, please report the judgment results according to the flowchart on page 8, including the chemicals in their container and packaging materials.
If the judgment results correspond to (3) or (4) of the flowchart, enter the substance name and its concentration into the concentration table. In the concentration column, enter the theoretical value, estimated value or measured value.
 - ii) In the case of containers and packaging materials, each of the parts and materials in the container and packaging materials are required to be investigated. Enter the substance name, concentration, and location into the concentration table.
- (f) In Form-2 Concentration Investigation Report of Specific Heavy Metals,
 - i) If procurement materials are chemicals, that is raw materials or resale products for us, please report the content of 4 heavy metals (i.e. cadmium, lead, mercury and hexavalent chromium) including their containers and packaging materials as much as possible. If measured value is not available, report the possibility of content. If concentration is low, measurement should be done using instruments for precise analysis, such as Inductively Coupled Plasma apparatus or Atomic Absorption apparatus.
 - ii) Concentrations must reflect one sample measured value and not the values for specifications and guaranteed values.
- (g) In Form-3 Non-content Certification of Specific Chemical Substances in Procurement Materials,
 - i) If procurement materials are chemicals, that is raw materials or resale products for us, please guarantee that concentration of RoHS regulatory substances in procurement materials is lower than the threshold in Table-2. Enter the product name guaranteed in Table-1, otherwise enter the product name not-guaranteed and the reason in Table-3.
 - ii) Select and enter the corresponding number, from the choices below Table-4, for use history of RoHS regulatory substances used in factories where procurement materials are produced.
Also, enter abolition time and abolition plan.

3.Note

- (a) Environmental Impact Substances may be revised at any time in accordance with laws and social situations.
- (b) Based on the information on Form-A, Form-1 and Form-2, improvements may be required.
- (c) When values lower than our content limit of Environmental Impact Substances is required by our customers, we occasionally require our suppliers to provide special controlled concentrations corresponding to our customer's needs.
- (d) For more information or questions, please contact us at the following address.

Sanyo Chemical Industries, Ltd.	
RC Group, Production Technology Division	
E-Mail	: rc-group@sanyo-chemical.com
FAX	: +81-75-531-2139 Kyoto, Japan

<Explanation of terms>

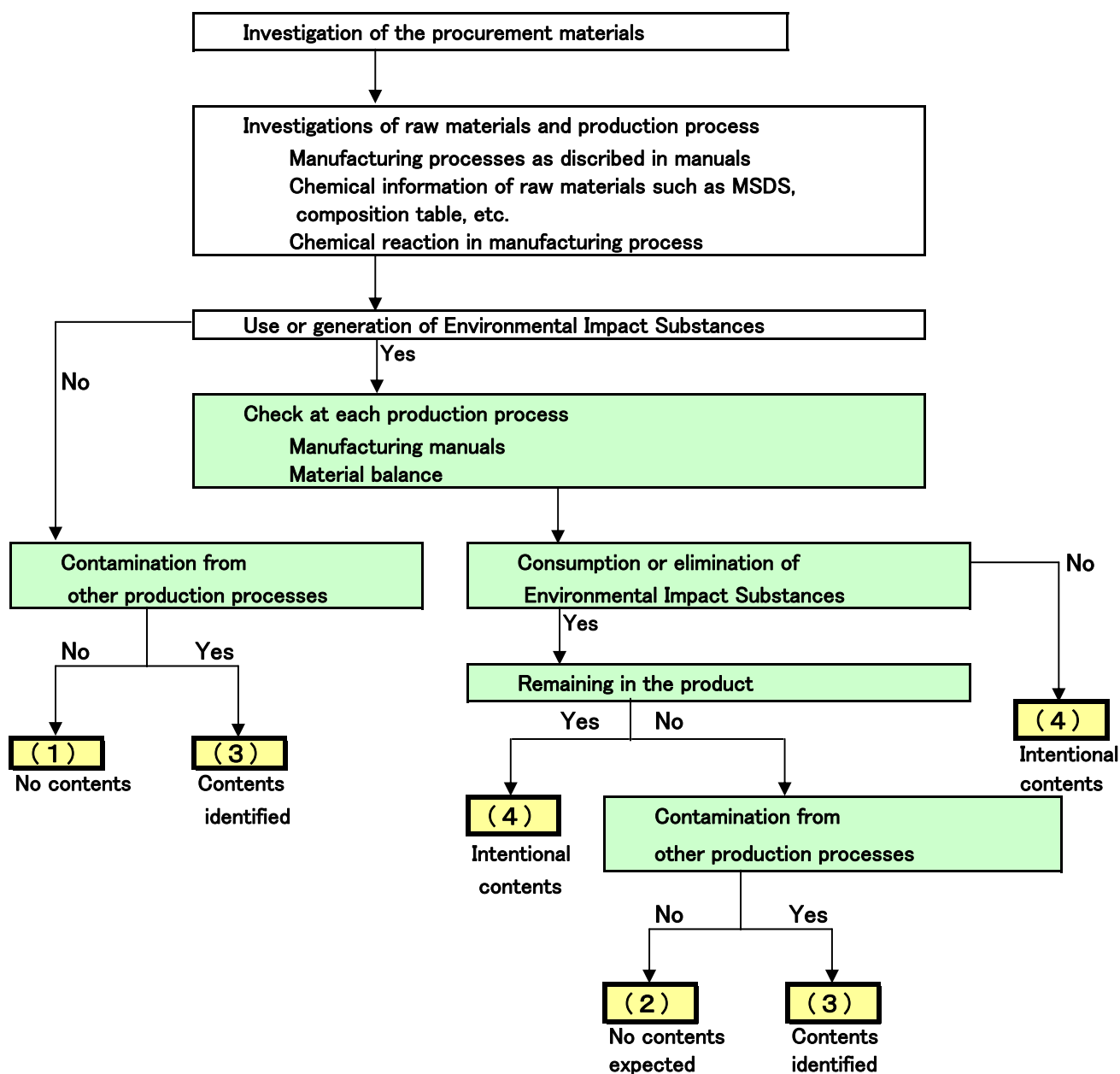
The following terms used in these guidelines shall have the meanings as stated below.

- (a) Environmental Impact Substances
Chemical substances and chemical substance groups that we need to know the concentration or non-use in the procurement materials according to our Chemical Substances Management Standard.
- (b) RoHS
EU directive for *the restriction of the use of certain hazardous substances in electrical and electronic equipment*
- (c) Specific heavy metals
Cadmium, lead, mercury and hexavalent chromium compounds. These are strictly controlled in EU, US and other countries.
- (d) Intentional use
Intentionally adding and mixing of raw materials containing Environmental Impact Substances to the products in production processes in order to have proper characteristics, performances, appearance, and quality.
In the raw materials, catalysts, solvents, process agents, supplementary agents, additives, etc. are included.
- (e) Intentional generation
Intentionally generating Environmental Impact Substances in production processes by chemical reactions in order to have a proper characteristics, performances, appearance, and quality to the products.
- (f) Contaminant
Unintentionally containing Environmental Impact Substances in the procurement materials for following reasons.
 - i) Impurities in raw materials
 - ii) Contamination from equipment and instruments of manufacturing, pipe lines and containers, etc.
 - iii) Contamination from other products by general-use equipment
- (g) By-product
Unintentionally generating Environmental Impact Substances in production processes resulting in unexpected substances.

Revision history

Established: July 11, 2005

Flowchart for Judgment of Contents of Environmental Impact Substances



Judgement results

(1) No contents	It can be considered to not contain Environmental Impact Substances because there is no intentional use, no intentional generation, no contamination and no by-products.
(2) No contents expected	It can be considered to not intentionally contain Environmental Impact Substances. Though there is intentional use or intentional generation, it can be considered that Environmental Impact Substances do not remain by the removal operations, such as distillation and filtration, and consumption by chemical reactions in the manufacturing processes.
(3) Contents identified	It can be considered to unintentionally contain Environmental Impact Substances because the remaining substances in the product are identified as contamination or as by-products. Also in this category are case where the source of contamination is unknown and the measured value is over detection limits.
(4) Intentional contents	It intentionally contains Environmental Impact Substances by intentional use or intentional generation.

Investigation Report of Environmental Conservation Activities

(For manufacturer and supplier of Raw materials, containers, packaging materials, and resale products)

■ Please fill in the blanks.

Company Name	
Type of Business	
Factory Name	
Factory Location	

Date	
Responsible Person	
Name	
Position	
Tel	
Fax	
E-Mail	

■ Please enter your answer or selection number from Answer Guide into the blue box.

[I] Environmental Management System (50 points)

EMS Type	Registration Status	Registration Date or Schedule	Certification Organization

In case of other systems, system name

If registration status is "have already acquired" or "will acquire in a year", go to questions [II].

	answer
1 Do you have an environmental policy or philosophy ?	
2 Do you regularly evaluate environmental impacts and environmental effects of your products and corporate operations?	
3 Do you have systems and rules in order to comply with environmental laws and regulations ?	
4 Do you have targets and plans for reduction of environmental impact?	
5 Do you have management systems for environmental conservation?	
6 Is there a director who is in charge of environmental affairs?	
7 Do you have procedure documents for operations of environmental facilities, equipment and other activities?	
8 Do you have rules for emergency situations such as accidents or disasters, etc.?	
9 Do you have audit system in order to check environmental activities regularly?	
10 Do you have rules for reviewing and continuously improving environmental activities ?	

[II] Environmental Activities in Corporate Operations (50 points)

11 Do you take actions to prevent global warming and to save energy?	
12 Do you take actions to conserve resources, to reduce and recycle wastes?	
13 Do you take actions to reduce emissions of chemical substances into the environment?	
14 Do you take actions to prevent air, water, soil and ground water pollution?	
15 Do you design for the environment in product development?	
16 Do you control extremely small quantities of hazardous chemical substances, impurities and by-products in your products?	
17 Do you practice green procurement or green purchasing ?	
18 Do you take actions to reduce environmental impact in transportation of your products ? (For example, improvement of container or packaging, modal shift, efficient transportation, transportation using low pollution vehicles, etc.)	
19 Do you educate your employees about environmental affairs?	
20 Do you open environmental conservation information to the public ?	

[III] Rank of Evaluation Result

Points	
Rank	

Rank	Points	Evaluation
AA	90-100	EMS is excellent
A	80-89	EMS is good
B	50-79	EMS level-up is required
C	Lower than 50	Establishment of EMS is required

Sanyo Use Only

Answer Guide

Type of Business	Selection No.
Manufacturer of chemicals	2
Manufacturer of container or package materials	3
Agency or trading company	4
Others	5

EMS Type	Selection No.
ISO14001	2
EMAS	3
Ecoaction21	4
Kyoto Environmental Management system	5
Others	6
No plan of acquisition	7

Registration Status	Point
Have already acquired	50
Will acquire in a year	40
Will acquire after more than one year or schedule is not fixed	0
No plan of acquisition	0

Q1, 3-5, 7-10	Point
Yes	5
Under construction in processes	3
No	1

Q2	Point
Yes	5
Now investigating	3
No	1

Q6, 11, Q12, 14	Point
Yes	5
No	1

Q13	Point
Tackling voluntarily and legally required actions to reduce emissions	5
Reducing emissions only in accordance with regulations	3
No regulations / no manufacturing activities	5
Have no specific plan	1

Q15	Point
Designing for the environment	5
Considering environment but having priority over quality and performance	3
No consideration	1
Do not have design or development functions	5

Q16	Point
Controlling already	5
Investigating and/or measuring only as required	3
Have plans to control	2
Have no plans to control	0

Q17	Point
Practicing concerning raw materials as well as office stationary and office equipment	5
Practicing concerning office stationary and office equipment	3
Have plans	2
Have no specific plan	1

Q18-20	Point
Now practicing	5
Have plans	3
Have no specific plan	1

[I] and [II]

Concentration Investigation Report of Environmental Impact Substances in Procurement Materials

Procurement material Product name	
Manufacturer Name	

Sanyo Use Only

The investigation result of procurement material described above (including its container and package materials in the case of chemical product) is shown in the following tables. Please check only one of the following.

Judgment Result Table

(1)	<input type="checkbox"/>	No content	It can be considered to not contain Environmental Impact Substances because there is no intentional use, no intentional generation, no contamination and no by-products.
(2)	<input type="checkbox"/>	No contents expected	It can be considered to not intentionally contain Environmental Impact Substances. Though there is intentional use or intentional generation, it can be considered that Environmental Impact Substances do not remain by the removal operations, such as distillation and filtration, and consumption by chemical reactions in the manufacturing processes.
(3)	<input type="checkbox"/>	Contents identified	It can be considered to unintentionally contain Environmental Impact Substances because the remaining substances in the product are identified as contamination or by-products. Also in this category are case where the source of contamination is unknown and the measured value is over detection limit.
(4)	<input type="checkbox"/>	Intentional contents	It intentionally contains Environmental Impact Substances by intentional use or intentional generation

IF (3) OR (4) ARE SELECTED,
ENTER THE RESULT INTO THE
FOLLOWING CONCENTRATION
TABLE

Instructions for the Following Concentration Table

- *1 Enter the number from the Judgment Result Table.
- *2 Enter the number from Table-1 in attached document, List of Environmental Impact Substances.
- *3 Enter the name from Table-1 in attached document, List of Environmental Impact Substances.
- *4 Enter the location where Environmental Impact Substance exists.
(For example, in chemicals, in paint of container, in binder of label etc.)
- *5 Enter the concentration of Environmental Impact Substance and its unit.
If not measured, enter the estimated or theoretical value.
- *6 If measured, select and enter the analytical method number for the following apparatus.
- *7 If measured, enter detection limit.
- *8 If there is specific comment, enter into note column.

1 Gas Chromatography (GC)	4 X-ray Analysis
2 Inductively Coupled Plasma (ICP)	5 Liquid Chromatography (LC)
3 Atomic Absorption (AA)	6 others (enter method in note column)

Concentration Table

*1	*2	*3	*4	*5	*6	*7	*8
Judgment Result No.	Substance No.	Substance Name	Substance Location	Concentration Unit	Method	Detection Limit	Note
(ex) 3	1074	benzene	chemicals	100 ppm	1	5ppm	

We guarantee that this procurement material (including its container and packaging materials in case of chemical product) does not contain Environmental Impact Substances which are listed in the Table-1 in attached document, List of Environmental Impact Substances, except the substances listed in Concentration Table above.
If the raw materials or the production processes are expected to change, we will inform you in advance in writing.

Company Name

Position in the company

Name of Responsible Person

Tel

Fax

E-Mail

Signature

Concentration Investigation Report of Specific Heavy Metals

Procurement material Product Name	<input type="text"/>
Manufacturer Name	<input type="text"/>

Sanyo Use Only

Report the investigation results of the procurement material described above in the following table.

- [If procurement material is a chemical product, enter the measured value for each metal even if it was reported on in Form-1.]
 [If procurement material is a container or packaging material, this report is not required.]

Instructions for the Table 2

- *1 Enter the measured value and its unit, e.g. ppm.
 *2 If the measured value is under the detection limit, don't describe it as ND or Not Detected, describe the actual value, e.g. *lower than 0.1ppm* .
 *3 In Method column, select the method number from Table 1.

Table 1 Measurement Methods

1 Inductively Coupled Plasma (ICP)	4 Ion Chromatography
2 Atomic Absorption (AA)	5 Absorption Spectroscopy
3 X-ray Analysis	6 others (enter method name in note cell)

- *4 If measured, enter the detection limit.
 *5 Total chromium can be reported in the Note column.
 *6 If there are specific comments, enter them in the Note column.

Table 2 Measurement Result

Substance No.	Substance Name	Concentration *1, 2, 5 unit	Method *3	Detection Limit *4	Note *5, 6
1077	cadmium	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2054	lead	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1076	mercury	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1075	hexavalent chromium	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Company Name	<input type="text"/>	
Position in the company	<input type="text"/>	
Name of Responsible Person	<input type="text"/>	
Tel	<input type="text"/>	<input type="text"/>
Fax	<input type="text"/>	
E-Mail	<input type="text"/>	
Signature	<input type="text"/>	

Non-content Certification of Specific Chemical Substances in Procurement Materials

Date _____

Company Name _____

Factory Name _____

Name of Responsible Person _____

Section _____

Position in company _____

Signature _____

1. We guarantee that our materials shown in Table-1 which we supply to Sanyo Chemical Industries, Ltd. do not contain the substances regulated by the RoHS Directive. The phrase "do not contain" mentioned above means that regulated substances are not used intentionally and the concentration of each regulated substance is lower than the threshold in Table-2.

Table-1 Guaranteed Materials

Product Name:

Table-2 Regulated Substances of the RoHS Directive * (2002/95/EC) and their thresholds

Regulated Substance	Threshold
Cadmium and its compounds	100ppm as Cd
Lead and its compounds	1000ppm as Pb
Mercury and its compounds	1000ppm as Hg
Hexavalent Chromium and its compounds	1000ppm as Cr ⁶⁺
Polybrominated biphenyl (PBB)	1000ppm
Polybrominated diphenylether (PBDE)	1000ppm

* Restriction of using the specified Hazardous Substances included in electrical and electronic equipment

2. We cannot guarantee undermentioned materials shown in Table-3.

Table-3 Not Guaranteed Materials

Product Name	Reason

3. Report of the use history of regulated substances of the RoHS in the factory in Table-4.

Table-4 Use History of Regulated Substances

Subject Substance	Use History **	Abolition Plan		Abolition schedule
		yes	no	
Cadmium and its compounds		yes	no	
Lead and its compounds		yes	no	
Mercury and its compounds		yes	no	
Hexavalent Chromium and its compounds		yes	no	
Polybrominated biphenyl (PBB)		yes	no	
Polybrominated diphenylether (PBDE)		yes	no	

If you are now using a regulated substance, please report your abolition plan and schedule.

** Use History: select the following number

1 : Now using

2 : Used in the past but abolished using

3 : Have never used

4 : Unknown