

MITSUBA GROUP GREEN PURCHASING GUIDELINE 4th edition

The environmental requirements for suppliers.



June 2013

MITSUBA CORPORATION

INTRODUCTION

Today, the awareness towards environmental concerns has been raised even more in the whole society, while the company, as well, is strongly being demanded to create a recycling-oriented society.

We have addressed a decrease in environmental burdens as one of the most critical business challenges because we think that we should seek for the environmental management bearing always in mind “what a society really desires”.

Our products are being realized using materials delivered from a number of our suppliers. For this reason, our in-house environmental management activities will not be good enough to reduce environmental burdens; it will absolutely be imperative to realize environmental management activities based on supply chain involving our suppliers.

In addition, global production and sales have been increasing more than ever.

Under such circumstances, we will continue our efforts for environmental burden reduction by establishing and maintaining the Environmental Management System for worldwide supply chain.

Your understanding and support will be greatly appreciated for our approach to the global environmental protection.

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1. POSITION OF THIS GUIDELINE

This Mitsuba Group Green purchasing guideline clarifies basic approach to environment which is commonly used in Mitsuba Group companies; besides, it explains requirements from Mitsuba Group to suppliers.

Japan		Mitsuba Corporation
		Tatsumi Corporation
		Higashinihon Diecasting Industry Co., Ltd.
		Monimo Manufacturing Co., Ltd.
		Toyo Electric Manufacturing Co., Ltd.
		Sun-You Corporation
		Oshima Electric Works Co., Ltd.
		AMCO Corporation
		Ochiai Manufacturing Co., Ltd.
		Mitsuba Sankowa Corp.
		Mitsuba Logistics Co., Ltd
America	U.S.A.	American Mitsuba Corporation
		Mitsuba Bardstown, Inc.
	Mexico	Tokyo Electrica de Mexico, S. A. DE C. V.
	Brazil	Mitsuba do Brasil Ltda.
		Mitsuba Autoparts do Brasil Industria Ltda
Europe	Italy	MITSUBA ITALIA S.p.A
	Hungary	Mitsuba Automotive Systems of Europe Kft.
	France	Mitsuba Manufacturing France S.A.
Asia	Thailand	Thai Summit Mitsuba Electric Manufacturing Co., Ltd.
	Philippines	Mitsuba Philippines Corporation
	Vietnam	Mitsuba M-Tech Vietnam Co., Ltd.
	India	Mitsuba Sical India Ltd.
	Indonesia	P.T. Mitsuba Indonesia
P.T. JIDECO Indonesia		
China		Guangzhou Mitsuba Electric Co., Ltd.
		Mitsuba Electric (Dalian) Co., Ltd.
		Mitsuba China (Hong Kong) Ltd.
		Mitsuba Shihlin Electric (Wuhan) Co.,Ltd.,
Africa	Morocco	MITSUBA MOROCCO SARLAU

See website of Corporation Mitsuba for companies of Mitsuba Group. (<http://www.mitsuba.co.jp>)

2. BASIC STANCE OF MITSUBA GROUP

2.1 CORPORATE PHILOSOPHY

Mission Statement

Together with those who support it, Mitsuba will provide pleasure and peace of mind to the people of the world by creating technology in harmony with society and the environment.

Management Policy

1. We will make Mitsuba the brand of choice on a global scale.
2. We will use our technology as a driving force to take up the challenge of creating new markets.
3. Mitsuba will bring out the best in its associates, as its associates bring out the best in Mitsuba.

Guidelines for Action

Vision Challenge Speed
Remaining true to our vision, we will respond to each challenge in a determined and Speedy fashion.

Company message

The Spirit of Technological Growth

2.2 ENVIRONMENTAL DECLARATION

Environmental Declaration

We will work to achieve a continuous harmonization with our natural environment by means of technical developments harmonized with society and the environment.

1. We will endeavor to save resources and energy in all its corporate activities, including development, production and sales.
2. We will endeavor to reduce waste materials and polluting substances as well as achieve correct processing of those materials.
3. We will endeavor to achieve harmony with the local environment while also endeavoring to secure a living environment where all can live in peace.

2.3 ACTION GUIDELINE

The action guideline is a concrete guiding principal to move the “Environmental Declaration” into action.

Environmental Action Guideline

4. We will attempt to make sparing and effective use of limited resources.
5. We will endeavor to save on energy in our corporate activities, in order to fulfill our corporate responsibilities with regard to global warming.
6. We will endeavor to find substitutes for ozone-destroying substances in order to protect the ozone layer.
7. We will manage chemical substances properly and use abolition of harmful chemical substances including not using it for our products.
8. We will establish an environmental management system and endeavor to observe in-company regulations that are stricter than public laws.
9. We will positively participate in social activities relating to the environment.

3. APPROACH TO ENVIRONMENT OF MITSUBA GROUP

3.1 ESTABLISHMENT OF EMS

The Mitsuba Group considers global environmental protection as an important management issue, so that we started establishing EMS: Environmental Management System from 1997 to make continued efforts to reduce environmental burdens. These activities include not only prevention of global warming and natural resources saving with emissions recycling, but also reduction of environmental burdens related to the operation of respective companies and departments.

The perspective of Life Cycle Assessment (LCA) with regard to not only production step but also use and discharge step of the product is crucial to achieve continuous reduction of environmental burdens which is contemplated by ISO14001 Environmental Management System. We will work on this task.

3.2 SUBSTANCE OF CONCERN (SOC) MANAGEMENT

Since “Agenda 21: Sound Management of Hazardous Chemicals” was adopted by Rio Summit (UN Conference on Environment and Development) in 1992, the management of chemicals, especially hazardous substances included in waste material of vehicles and home electric appliances, has been a critical issue of concern around the world.

As for automobiles, there exist “EU ELV Directive 2000/53/EC”, “RoHS Directive 2002/95/EC”, “Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.” of Japan, and “EU REACH regulations EC 1907/2006” etc.

We will set forward the management of chemicals included in our products and establishing of SOC management system for the whole supply-chain.

4. POLICY OF GREEN PURCHASING

Previously, we had asked our suppliers for its cooperation as to quality, cost and delivery due date.

However, what the society is now asking for our products is the reduction of environmental burdens based on life cycle which consists of procurement including supply-chain, production, use and discharge. In concrete terms, chemical management of products, resource savings, energy savings and prevention of environmental pollution.

In order to respond to these demands, we must seek your support for green purchasing.

5. REQUIREMENTS TO SUPPLIERS

5.1 ESTABLISHMENT OF EMS

- (1) Establish EMS: Environmental Management System that meets ISO14001 or what is equivalent to the former.
- (2) Acquisition of such certification systems as Eco Action 21, Eco Stage and Environmental Management System Standard (KES) in Japan will also be considered as that Environmental Management System is already built as with the acquisition of ISO14001
- (3) Likewise, regulations for small and medium-scale businesses established in other countries having fewer burdens are acceptable as well.
- (4) Proceed with activities related to environmental conservation in case of not yet being certified.
(Development of objective and action plan, role sharing, compliance with regulations, reduction of energy, reduction of waste, management of chemicals, environmental education, audit, etc.)
The detail is shown in Appendix 2 “EMS: SELF-ASSESSMENT CHECKLIST”.

5.2 SOC MANAGEMENT

5.2.1 INTENDED SCOPE

- (1) Object of SOC management is what Mitsuba Group companies procure.
 - a Materials and parts --- Including the ones not for auto parts and samples.
 - b Sub-materials --- Solder, Adhesive, Grease, metal working lubricant, tape, marker, etc.
 - c Packing material --- Including not only carton but shocking absorber, band and ink etc.

5.2.2 RESTRICTED SUBSTANCES LIST OF MITSUBA

Comply with the Restricted Substances List of Mitsuba specified in MES A015 “Restricting the use of hazardous substances”.

* The list consists of the tables 1, 2 and 3.

Table	Class	Description
Table 1	GADSL (Global Automotive Declarable Substance List)	List of prohibited and declarable substances created by Global Automotive Stakeholder Group (GASG) consisting of automotive manufacturers and their suppliers in Europe, the USA, and Japan. The GADSL is revised on a periodic basis. This guideline shall always refer to the latest version. (For details, see the URL below.) GADSL URL: http://www.gadsl.org/
Table 2	List of voluntarily prohibited substances	List of substances that Mitsuba voluntarily designates as “prohibited” while they are not listed or are designated as “declarable” in the GADSL. The restrictions in this list supersede those in Table 1.
Table 3	List of substances recommended to be reduced	List of substances that are expected to be regulated in the future and thus recommended to be reduced voluntarily.

5.2.3 SOC MANAGEMENT SYSTEM

- (1) Establish SOC Management System.

(Clarification of role sharing, human development, control criteria, supplier management, parts control, internal audit, etc.)

See Appendix 3 “SOC MANAGEMENT SYSTEM - REQUIREMENTS” for the further retails.

- (2) We may perform audit of your SOC Management System.

5.3 INVESTIGATION ON SOC

5.3.1 SUBMISSION OF EVIDENCE

- (1) We will request our suppliers’ to submit some “evidence” to prove noninclusion of specified SOC, according to the request from our customers or in case that we consider that it’s necessary.
- (2) The evidence to prove noninclusion of SOC is an analysis data which indicates that only sub-threshold SOC is contained. Four substances specified in ELV Directive (Pb, Cd, Hg, Cr6+) are subject to this requirement. We will request you to submit the same evidence clarifying a substance name in case of other substance.
- (3) We will make a request on a case-by-case basis if our customer specifies types of analysis equipment, ISO17025 Certification of laboratory, analysis date and language to be used etc.

5.3.2 SUBMISSION OF IMDS DATA

- (1) The IMDS data signifies complete constituent data by delivered material, which is reported by such tools as IMDS system, JAMA/JAPIA integrated data sheet etc,
- (2) We will request you to report a material constituent in the IMDS data. Especially, constituents specified in Table 1 (GADSL) in MES A015 “Restricting the use of hazardous substances” must be reported regardless of quantity.
- (3) It is allowed not to disclose up to 10% of constituents treating it as MISC (others) in case you cannot give a full disclosure for confidentiality reasons. In such case, grand total should be 100% summing up MISC and disclosed part.

Also, note that MISC should not include any prohibited substance specified in Table 1 in MES A015 “Restricting the use of hazardous substances”.

- (4) We will request you to report again in case that an undisclosed constituent treated as MISC becomes declared substance due to the revision of Table 1 (GADSL) in MES A015 “Restricting the use of hazardous substances” or in the case of any changes in the declared details due to material changes.
- (5) It will eventually be necessary to collect data from material suppliers through supply-chain to prepare the IMDS data; therefore, it is advisable to try to collect data of delivered materials on a regular basis

regardless of requirement to submit report.

In addition, the IMDS data will be required to obtain model certification for vehicle. We will seek our suppliers' support to meet the submission deadline.

5.3.3 SPECIFIED CHEMICAL SUBSTANCES

- (1) Due to legislative trends regarding chemicals in the countries, we may ask our suppliers' help to do some survey on whether specific chemical substance is being used or not, based on requirements from customers or at the discretion of us. In such cases, we will seek our suppliers' support to make inquiries to material suppliers etc.

5.4 SUBMISSION OF DECLARATION

- (1) We will request our suppliers to pledge that no chemicals prohibited by the Restricted Substances List of Mitsuba specified in MES A015 "Restricting the use of hazardous substances" are included in the "purchased product" delivered from them and that substances required to be reported should be declared regardless of quantity used.
- (2) We will request our suppliers' to submit "Declaration", according to the request from our customers or in case that we consider that it's necessary.
- (3) Please report using a supporting data: Appendix 1 "DECLARATION OF CONFORMITY TO THE MITSUBA CHEMICALS REGULATION".

6. APPENDICIES

- (1) Appendix 1 “DECLARATION OF CONFORMITY TO THE MITSUBA CHEMICALS REGULATION“
- (2) Appendix 2 “EMS: SELF-ASSESSMENT CHECKLIST“
- (3) Appendix 3 “SOC MANAGEMENT SYSTEM – REQUIREMENTS”
- (4) Appendix 4 “GLOSSARY”

Mitsuba Group Green Purchasing Guideline is disclosed at web site of Mitsuba Corporation:

<http://www.mitsuba.co.jp/purchase/index.htm>

7. CONTACT FOR INQUIRIES

Submit inquiries related to this guideline to the contact below in English or Japanese.

Attn: Purchasing Planning Section, Purchasing Department 2

E-mail: greenkobai@mitsuba.co.jp

TEL: +81-277-52-0171 FAX: +81-277-54-6920

Appendix 1

Attn: Mitsuba Corporation, Purchasing Dept. (When submitting to Mitsuba Corporation)

DECLARATION OF CONFORMITY TO THE “MITSUBA CHEMICALS REGULATION”

We will pledge that no chemicals prohibited in the Restricted Substances List of Mitsuba specified in MES A015 “Restricting the use of hazardous substances” are included in the “purchased products” (raw material, part, auxiliary material, product, equipment and supply) which we are currently delivering and will deliver in the future, and that we declare the quantity of the substances required to be reported when the quantity we use exceeds the threshold.

We also pledge to observe this guideline as to prohibited substances and substances required to be reported which will be added in the future GADSL revision.

Fill-out date

Supplier name

Name of person in charge

Signature

Appendix 2 EMS: SELF-ASSESSMENT CHECKLIST

(Please fill out below in the case of not being certified according to ISO14001 or equivalent.)

No	Item	ISO requirements (Reference)	Evaluation criteria	Eval.
1	Environmental policy	Environmental policy (4.2)	1) There is a company philosophy regarding environmental conservation.	
			2) Policy on environmental conservation is already established and it is pledged on continuous improvement and pollution prevention.	
			3) It is pledged on observation of regulations through environmental policy.	
			4) Environmental policy is documented, communicated to all the employees and accessible to the third party.	
2	Plan/Organization	Objective, Target and Action plan (4.3.3)	1) There are objective as well as target to achieve policy.	
			2) Organization and person in charge are clearly identified to achieve objective and target.	
			3) There is an action plan in which means and method to achieve objective and target are identified.	
3	Environmental impact assessment/ Operation and maintenance control	Environmental aspect (4.3.1)/ Operation and maintenance control (4.4.6)/ Surveillance and measurement (4.5.1)	1) Impact by business activities on following items are evaluated and identified; efforts for improvement are being made. <ul style="list-style-type: none"> 1) Air pollution 2) Water pollution 3) Noise/Vibration 4) Prohibited substance (See the List of regulated chemicals) 5) Wastes 6) Energy (Amount consumed of Electricity/Gas/Fuel etc.) 	-
			2) Supervisor is designated for specified phenomenon (including machines/operation); control is in place.	
			3) There is product assessment mechanism to provide with environmentally friendly products	
			4) Acts/codes and industry norms etc. related to environment are identified; control is in place.	
			2) There is adequate control over facilities/equipments regarding related environmental laws.	
			1) Emergency response on environmental conservation is well prepared having established procedure.	
6	Enlightenment/Education/Disclosure of information	Competence, Education & Training and Consciousness (4.2.2), Communication (4.4.3)	1) Training programs necessary for personnel within the system are identified and being implemented to achieve her/his objective.	
			2) Training programs especially for those who involve in some operation causing huge impact on environment are being implemented; a list of those operators is available.	
			3) Information on environmental conservation of the company is being disclosed.	
7	Response to no-conformity	No-conformity and corrective/preventive action (4.5.3)	1) Procedures to implement corrective/preventive actions in case of no-conformity on Environmental Management System are already established.	
8	Self-evaluation	Environmental Management System audit (4.5.5)/Management Review (4.6)	1) Self-evaluation on progress status of plan as well as achievement status of objective are being implemented; evaluation results are reported to directors.	
			2) Self-evaluation results are reflected in environmental policy, plan and organization for continuous improvement.	
9	Documents control	Documents (4.4.4)	1) Responsibility and procedures to implement previous questions are determined and documented.	

Note) Fill out in evaluation section. (Y: Yes, N: No, NA: Not Applicable)

Appendix 3 SOC MANAGEMENT SYSTEM - REQUIREMENTS

1. Organization

- a Determine internal role sharing as to SOC Management.
E.g. Control of regulation/customer requirements, supervision/control of suppliers (when necessary) input/control of data, etc.

2. Policy

- a The directors should give internal indications as to SOC Management.
E.g. Quality/Environmental Policy, or through meetings.
- b Define, when necessary, the degree of risk on SOC inclusion in material. (If a high risk component is used.)
Note) Based on our experiences, there exist significant risks with plastic, paint, ink, marker, tape and plating in the case of being produced in developing countries, and with PVC regardless of country of origin.

3. Man/Machine

- a Foster internal human resources who can judge if a material conforms or does not conform to the SOC regulations and customer requirements.
- b Foster those who can operate IMDS or JAMA sheet which is a tool in automobile industry.
- c Do adequate employees' training on SOC according to business contents.
- d Enable to do SOC analysis (with internal equipment or by an external laboratory).

4. Management standard

- a Inform all the employees of SOC-related regulations and customer requirements as well as control items within the company.

5. Customer response

- a Submit IMDS data of material and evidence to prove noninclusion according to customer's requirements.

Note) IMDS data: Specification of material chemical constituent.

Evidence: Analysis results of 4 substances specified in ELV directive for prove noninclusion:

- b Control response to customer requirements to avoid delay. (Please inform in case of delay)

6. Product design

- a Give indications of SOC management as output of product design, if applicable.
E.g. Design and specification (in case of dedicating in product design)

7. Process design

- a Give indications of SOC management as output of process design.
E.g. Control plan, Work instruction sheet.
(Including sub-material and packing material for exportation such as marker, ink etc.)
- b Pay attention to incorrect use, mix, contamination and chemical changes, if applicable.
E.g. plating, soldering (in the case that there exists a risk due to incorrect use, mix, contamination and chemical changes)

8. Purchasing

- a Add SOC Management status to the items of supplier selection and continuous evaluation.
- b Inform suppliers of SOC management standard of your company
E.g. Green purchasing guideline
(Except a case in which supplier is considered to have sufficient knowledge.)
- c Verify, when needed, management status of supplier by documents and visit etc.
- d Make a request at an early stage for suppliers to submit the IMDS data and evidence to prove noninclusion of SOC (if necessary).

Note: The IMDS data has come to be required for model certification of vehicle; it is getting to be required before mass production start.
- e Obtained IMDS data among others should not be controlled as individual data but as internally shared data.

9. Surveillance, Measurement

- a Confirm, depending on material/component risk, that SOC is not included.

Note) Acquisition of complete constituent data of corresponding material and evidence to prove noninclusion of SOC; or analysis at your own or by third party.

10. History control

- a Implement traceability control (usage history on material/component), if applicable.

11. Change control

- a Verify SOC according to changes to be implemented in case that you would modify internal process, supplier or material.
E.g. Process audit, Acquisition of IMDS data/evidence to prove noninclusion of Substance of Concern, Material analysis, Process audit of suppliers.

12. Non-conforming product

- a Define procedure when SOC related problems occur.
E.g. Rules on control of non-conforming products.
- b Report to your customers when SOC related problems occur.

13. Evaluation/Improvements

- a Audit internal SOC Management status on a regular basis.
E.g. Departments such as product design, process design, purchasing, production, inspection, and shipping
- b Report an audit result to directors to implement required improvements.

14. Analysis method of SOC

- a Analysis method of SOC is as follows.

	Target elements	Analysis method
Qualitative analysis method	Lead, cadmium, mercury	X-ray fluorescence analysis method
	All chromium	X-ray fluorescence analysis method
	All bromine-containing fire-retarding materials	X-ray fluorescence analysis method
	Hexavalent chromium	Colorimetric test paper (diphenylcarbazide method) IEC 62321 (spot test)
Quantitative analysis method	Lead, cadmium, mercury	Inductively Coupled Plasma (ICP) Atomic Absorption Spectroscopy (AAS)
	Hexavalent chromium	Diphenylcarbazide spectrophotometric method (EN 15205. ISO 3613)
	Bromine-containing fire-retarding materials (PBB and PBDE)	Gas Chromatograph Mass Spectrometry (GC/MS)

- b Consideration of Qualitative analysis method

At the X-ray fluorescence analysis, when the result shows that the chromium/bromine is under the threshold value, it means hexavalent chromium/bromine-containing fire-retarding material (PBB, PBDE) is under the threshold value.

The color appears when hexavalent chromium is about 200ppm by analysis method of IEC 62321.

IEC 62321 is effective for screening contains or not contain, but when hexavalent chromium is detected, quantitative analysis is necessary.

c Consideration of quantitative analysis method

We accept EN 15205 and ISO 3613 for hexavalent chromium analysis method.

However when calculate ppm of hexavalent chromium, the numerator is weight of hexavalent chromium, the denominator is weight of chromate film.

Some laboratory is calculating as weight of hexavalent chromium divided by weight of chromate film plus Zinc coating, but many customers do not accept.

If there are two results as per EN15205 and ISO3613, EN15205, which is recommended by many customers, has priority.

The threshold value of EN 15205 is $0.1\mu\text{g}/\text{cm}^2 = 0.1 \text{ percent} = 1,000 \text{ ppm}$.

d Example of calculation

Hexavalent chromium derived $5 \mu\text{g}$ from 50cm^2 surface area plating parts.

The quantity = $5 \mu\text{g} / 50\text{cm}^2 = 0.1\mu\text{g} / \text{cm}^2$

Thickness of chromate film: $0.2\mu\text{m}$, Specific gravity: $5\text{g}/\text{cm}^3$

Source: JIS H8625 Chromate conversion coatings on electroplated zinc and cadmium coatings, and ISO3613 Chromate conversion coatings on zinc, cadmium, aluminium-zinc alloys and zinc-aluminium alloys -- Test methods

Total mass of chromate film of 50cm^2 surface plating parts. Do not include Zinc coating.

= surface (50cm^2) \times chromate film thickness ($0.2\mu\text{m}$) \times specific gravity ($5\text{g}/\text{cm}^3$)

= (50cm^2) \times (0.00002cm) \times ($5\text{g}/\text{cm}^3$) = $0.005\text{g} = 5,000\mu\text{g}$

Then ppm of Hexavalent chromium in chromate film (P) is,

$P = 5 / 5,000 = 0.001 = 0.1\% = 1,000\text{ppm}$

This means that when thickness of chromate film is $0.2\mu\text{m}$, specific gravity is $5\text{g}/\text{cm}^3$, $0.1\mu\text{g} / \text{cm}^2 = 1,000\text{ppm}$.



Appendix 4 GLOSSARY

1. IMDS DATA

- (1) The IMDS data signifies constitutional component data of material used, which is sometimes called “environmental data”.

Case 1. Standard components of cold rolled steel plate (SPCC)

Component	CAS No.	Content percentage (%)
Iron	7439-89-6	99.55
Manganese	7439-96-5	0.30
Carbon	7440-44-0	0.075
Phosphorus	7723-14-0	0.050
Sulphur	7704-34-9	0.025

Case 2. Component example of PET resin including 20 % of glass

Component	CAS No.	Content percentage (%)
Polyethylene Terephthalate	25038-59-9	71
GF-Fiber	-	20
Misc., not to declare	System	9

- (2) The IMDS data requires parts mass, percentage of recycle material used, and material identification etc. as well as information specified above.
- (3) The IMDS data is an ingredient specification of material. Please make inquiries to material manufacturers.
- (4) Some material ingredient are prohibited to use or required to be reported when used.
- (5) It is permitted not to disclose up to 10% of constituent treating it as MISC (others) in case you cannot give a full disclosure for confidentiality reasons. In such case, grand total should be 100% summing MISC and disclosed part up.

Also note that MISC should not include prohibited substance and substances required to be reported which are stipulated in GADSL.

2. GADSL

- (1) GADSL (Global Automotive Declarable Substance List) refers to the controlled chemicals list that is commonly used across industries and that was established by auto manufacturer, auto components supplier and chemical manufacturer. <http://www.gadsl.org/>

Chemicals included in GADSL are classified into three categories:

- P (Prohibited): Impossible to use in over threshold level or intentional
- D (Declarable): Possible to use; but required to be reported regardless of quantity used.
- P/D (Prohibited and Declarable): It depends on the chemical or the purpose.

For example, using asbestos (category P) is completely prohibited and lead (category P/D) is prohibited except for certain purposes such as for batteries.

3. IMDS SYSTEM

- (1) IMDS is a system to collect the complete integrant data efficiently.

It is a system to collect, through supply chain, information on materials and chemicals included in approximately thirty thousand pieces of components constituting the vehicle, in order to response to EU ELV Directive which includes regulations on SOC of new model vehicle, used cars and recycle percentage etc. <https://www.mdsystem.com/>

- (2) IMDS is an online system, so that it is required to be online all the time. In addition, it is necessary to register a company ID etc.

4. JAMA Sheet

- (1) JAMA Sheet (official name: JAMA/JAPIA integrated data sheet), having the same purpose as IMDS, is an agreed form between Japan Automobile Manufacturers Association (JAMA) and Japan Auto Parts Industries Association (JAPIA). <http://www.japia.or.jp/>
- (2) JAMA sheet is an offline system, so that always-on connection is not required after having downloaded JAMA sheet.
- (3) JAMA Sheet complies with IMDS.

5. Evidence to prove noninclusion of SOC

(1) The evidence to prove noninclusion of SOC is an analysis result on SOC included in material. The SOC usually means such substances as regulated by EU ELV Directive, which include lead, cadmium, mercury and hexavalent chromium.

Some clients have also added PBB and PBDE among bromine-containing fire-retarding materials which are regulated by EU RoHS.

(2) MSDS (Material Safety Data Sheet) is an instruction manual for users who actually handle those materials, so that structural components are roughly described. For that reason, this sheet is inadequate as an evidence to prove noninclusion. MIL Sheet is inappropriate as well because of the same reason. MIL sheet does not work as an analysis result to demonstrate noninclusion of lead and cadmium.

6. FYI: Case examples

- (1) Product containing hexavalent chromium was shipped because service parts were used as mass-produced products;
- (2) Use of vinyl tape containing lead produced prior to July 1, 2006 (when RoHS was started.)
- (3) The judgment was failed because bromine found by X-ray fluorescence analysis (wrong inspection method).

7. 7. FYI: Case examples – Use of SOC in the past

SOC gives a big impact on health and ecosystem, but on the other hand it has convenient aspects. As a matter of fact, it was used in diverse ways (and is still being used in some cases).

- (1) Lead was used for water pipes, lead pellets, toys, fishing weights and leaded gasoline as it is soft. For automobile, lead was used for lead battery, wheel balance weight, solder, shaft bearing, lamp glass, paint, plastic stabilizer, red and yellow colorant, rubber vulcanization accelerator, rubber stabilizer, grease, carbon brush and free-cutting steel. It means that recycled material can contain SOC in case that low technical level is applied to recycling.
- (2) Cadmium was contained in cadmium plating, Nickel-Cadmium rechargeable battery, polyvinyl chloride stabilizer, colorant, brass impurities, silver solder impurities.
Recycled PVC carries a significant risk to include SOC. Old PVC material is, as well, at a high risk of inclusion.
- (3) Hexavalent chromium was included in the chromate coating on zinc plating. Now it requires strict control. Do not ship out goods plated with hexavalent chromium.