

人と地球にやさしい双信電機グループ
Considerate of people and friendly to the globe



Green Procurement Guidelines

2nd-issue



双信電機株式会社
SOSHIN ELECTRIC CO., LTD.
<http://www.soshin.co.jp>

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Introduction

We, at the Group of Soshin Electric companies, are committed to continually endeavor to preserve the global natural environment, which we regard as one of the key business issues, throughout our business activities covering the stages of product development, designing, manufacturing and marketing. Growing social concern about environmental issues and forward movement by the EU of environmental legislation have made requirements for fulfillment by business enterprises of social responsibilities more mandatory and stringent.

Having recognized that green procurement is an important role business enterprises must play, the Group of Soshin Electric companies have updated its Green Procurement Guidelines to facilitate procurement of products that least burden the environment. Our Green Procurement Guidelines will constitute the base for our procurement activities of the least environmentally burdening products (parts, sub-materials, packaging materials, etc.) from supply sources who are actively and seriously exercising their efforts to reduce environmental burden. Success in achievement of our procurement policy outlined above totally depends upon the cooperation by you, our valued suppliers. In this sense, as well, essential for mutual benefits and prospect are your understanding and support, which we highly appreciate.

Soshin Electric Co., Ltd.
Material Department
Environment Control Room

1. Environmental activities of the Group of Soshin Electric companies

Environmental Philosophy

It is our pleasure to have helped society progress and optimize by supplying highly functional electronic components. Recognition of preservation of the irreplaceable global environment as one of the issues of paramount importance involved in business activities has led us to determine that we will put our efforts to the fullest extent toward continual improvement of the natural environment through every business activity we make in the development, designing, manufacturing and marketing stages.

Environmental policy

Everybody who is working at, and who is involved in business run by, the Group of Soshin Electric companies commits themselves to regard it as one of the most important management subjects to continue to conduct activities in an environmentally considerate manner and their improvement by:

1. observing laws, agreements and arrangements with our customers, and self-defined standards,
2. exercising in an organizational and continual manner reduction efforts for environmental burden to our set environmental targets via:
 - a. reduction of carbon dioxide through more effective use of energy,
 - b. reduction of the amount of total waste and promotion of recycling,
 - c. tighter management of environmental burdening substances and reduction of their use, and

- d. monitoring of environmental pollution prevention activities and strengthening of preventive measures.
3. development, designing, manufacturing and sales of environmentally considerate products, and
4. further promoting education/enlightenment activities for employees of, and those who are involved in business with, the Group of Soshin Electric companies to become even more conscious of their roles/responsibilities.

2. Purpose of Green Procurement of the Group of Soshin Electric companies

Supply of environment-considerate products to our customers through development and designing of the least environment burdening products by promotion of Green Procurement is targeted.

To link achievement efforts for the target, procurement of the least environmentally burdening materials and parts from suppliers who address environment preservation will be encouraged. These Guidelines identify our basic ideas about Green Procurement and the specific requirements of the Group of Soshin Electric companies which we request our suppliers to meet.

The Group of Soshin Electric companies will share with our suppliers environmental preservation activity-related issues in a bid to deal with such issues in cooperation with them. We would like to urge you to complete and submit to us as soon as possible replies to the questionnaires we have sent to you. Suppliers who fail to provide us with data which we are in need of may lose business with us.

3. Scope of application of our Green Procurement program

- Parts (electrical and mechanical parts, semiconductor devices, PWBs, etc.)
- Sub-materials for use in products (plastics, silicone, ink, paint, adhesive, wire, metal cases, screws, solder, etc.)
- Packaging materials (trays, reels, bags, cushions, cartons, tape, labels, printing ink, etc.)

4. Environmental management materials

For the twenty four substance categories established on the basis of the JIG (Joint Industry Guidelines) which was proposed by JGPSSI, we identify substances which are prohibited from use or which must be controlled.

- For details, please refer to Table 1, Survey Substance List of the Group of Soshin Electric companies

Table 1 Survey Substance List of the Group of Soshin Electric companies

Prohibited substances and their threshold levels (quoted from the Jan. 5, 2006 revision of JIG-101. For cadmium and lead, our own requirements have been added)

No.	Classification No.(JGPSSI)	Material/chemical substance category	Threshold level	Application
1	C01	Asbestos	Intentionally added	All applications
2	C02	Certain azocolorants and azodyes	Intentionally added	Those which may continuously contact human skin
3	A05	Cadmium/cadmium compounds	5ppm	Paint, ink, plastics (including rubber and cable jackets)
			20ppm	Solder
			75 ppm or intentionally added	Applications other than the above
4	A07	Hexavalent chromium/hexavalent chromium compounds	1000 ppm or intentionally added	All applications
5	A09	Lead/lead compounds	100ppm	Paint, ink, plastics (including rubber and cable jackets)
			500ppm	Solder
			800ppm	Lead in eletroless nickel coating
			1000 ppm or intentionally added	Applications other than the above
6	A10	Mercury/mercury compounds	1000ppm or intentionally added	All applications
7	C04	Ozone layer depleting substances (CFC, HCFCs, HBFCs and carbon tetrachloride) (CFCs, HCFCs, HBFCs and carbon tetrachloride)	Class I: Intentionally added HCFC:1000ppm Class II: HCFC: 1000 ppm	All applications
8	B02	Polybrominated biphenyls (PBBs)	1000 ppm or Intentionally added	All applications
9	B03	Polybrominated diphenylethers (PBDEs)	1000 ppm or Intentionally added	All applications
10	B05	Polychlorinated biphenyls (PCBs)	Intentionally added	All applications
11	B06	Polychlorinated naphthalenes (more than 3 atoms)	Intentionally added	All applications
12	C06	Radioactive substances	Intentionally added	All applications
13	B09	Certain short chain chlorinated paraffins (See separate table)	Intentionally added	All applications
14	A18	Tributyl tin (TBT) and triphenyl tin (TPT)	Intentionally added	All applications
15	A17	Tributyl tin oxide (TBTO)	Intentionally added	All applications

Items to be controlled and their threshold levels (quoted from JIG-101 revised on Jan. 5, 2006)

No.	Classification No.(JGPSSI)	Material/chemical substance category	Threshold level	Application
16	A01	Antimony/antimony compounds	1000ppm	All applications
17	A02	Arsenic/arsenic compounds	1000ppm	All applications
18	A03	Beryllium/beryllium compounds	1000ppm	All applications
19	A04	Bismuth/bismuth compounds	1000ppm	All applications
20	B08	Brominated flame retardants (other than PBBs or PBDEs)	1000ppm	All applications
21	A11	Nickel (externally applications only)	1000ppm	All applications
22	C05	Certain phthalates	1000ppm	All applications
23	A13	Selenium/selenium compounds	1000ppm	All applications
24	B07	Polyvinyl chloride (PVC) (Statement such as an amount exceeding the threshold is "present" or "not present" is sufficient.)	1000ppm	All applications

Items exempted from application of the above

(Areas of applications of lead, mercury, cadmium and hexavalent chromium, exempted from requirements of Section 4 (1) of the RoHS Directive)

1. Mercury in compact fluorescent lamps not exceeding 5mg per lamp
2. Mercury in straight fluorescent lamps for general purposes not exceeding
 - (1) halophosphate 10 mg
 - (2) triphosphate with normal lifetime 8 mg
 - (3) triphosphate with a long lifetime 8 mg
3. Mercury in straight fluorescent lamps for special purposes
4. Mercury in lamps not specifically defined in this Annex
5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes
6. Lead as an alloying element, up to 0.35% by weight in steel, up to 0.4% by weight in aluminum and up to 4% by weight in copper
7. Lead in high melting temperature type solder (tin-lead solder alloys containing 85% or more lead)
8. Lead in solder for servers, storage and storage array systems (exempted until 2010)
9. Lead in solder for network infrastructure equipment for switching, signaling, transmission as well as network management for telecommunication
10. Lead in electronic ceramic parts (e.g. piezoelectric devices)
11. Cadmium plating and cadmium and its compounds in electrical contacts, except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations
12. Hexavalent chromium for anti-corrosion purposes of carbon steel cooling systems in absorption refrigerators
13. Deca-BDE in polymer applications
14. Lead in lead-bronze bearing shells and bushes
15. Lead in compliant pin connector systems

- 16. Lead used as coating materials for thermal conduction module C rings
- 17. Lead and cadmium in optical filter glass
- 18. Lead in solder consisting of 2 or more elements for connection between pins and packages of microprocessors, with lead content of 80% or more and less than 85%
- 19. Lead in solder for electrical connection of semiconductor dies and carriers in IC flip chip packages

Neither applicable to equipment, jigs and tools, and dies and molds which will not be a source of non-exempted substances being transferred to products

Additional items for packaging materials

The tolerable total concentration of mercury, cadmium, hexavalent chromium and lead is less than 100 ppm.

However, the tolerable concentration for cadmium and lead present in plastic (including rubber) paint and ink must meet the tolerable concentration for cadmium and lead.

5. Request to suppliers

(1) Environment-related materials to be submitted

Materials to be submitted are dependent on items which you supply to us, such as parts, sub-materials or packaging materials, etc.

Materials to be submitted	Parts	Sub-materials	Packaging materials
Form 1: Supplier Environmental Activity Assessment			
Chemical Substance Content Survey Sheet (JGPSSI)			
MSDS (or table of ingredients)			
Analysis data of prohibited substances			

: Must be submitted

: To be submitted upon request from us or our customers

(2) Form 1: Supplier Environmental Activity Assessment

An environmental management system is required to be established or equivalent activities for environmental preservation to be carried out. This is to survey your efforts for reduction of environmental burdening.

(3) Chemical Substance Content Survey Sheet (Carried on page 9 and also on Soshin Electric's web pages)

Submission of data concerning the presence of environmental burdening substances defined by the Group of Soshin Electric companies and their amounts is required.

Furthermore, additional requests for submission of data and some other materials may be forwarded to you when our major customers are in need of such materials.

This survey is intended for you, suppliers. Collection of data and the subsequent response to our requests are your responsibility. Information needed but not readily available within your organization shall be collected from your supply sources before provision of such information in an organized form for submission to us.

Here, we expect our suppliers to state the amounts of contents of 24 substance categories identified in JGPSSI Survey and Response Tool Ver. 3, which is generated by the Japan Green Procurement Survey Standardization Initiative (JGPSSI), to be answered.

Please refer to JGPSSI's Material Composition Survey and Response Manual, and Survey Response Tool Operation Manual for tips for survey. Please visit our web page (<http://www.soshin.co.jp>) and go to "English", "Company Guide", then to "Green Procurement Guidelines"

(4) MSDS (or table of ingredients)

Submission is required for control purposes of chemical substances in manufacturing processes, or for re-submission to our customers. Submit a table of ingredients if the MSDS is unavailable.

(5) Analysis data of prohibited substances

Depending on our customers' requests, we may ask you to submit measurement data proving evidence that, for parts and side-materials, the total content of 6 substances prohibited by the RoHS Directive (lead, cadmium, hexavalent chromium, mercury, PBBs and PBDEs) does not exceed 100 mg, and that packaging materials' total content of lead, cadmium and hexavalent chromium does not exceed 100 mg to comply with the Council Directive on packaging and packaging waste (94/62/EC).

[Items to be stated in the report]

Successful reports should contain the following items:

Method of pre-processing: State its name if a universal analysis method is used, or the specific name if a method other than a universal analysis method is used.

Measurement method: State either the name of the measurement method or the universal analysis method.

Names of the people who took measurements, the people who bear responsibility for measurement services, and of the organization which provided the analysis services.

Date of measurement (Measurements must not be older than one year to be effective.)

Result of measurement (State the value of the minimum limit of determination in case of ND.)

Measurement flowchart (necessary for lead and cadmium)

For lead and cadmium, a statement saying that such substances were totally solved, meaning that they were put into a liquid form, must be inserted in the measurement report or measurement flowchart.

[Measurement method]

1. Cadmium

(1) Pre-processing

The following are four typical pre-processing methods.

1. Incineration method in the presence of sulfuric acid
2. Pressurized acid decomposition method in a sealed container (including a microwave decomposition method such as EN 13346: or EPA3052:1996)
3. Acid decomposition method through the use of nitric acid, hydrogen peroxide solution, or hydrochloric acid, such as EPA3050B Rev. 2:1996
4. Wet decomposition method through the use of sulfuric acid, nitric acid or hydrogen peroxide solution

(Note) Precipitation (undesired substances), should it develop during pre-processing of cadmium contained in plastics, must be turned into solution by solving it by any means (an alkali fusion method may be one).

(2) Measurement method

The following are three typical measurement methods.

1. Inductive coupling - plasma emission spectroscopy analyzer (ICP-AES and ICP-OES): EN ISO 11885:1998 is an example.
2. Atomic absorption spectrometer (AAS): EN ISO 5961:1995 is an example.
3. Coupling - plasma mass spectrometer (ICP-MS)
 - Combinations of pre-processing and measuring instruments other than the above will be acceptable if they can ensure that the minimum limit of determination of cadmium is less than 5 ppm. Cadmium and lead can be analyzed at the same time unless the method used is AAS.

(Note) A dissolution method represented by EN71-3:1994, ASTM F963-96a and ISO 8124-3 cannot be used for pre-processing.

JIS K0102-55, Testing Method for industrial wastewater, is designed for nothing but measurement methods, needing separate statement of the pre-processing method.

2. Lead

(1) Pre-processing

The following are four typical pre-processing methods.

1. Incineration method in the presence of sulfuric acid
2. Pressurized acid decomposition method in a sealed container (including a microwave decomposition method such as EN 13346: or EPA3052:1996)
3. Acid decomposition method through the use of nitric acid, hydrogen peroxide solution or hydrochloric acid such as EPA3050B Rev. 2:1996
4. Wet decomposition method through the use of nitric acid or hydrogen peroxide solution

(Note) Sediment (undesired substances), should it develop during pre-processing of lead contained in plastics, must be turned into solution by solving it by any means (an alkali fusion method may be one).

(2) Measurement method

The following are three typical pre-processing methods.

1. Inductive coupling - plasma emission spectroscopy analyzer (ICP-AES and ICP-OES): EN ISO 11885:1998 is an example.
2. Atomic absorption spectrometer (AAS): EN ISO 5961:1995 is an example.
3. Inductive coupling - plasma mass spectrometer
 - Combinations of pre-processing and measuring instruments other than the above will be acceptable if they can ensure that the minimum limit of determination of lead is less than 30 ppm. Cadmium and lead can be analyzed at the same time unless the method used is AAS.

(Note) A dissolution method represented by EN71-3:1994, ASTM F963-96a and ISO 8124-3 cannot be used for pre-processing. EN 1122 cannot be used for pre-processing of lead.

JIS K0102-54, Testing Method for industrial wastewater, is designed for nothing but measurement methods, needing separate statement of the pre-processing method.

3. Mercury

(1) Pre-processing

The following are three typical pre-processing methods.

1. Pressurized acid decomposition method in a sealed container (including a microwave decomposition method such as EN 3052:1996)
2. Heat vaporization-cold-vapor mercury-atomic-absorption method
3. Wet decomposition method with sulfuric acid or nitric acid by using a decomposition flask featuring a reflux condenser (Kjeldahl method)

(Note) Whatever the method, attention must be paid not to allow mercury to sublime. Sediment, should it develop, must be turned into solution by solving it by any means.

(2) Measurement method

As with cadmium and lead, analysis by reduction-evaporation atomic-absorption method, ICP-AES (ICP-OES) with a hydride-generation equipment, or an ICP-MS method is considered to be adequate if low concentration is expected.

- Combinations of pre-processing and measuring instruments other than the above will be acceptable if they can ensure that the minimum limit of determination of mercury is less than 5 ppm.

4. Hexavalent chromium

For chromium, analysis must be made to ascertain that the total amount of chromium is less than 100 ppm, and for packaging materials, the sum of 4 elements of cadmium, lead, mercury and total chromium is less than 50 ppm. In this case, pre-processing may occur at the same time with cadmium and lead.

If the analysis reveals that the total amount of chromium is more than 100 ppm, then analyze hexavalent chromium in the total chromium to confirm that its amount is less than the value of the minimum limit of determination. If the amount of the 4 elements is 50 ppm or greater, it must be confirmed that the total amount minus the measured amount of the total chromium is less than 50 ppm. Further, whether the chromium is

hexavalent chromium must be determined. Conclusively, no hexavalent chromium must be detected.

Detection method of hexavalent chromium

(1) Pre-processing

Dissolution method (warm-water extraction method or alkali extraction method (EPA 3060A is an example.)

(2) Measurement method

Ultra-violet visible spectroscopy (EPA 7196A is an example.)

- Combinations of pre-processing and measuring instruments other than the above will be acceptable if they can ensure that the minimum limit of determination of the total chromium is less than 5 ppm. Cadmium, lead and the total chromium can be analyzed at the same time unless the method used is AAS.

5. PBBs and PBDEs

For special brominated flame retardants PBBs and PBDEs, the use of gas chromatograph mass spectrometer (GC-MS) must be the method for analysis to confirm that their amount is less than the value of the minimum limit of determination (10 ppm).

(Or, measurement may be made with samples being as total Br with a fluorescent X-ray analyzer (EDX) to confirm non-content.)

6. Additional analysis method of packaging materials

The total amount of mercury, cadmium, hexavalent chromium and lead must be less than 100 ppm.

Hexavalent chromium must be analyzed as the total chromium and the total of the 4 elements must be confirmed to be less than 100 ppm.

In this case, pre-processing may occur at the same time with cadmium and lead.

If the total of the 4 elements is 100 ppm or greater, confirm that the total content of lead and mercury is less than 100 ppm.

Further, hexavalent chromium must be checked if present. Conclusively, no hexavalent chromium must be detected.

6. For more information,

please contact Mr. Ichiro Daikuhara or Mr. Tatsuya Ishii of the Environment Control Room, Soshin Electric Co., Ltd.

E-mail environment@soshin.co.jp

Revision history:

Originally issued on May 21, 2004

Revised and 2nd-issued on Sept. 19, 2006

Major points of change: Ver. 3, which is JIG compliant, of Survey Substance List originated by JGPSSI was Ver 2 of the List.

Form 1

Assessment of Supplier Environmental Activities

To: Environment Control Room

Soshin Electric Co., Ltd.

Date of reply	
Company name	
Address	
Department	
Responsible person*	Position:
	Name:
	Signature:
Phone No.	
FAX No.	
e-mail address	

* A person who represents your company

Questionnaires

Questionnaires	Self-assesment x
<p>1. Has your company qualified for ISO 14001?</p> <ul style="list-style-type: none"> • Yes - When? By (registrar)? Qualification No.? • No - x <p>* If you are qualified suppliers, questions No. 2 and afterwards need not to be answered.</p>	
<p>2. Has your company qualified for any environment management systems other than ISO 14001?</p> <ul style="list-style-type: none"> • Yes - When? By (registrar)? Qualification No.? • No - x <p>* If you are a qualified supplier, questions No. 3 and afterwards need not be answered.</p>	
<p>3. Any there any corporate environmental policies in place?</p> <p>• Yes - • In preparation - • NO - x</p>	
<p>4. Is there an environmental organization and system in place?</p> <p>• Yes - • In preparation - • NO - x</p>	

5. Is there a person bearing the responsibility for environmental management assigned by the company management?

• Yes -	• In preparation -	• NO - x	
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6. What are the objectives and targets of environmental preservation identified?

• Yes -	• NO - x	
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7. Are plans to achieve such objectives and targets defined?

• Yes -	• NO - x	
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8. Are efforts being made for management and assessment of activities for prevention of environmental contamination such as public pollution?

<ul style="list-style-type: none"> • Yes - • Complying with the current legal limits • NO - x 	
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9. Is energy (electricity and fuels) consumption controlled, assessed and subjected to efforts for minimization?

<ul style="list-style-type: none"> • Yes - • Complying with the current legal limits • NO - x 	
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10. Is hierarchical training provided?

<ul style="list-style-type: none"> • Yes - • NO - x <p>(The answer may be "Yes" if implemented with roles and responsibilities identified regardless of the existence of an organization such as department or section.)</p>	
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11. Is environmental management internally audited periodically?

<ul style="list-style-type: none"> • Yes - • Yes but on an as-necessary basis • NO - x 	
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12. Is there public announcement system for environment management activities in place?

<ul style="list-style-type: none"> • Yes - • NO - x 	
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