Compliance with EU REACH Regulation

- Overview of the regulation and plans for compliance -

May, 2009 Edition

Environmental Management Division
Topics to be Covered

1. Overview of EU REACH Regulation
2. NEC's Plans for Compliance
3. JAMP Consortium
   - Description of JAMP MSDSplus
   - Description of JAMP AIS
   - Information Distribution Infrastructure (GP) Developed by JAMP
4. Cooperation Request for SVHC Surveys
1. Overview of EU REACH Regulation
Trend in international chemical management and REACH

- "Johannesburg Plan of Implementation" of the World Summit on Sustainable Development (WSSD) in 2002
  - Minimization of the adverse effects of chemicals use and production by 2020

- The International Conference on Chemicals Management (ICCM) in 2006 adopted "Strategic Approach to International Chemical Management (SAICM)".
  - Minimization of the risks of chemical substances throughout their life cycle
  - Phase-out of the use and production of chemicals that are harmful or pose unmanageable risks by 2020

- USA
  - ChAMP
  - RC Global Charter
  - GPS

- EU
  - REACH Regulation

- JAPAN
  - Third Basic Environment Plan Amendment to Law for PRTR and Promotion of Chemical Management
  - Amendment to Chemical Substances Control Law

WSSD; World Summit on Sustainable Development
SAICM; Strategic Approach to International Chemicals Management
ChAMP; Chemical Assessment and Management Program
GPS; Global Product Strategy
What is REACH Regulation?

REACH is a regulation that comprehensively governs the Registration, Evaluation, Authorization and Restriction of Chemical substances in the EU (European Union).

Exempt from REACH are: chemical substances that are adequately regulated under other legislation already in place, e.g. agricultural chemicals and pharmaceuticals.
Framework of EU REACH Regulation

- Shift the obligation to conduct the risk assessments of existing chemicals to manufacturers and importers (previously undertaken by governments).
- Improve information sharing within supply chains regarding chemical substances contained in objects and the toxicity of chemicals.
- Expand the scope of information acquisition on chemicals to include articles (components and products).

### Registration
- Chemical substances produced or imported in quantities of more than 1 ton per year
- Chemical substances released from articles in quantities of more than 1 ton per year

### Authorization
- Substances of Very High Concern (SVHC) prohibited from being placed on the market in principle; authorization to be given on a case-by-case basis

### Evaluation
- Verification of the compliance of registered information by the ECHA; companies to supply required information upon the Agency’s request
- Evaluation by member countries

### Restriction
- Restriction or prohibition of the production, sale, marketing and use of substances that pose unacceptable risk to human health and the environment
## Comparison between RoHS Directive and REACH Regulation

This comparison has been made from the viewpoint of the information disclosure aspect. More extensive management will be required for a chemical product, or for a product containing any intentionally released substances.

<table>
<thead>
<tr>
<th>Concept</th>
<th><strong>RoHS Directive</strong></th>
<th><strong>REACH Regulation</strong></th>
</tr>
</thead>
</table>
| **Target substances** | Precautionary principle
A legislation that restricts the use of 6 substances contained in electrical and electronic products | Information disclosure principle
A legislation that requires the disclosure of data on substances used in products |
| **Management Level** | 6 substances
(lead, mercury, cadmium, hexavalent chromium, PBB and PBDE) | Eventually include approx. 1,500 substances (in phases)
(The first candidate list published on October 28, 2008) |
| **Process Requirements** | Presence/absence of restricted substances | Information on substance content (concentration) in products must be provided. |
| **Analysis System** | Procurement of components and materials that do not contain the 6 substances, on the principle of green design | Mandatory survey and bottom-up calculation of the content/concentration of SVHC in components and materials
Information on changes in substance content must also be obtained. |
|          | Analysis can be made by the manufacturers of products themselves (in the worst-case scenario). | SVHC include many substances that are difficult to analyze; information must be obtained from suppliers |
Scheme of the REACH Regulation

- All chemical substances entering the EU are regulated.
- Registration, evaluation, and authorization become duty.

Registration, Evaluation, Authorization
≥ 1t/year in substance weight
Register application as well

The duties of the importer or manufacturer of articles

1st maker

Information flows from upstream to downstream (Information on SVHC must be supplied)

Chemical makers or importers

2nd maker

Component maker

1st maker

DB

EU Chemical Agency (established in 2008.6)

(1) Notification (SVHC)
Notification is required if more than 0.1wt% of SVHC is contained and more than ≥ 1t/year per European business is imported

According to article, about 1500 substances will be controlled?

* SVHC (Substance of Very High Concern): Carcinogenic substances, mutagenic substances, reproduction toxic substances, endocrine-disrupting substances, and other substances will be listed by the European Chemical Organization.

(2) Registration
(Intentionally released substances)
Intentionally released substances exist?
→ Evaluation and registration are needed.

(3) Information transmission (SVHC)
SVHC>0.1wt%
What are the Substances to be Managed by the Manufacturers of Articles?

SVHC

Substance of Very High Concern

- SVHC are identified by the European Chemicals Agency, which plans to include substances that are classified as carcinogenic, mutagenic or toxic to reproduction, or have endocrine disrupting properties.

The candidate list of SVHC will be regularly updated and published.
Companies are already under a legal obligation to disclose and/or supply information on these substances.

**Annex 1: The Candidate List**

<table>
<thead>
<tr>
<th>Substance name</th>
<th>EC number (CAS Number)</th>
<th>Basis for Identification as a SVHC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthracene</td>
<td>204-371-1</td>
<td>Persistent, biocumulative and toxic</td>
</tr>
<tr>
<td>4,4’- Diaminodiphenylmethane</td>
<td>203-970-4</td>
<td>Carcinogen, cat. 2</td>
</tr>
<tr>
<td>Dibutyl phthalate</td>
<td>201-557-4</td>
<td>Toxic for reproduction, cat. 2</td>
</tr>
<tr>
<td>Cobalt chloride</td>
<td>231-550-4</td>
<td>Carcinogen, cat. 2</td>
</tr>
<tr>
<td>Dianisyl trioxide</td>
<td>215-861-4</td>
<td>Carcinogen, cat. 1</td>
</tr>
<tr>
<td>Sodium dichromate</td>
<td>234-180-3</td>
<td>Carcinogen, cat. 2; Mutagen, cat. 2. Toxic for reproduction, cat. 2</td>
</tr>
<tr>
<td>5-tert-butyl-2,4,6-trinitro-xylene (musk xylene)</td>
<td>201-339-4</td>
<td>Very persistent and very biocumulative</td>
</tr>
<tr>
<td>DEHP [Bis(2-ethylhexyl)phthalate]</td>
<td>204-211-0</td>
<td>Toxic for reproduction, cat. 2</td>
</tr>
<tr>
<td>Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (e – HBCDD, l-HBCDD, y-HBCDD, y'-HBCDD)</td>
<td>247-148-4 and 221-556-9</td>
<td>Persistent, biocumulative and toxic</td>
</tr>
<tr>
<td>Alkanes, C11-13, chloro (short chain chlorinated Paraffins)</td>
<td>287-470-5</td>
<td>Persistent, biocumulative and toxic Very persistent and very biocumulative</td>
</tr>
<tr>
<td>Bis(tributyl) oxide</td>
<td>260-358-0</td>
<td>Persistent, biocumulative and toxic</td>
</tr>
<tr>
<td>Lead hydrogen arsenate</td>
<td>252-094-2</td>
<td>Carcinogen, cat. 1</td>
</tr>
<tr>
<td>Benzyl butyl phthalate</td>
<td>201-822-7</td>
<td>Toxic for reproduction, cat. 2</td>
</tr>
<tr>
<td>Triethyl arsenate</td>
<td>427-700-2</td>
<td>Carcinogen, cat. 1</td>
</tr>
</tbody>
</table>

On 8 October 2008, the Member States had identified 14 substances as SVHC without Member State consensus. The Candidate List of the 15 substances is available on the ECHA website and in the table below.
Phased Timetable for Implementation of REACH

- **Registration (1)**: ≥1,000t/y, ≥100t/y-R50-53, ≥1t/y-CMR-Cat. 1 & 2
  - 2 years

- **Registration (2)**: ≥100t/y
  - 3 years

- **Registration (3)**: ≥1t/y
  - 5 years

**Announcement of SVHC candidate substances (proposal) for public consultation**

- **Establishment of European Chemicals Agency**
  - 12 months

- **Pre-registration of existing substances**
  - 6 months

**Pre-registration of chemical substances**

- **Publication of 1st SVHC candidate list (28 Oct. 2008)**
  - Obligation of information disclosure on SVHC in effect

- **Notification deadline for articles containing SVHC that are included in the candidate list as of December 1, 2010.**

**Registration deadline for articles containing SVHC that are included in the candidate list as of December 1, 2010.**

- **June 1, 2007**
  - Reach's entry into force

- **June 1, 2008**
  - Establishment of European Chemicals Agency

- **December 1, 2008**
  - Pre-registration of chemical substances

- **June 1, 2009**
  - Notification deadline for articles containing SVHC that are included in the candidate list as of December 1, 2010.

- **June 1, 2011**
  - Registration (3)

**Number of years after Reach's entry into force**

- **0**
- **1**
- **1.5**
- **3.5**
- **4**
- **6**
- **11**

**Obligation of information disclosure on SVHC in effect**

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* CMR: Carcinogenic, Mutagenic, or toxic to Reproduction
2. NEC's Plans for Compliance
NEC's Obligations

REACH Regulation imposes two main obligations on NEC: "notification" and "provision of information"

- **When exporting products to the EU**
  - Distributors in the EU have the obligations to notify and provide information on the products.
  - → NEC is required to provide its distributors in the EU with information on SVHC contained in all products.

- **When manufacturing products in the EU**
  - Manufacturers in the EU have the obligations to supply information on the products and notify imported goods.
  - → NEC companies manufacturing products in the EU are required to obtain information on SVHC contained in all products and imported goods.

- **When end products partially consisting of NEC products are sold in the EU**
  - NEC has no direct legal obligations.
  - → However, NEC is required to provide its customers with information on SVHC contained in the products purchased.
NEC's Plans for Compliance

- The main obligations for NEC under the REACH Regulation are "notification" and "provision of information" regarding SVHC contained in its products.

1. Establish a system to manage information on SVHC contained in products.
2. Use AIS and MSDSplus (tools recommended by JAMP*) for the survey and registration of information on chemical substances.
3. Use the GP (information distribution infrastructure) provided by JAMP for collection and disclosure of information.
4. Set up the Supplier Web, a web service to collect information from suppliers, and request each supplier to use the service as much as possible.
5. Conduct a separate survey for each substance that has not been registered with JAMP (GP).

*JAMP: Joint Article Management Promotion-consortium
3. JAMP Consortium

http://www.jamp-info.com/
What is JAMP?

**JAMP (Joint Article Management Promotion Consortium)** promotes the standardization of chemical management procedures with an aim to establish and disseminate specific mechanisms to properly manage information on chemical substances contained in articles (components and products) as well as to facilitate the disclosure and supply of such information within supply chains.

http://www.jamp-info.com/

Excerpt from the JAMP website
Challenges Associated with Communication of Information

Communicating prompt and accurate information in accordance with the REACH Regulation is very difficult, when a company has an extremely long supply chain that results in various survey requests from many different companies.
Information Supply Tool Recommended by JAMP

*JAMP: Joint Article Management Promotion-consortium

Upper stream companies

Middle stream companies

Down stream companies

Information transfer with MSDS, MSDSplus

Information transfer with AIS

Supply Information on Chemical Substances and Preparations

Supply Article Information

Chemical management guide line

*JAMP = Joint Article Management Promotion-consortium
Classification of Chemicals

What is "substance"?

Examples
Isopropyl alcohol (IPA),
Ethyl alcohol,
Acetone, etc.

What is "preparation"?

Examples
Solder (wire, stick or paste), coolant,
paints, plating solution, ink, adhesives,
fluxes,
diluents, detergents, grease, toner,
lubricant,
resin pellets, coating agents, press oil, etc.

Supply information on substances and preparations through **JAMP MSDSplus**
Classification of Chemicals

What is "article"?

Examples

All types of components, resin molding (e.g. housing), electronic components, printed-circuit boards, mounting boards, units, finished products,
tape, stickers, labels, packaging materials, packing materials, cushioning materials, bags, paper (documents), staples, cardboard boxes, strings,
paint films, plating films, coating films, solidified adhesives, solder after use, ink after use, toner after use,
screws, tubes, gloves, machine engineering components, wires, electric wires, films, sheets, etc.

Supply information on chemical substances contained in articles through JAMP AIS
JAMP Scheme for Information Communication

preparations

components

modules

products

- Metal Resin
- Adhesion
- Paint
- Solder
- etc

MSDS Plus

AIS

Plus /Minus

Chemical changes

Plus

Minus

Chemical changes

Plus

Minus

Chemical changes

AIS

MSDS Plus

MSDS Plus

MSDS Plus

Product may or may not be sold or used in the EU

Distributers in EU

Customers

ECHA

Notification

AIS

AIS

AIS

AIS

- Information required to be supplied to downstream companies
- SVHC information (substance names, CAS numbers, concentration and content within articles)
- REACH registration information (registered/unregistered, intended uses and limitations)
# Obtaining Tools

Japanese, English and Chinese versions of **JAMP MSDSplus** and **AIS** are available at the following websites:

- **MSDSplus**

- **AIS**

## 4. Composition Information

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>No need to be filled in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Unit type**
  - **Mass**
  - **Unit of Mass**

<table>
<thead>
<tr>
<th>1. Piece</th>
<th>1</th>
<th>g</th>
</tr>
</thead>
</table>

#### Declaration Concerning Composition Information

1. This article is confirmed to contain declarable substances within the scope of Concerned Regulation or Other Documents Indicated by JAMP.

<table>
<thead>
<tr>
<th>Information Content</th>
<th>Select from the List</th>
</tr>
</thead>
<tbody>
<tr>
<td>GADSL</td>
<td>1. covers GADSL scope</td>
</tr>
<tr>
<td>JIG</td>
<td>1. covers JIG scope</td>
</tr>
</tbody>
</table>

## 5. Other Information

- **Reference Documents, Restrictions, Notes**
  - Optional
Description of JAMP MSDSplus

http://www.jamp-info.com/glmsds/
An information entry sheet proposed by JAMP to be used for the purpose of disclosing and/or communicating information on chemical substances and preparations, as a process to ensure compliance with the requirements of legislations concerned.

**Relevant legislations [Mandatory declaration]**

1. Japanese Chemical Substances Control Law (Class I Specified Chemical Substance)
2. Industrial Safety and Health Law (Substances Prohibited for Manufacturing)
3. Poisonous and Deleterious Substances Control Law (Specified Poisonous Substances)
4. 76/769/EEC (excluding Annex I, CMR-Cat. 1 and 2)
5. RoHS Directive
6. ELV Directive
7. 67/548/EEC (Annex I, CMR-Cat. 1 and 2)
8. REACH Regulation (SVHC on Candidate List of Substances for Authorization)

**Voluntary declaration**

1. ESIS PBT (Fulfilled)
2. GADSL
3. JIG Level A Substances
3. Substance Information

1. This product contains the following substance(s) listed in the relevant standard and to be notified.

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS Number</th>
<th>Max Concentration (w%)</th>
<th>Relevant Standard *1</th>
<th>Remarks *2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>JP 01</td>
<td>JP 02</td>
<td>JP 03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fill in</td>
<td>Fill in</td>
<td>Auto</td>
</tr>
</tbody>
</table>

Enter names of applicable substance.

Enter CAS numbers.

Enter concentrations within the products when concentration levels vary, enter the maximum concentration value.

Auto entry of the assessment results of applicable/inapplicable substances.
JAMP MSDSplus is different from MSDS.

**JAMP MSDSplus**

- An information entry sheet proposed by JAMP to be used for the purpose of providing information on chemical substances and preparations to users, as a process to ensure compliance with the requirements of legislations concerned.
- Declarable substances are those specified by domestic and overseas legislations and agreed by JAMP.
- There is no legal obligation to provide MSDSplus.

**MSDS**

- A document created and provided to allow businesses that handle chemical substances and/or preparations to take measures necessary for work safety and the protection of the natural environment and human health.
- Declarable substances are those specified by the laws of Japan (Industrial Safety and Health Law, PRTR Law, Poisonous and Deleterious Substances Control Law).
- The provision of MSDS is required by the laws.

**NOTE**

MSDS is not intended for the management of substances contained in products. JAMP MSDSplus is a document to assist information disclosure, created to complement MSDS in accommodating the needs for a management tool.
Description of JAMP AIS

http://www.jamp-info.com/glais/
JAMP Article Information Sheet

An information entry sheet proposed by JAMP to be used for the purpose of disclosing and/or communicating information on chemical substances contained in articles, as a process to ensure compliance with the requirements of legislations concerned.

◆ Relevant legislations

   (1) RoHS Directive
   (2) ELV Directive
   (3) 76/769/EEC (excluding Annex I, CMR-Cat. 1 and 2)
   (4) 67/548/EEC (Annex I, CMR-Cat. 1 and 2)
   (5) REACH Regulation (SVHC on Candidate List of Substances for Authorization)
   (6) ESIS PBT (Fulfilled)
   (7) JIG (electric and electronic products)
   (8) GADSL (automobiles)

◆ Included information not subject to legislations

   (1) Uses of materials
   (2) Names of materials
   (3) Classifications of materials
   (4) Mass of materials
**JAMP AIS Form**

1. **AIS Information**
   - **Company Name**
   - **Address**
   - **Telephone Number**
   - **Fax Number**
   - **Email Address**

2. **Issuing Company Information**
   - **Issuing Company Information**
   - **Issuing Department**
   - **Supplemental Information**

3. **Article Information**
   - **Article Name**
   - **Manufacturer Name**
   - **Date of Latest Revision**
   - **Revision History**
   - **ID Organizer**
   - **Entity ID**
   - **Telephone Number of Department in Charge of Preparing AIS**
   - **Email Address of Issuing Department**

4. **Composition Information**
   - **Material Name**
   - **Use**
   - **Material Classification**
   - **Unit of Mass**
   - **Level Component**
   - **CAS Number**
   - **Substance Name**
   - **Concentration (wt%)**

5. **Other Information**
   - **Reference Documents, Restrictions, Notes**
   - **Declaration Concerning Composition Information**
   - **Material Mass**
   - **Substance Mass**
   - **Unit of Mass**
   - **Selection of one of the choices is required.**

---

**Note:** Yellow fields are required to be filled in.
6. Information to be Declared

The information on this sheet is compiled based on the entries from sections 1 to 4.

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concerned Regulation or Other Documents Indicated by JAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

7. Specified Chemical Substance Concentration within Article

<table>
<thead>
<tr>
<th>Decidable Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Name</td>
</tr>
<tr>
<td>CAS No.</td>
</tr>
<tr>
<td>Concentration within Article</td>
</tr>
</tbody>
</table>

8. Total Amounts of Material within Article

<table>
<thead>
<tr>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material Classification No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Mass</td>
</tr>
</tbody>
</table>

Note: Yellow fields are required to be filled in.
Data Items in JAMP AIS
## 1. AIS Information

<table>
<thead>
<tr>
<th>Description</th>
<th>[S] Required information</th>
<th>[I] Required when applicable</th>
<th>[A] Optional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format Version</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date Originally Issued</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of Latest Revision</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revision History</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GP (Global Portal)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheet ID</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Enter the version of JAMP AIS (versions are managed by JAMP).
Enter the date on which this AIS was first issued.
Enter the latest date on which this AIS was revised.
Enter the revision history.

This space is provided for the entry of the identification number that will be issued upon the registration with the information system (GP) currently under development by JAMP. Leave the space blank at this time.
## 2. Issuing Company Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name</td>
<td>Enter the name of the company to which the issuer of this AIS belongs.</td>
</tr>
<tr>
<td>JAMP Member Company ID</td>
<td>This space is provided for the entry of the company identification number that will be issued upon the registration of AIS with the information system (GP) currently under development by JAMP. Leave the space blank until the system is in operation.</td>
</tr>
<tr>
<td>Company ID</td>
<td>Enter the company ID issued by the organization entered above (optional).</td>
</tr>
<tr>
<td>ID Organizer</td>
<td>Enter organization ID e.g. DUNS (optional).</td>
</tr>
<tr>
<td>Entity ID</td>
<td>The Data Universal Numbering System (D-U-N-S): a DUNS number is a unique 9-digit company identification code developed by D&amp;B in 1962. D&amp;B encodes businesses throughout the world using uniform criteria, and independently assigns and regulates the codes as a neutral organization.</td>
</tr>
<tr>
<td>Issuing Department</td>
<td>Enter the name of the department issuing this AIS.</td>
</tr>
<tr>
<td>Address</td>
<td>Enter the address of the department issuing this AIS.</td>
</tr>
<tr>
<td>Telephone Number of Issuing Department</td>
<td>Enter the telephone number of the department issuing this AIS.</td>
</tr>
<tr>
<td>FAX Number of Issuing Department</td>
<td>[A]</td>
</tr>
<tr>
<td>Email Address of Issuing Department</td>
<td>[A]</td>
</tr>
<tr>
<td>Department in Charge of Preparing AIS</td>
<td>[A]</td>
</tr>
<tr>
<td>Telephone Number of Department in Charge of Preparing AIS</td>
<td>[A]</td>
</tr>
<tr>
<td>Sheet Reference Number</td>
<td>[A]</td>
</tr>
<tr>
<td>Remarks</td>
<td>[A]</td>
</tr>
</tbody>
</table>
### 3. Article Information

<table>
<thead>
<tr>
<th>Field</th>
<th>[S] Required information</th>
<th>[I] Required when applicable</th>
<th>[A] Optional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer Name</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Product Name</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issuing Company Item Number</td>
<td>[S]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Product Name/</td>
<td>[A]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Series Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td>[A]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Enter the name of the company manufacturing the product declared in this AIS.** Where the issuer of the AIS is a trading company, enter the name of the manufacturer.

- **Enter the common name of the article (product).**

- **Enter the item number of the article (product).**

A series item number or multiple item numbers may be entered, provided that the information to be declared with respect to all relevant products would be the same. In such a case, list all the relevant item numbers.

Where products have different item numbers while the information to be included in AIS is identical for all such products, as in the case with series products, the company is allowed to enter a series item number or multiple item numbers (differences in product appearance) in this space.

**To be voluntarily entered by the AIS issuer as necessary**
4. Composition Information (1/10)

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Unit type (Please select the appropriate unit from piece, m, m², m³)</th>
<th>[S]</th>
<th>Mass</th>
<th>[S]</th>
<th>Unit of Mass (Please select the appropriate unit from kg, g, mg)</th>
<th>[S]</th>
</tr>
</thead>
</table>

Select from the provided options the type of unit used for declaring the product information on this AIS, and enter it in this space.

Enter the weight of the product.
(Note 1)
Do not include the weight of packing and packaging materials.
(Note 2)
The value entered in this space will be used as a denominator when calculating the weight ratio (wt%) of declarable substances or materials to the product.
(Note 3)
Enter the weight per product piece where piece is selected as the unit type.

Select from the provided options the type of unit used for measuring the product weight.
4. Composition Information (2/10)

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Information Content</th>
<th>[S]</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ covers GADSL scope</td>
<td>□ covers JIG scope</td>
</tr>
<tr>
<td>□ does not cover GADSL scope</td>
<td>□ does not cover JIG scope</td>
</tr>
</tbody>
</table>

◆ Declare whether or not this AIS has been prepared covering the scope of declarable substances under the GADSL (for automobile industry) or JIG (for electrical and electronic industries).

◆ Whenever a company prepares a AIS, the company is required to pay close attention as to what industries the users intend to manufacture their products for by using the product supplied by the company.
### 4. Composition Information (3/10)

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Quantity</td>
<td>Component Name</td>
</tr>
<tr>
<td>![I]</td>
<td>![I]</td>
<td>[S]</td>
</tr>
</tbody>
</table>

- Enter the number of components where the product consists of multiple components that are completely the same.
  - Supplementary information: Recording the quantity of components in this space obviates the need for entering the same information multiple times.
- Enter the name(s) of a single or multiple component(s) broken down to the level that allows to identify where the materials and substances are located within the product.
- Enter the number of original components where the product consists of multiple components that are completely the same in terms of declarable substances in AIS.

- Leave this space blank if this AIS is intended for disclosure of data on components.
- Enter the name of the article if this AIS is intended for disclosure of data on a semifinished or finished product.
## 4. Composition Information (4/10)

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
<th>Quantity</th>
<th>Component Name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>XX unit</td>
<td>Component A</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component B</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component C</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Component D</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By creating a AIS for Component C (cable) per unit length, the entire length of cable used can be indicated in quantity. (In this instance the AIS is based on Component C per meter).

Enter the number of components where the product consists of multiple components that are completely the same.
4. Composition Information (5/10)

[S] Required information  [I] Required when applicable  [A] Optional information

- Enter data on each homogeneous material individually.
- Select from the prescribed "Intended Use Classification Code" list.
  - Select the most relevant classification category from the prescribed "AIS Material Classification" list.
- Enter data in this space when a material can be defined under the provisions of any internationally acknowledged standards e.g. ISO, JIS, etc.
- Enter data on the weight of each material individually.
- The average eigen value is preferable, while the maximum value is also acceptable.
- Data should be collected and entered in a way that the materials total as close as possible to 100% of the article mass.

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Quantity</td>
<td>Component Name</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. Composition Information (6/10)

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Use</th>
<th>Material Name</th>
<th>Material Classification Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>[S]</td>
<td>[S]</td>
<td>[S]</td>
</tr>
</tbody>
</table>

Select from the "AIS Material Classification" list provided by JAMP.

Select from the "Table of Intended Use Classification Code" provided by JAMP.

<table>
<thead>
<tr>
<th>1. Base material</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Clad</td>
</tr>
<tr>
<td>3. Attached agent</td>
</tr>
<tr>
<td>4. Inner preparations (e.g. applied on preparations used for operation)</td>
</tr>
<tr>
<td>5. Solder joint</td>
</tr>
<tr>
<td>6. (Surface treatment) plating</td>
</tr>
<tr>
<td>7. (Surface treatment) chemical conversion treatment</td>
</tr>
<tr>
<td>8. (Surface treatment) thermal spraying</td>
</tr>
<tr>
<td>9. (Surface treatment) PVD(Physical Vapor Deposition)</td>
</tr>
<tr>
<td>10. (Surface treatment) CVD(Chemical Vapor Deposition)</td>
</tr>
<tr>
<td>11. (Surface treatment) painting</td>
</tr>
<tr>
<td>12. (Surface treatment) marking</td>
</tr>
</tbody>
</table>
### 4. Composition Information (7/10)

**Required information**  
**Required when applicable**  
**Optional information**

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS Number</th>
<th>Concentration (wt%)</th>
<th>Substance Mass</th>
<th>Select from kg, g, mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>[I]</td>
<td>[I]</td>
<td>[I]</td>
<td>[I]</td>
<td>[I]</td>
</tr>
</tbody>
</table>

- Enter the name of the declarable substance if any applicable substance is contained in the article.
- Enter the CAS number of the declarable substance within the material.
- Enter the concentration of the declarable substance contained in the material.
- Enter the mass of the declarable substance contained in the material.
- Select the type of unit.

(Supplementary information)

A "declarable substance" represents a chemical substance that is subject to regulation under any of the legislations specified in MSDSplus, as well as a substance that is identified as a declarable substance in the GADSL or JIG.

As of July 2008, the legislations regulating the substances whose data are required to be disclosed on MSDSplus as "declarable substances" are the following:

- Japan's Chemical Substances Control Law, Industrial Safety and Health Law, and Poisonous and Deleterious Substances Control Law;
- EU's RoHS, ELV, 67/548/EEC and 76/769/EEC.
### 4. Composition Information (8/10)

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Concerned Regulation or Other Documents Indicated by JAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>[I]</td>
</tr>
</tbody>
</table>

- Enter "1" if the substance is applicable to SVHC of the REACH Regulation.
- Entry to the Remarks column is optional and voluntary.

- Enter "1" if the substance is applicable to PBT of ESIS.
- Enter "1" if the substance is applicable to EU 76/769/EEC (excluding CMR-Cat. 1 or 2 in Annex I).
- Enter "1" if the substance is subject to EU RoHS or ELV Directive.
- Enter "1" if the substance is applicable to CMR-Cat. 1 or 2 in Annex I of EU 67/548/EEC.
**4. Composition Information (9/10)**

[S] Required information  [I] Required when applicable  [A] Optional information

<table>
<thead>
<tr>
<th>Substances</th>
<th>GADSL</th>
<th>Remarks</th>
<th>JIG</th>
<th>Remarks</th>
<th>Voluntary Declarable Substances</th>
<th>Remarks</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
<td>[A]</td>
</tr>
</tbody>
</table>

- Enter "P" or "D" if the substance is applicable to declarable substances in GADSL.
- Enter "A" or "B" if the substance is applicable to declarable substances in JIG.
- Enter "1" if reporting a voluntary declarable substance.
- Enter the name of the legislation that the voluntary declarable substance is subject to.

Entry is optional and voluntary.
4. Composition Information (10/10)

[S] Required information  [I] Required when applicable  [A] Optional information

Declaration Concerning Composition Information [S]

☐ This article is confirmed NOT to contain any declarable substances within the scope of Concerned Regulation or Other Documents Indicated by JAMP.

☐ This article is confirmed to contain declarable substances within the scope of Concerned Regulation or Other Documents Indicated by JAMP.

- Select one of the two statements regarding the declarable substances (mandatory).
### 6. Information to be Declared

<table>
<thead>
<tr>
<th>Common Product Name</th>
<th>Article Mass</th>
<th>Unit Type (Please select the appropriate unit from: piece, m, ml, adb)</th>
<th>Mass</th>
<th>Unit of Mass</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Component</th>
<th>Quantity</th>
<th>Material Code of Public Standard</th>
<th>Material Name</th>
<th>Substance Name</th>
<th>CAS Number</th>
<th>Concentration (mg/L)</th>
<th>Substance Name</th>
<th>Concerned Regulations or Other Documents Indicated by JMP</th>
<th>Remarks</th>
</tr>
</thead>
</table>

- **(Note)**
  - Information is automatically transferred and displayed in these columns if data on declarable substances are entered in the "4. Composition Information" columns.
  - The columns are blank if no data regarding declarable substances have been entered.

- **Information on voluntary declarable substances will not be transferred.**

- **If the information on the sheet "does not cover GADSL (or JIG) scope" is selected in the "4. Composition Information" page, information will not be transferred even when there are data entered on the page regarding declarable substances in the GADSL or JIG.**
7. Specified Chemical Substance Concentration within Article

(Display example)

<table>
<thead>
<tr>
<th>Declarable substance</th>
<th>Substance Name</th>
<th>CAS No.</th>
<th>Concentration within Article</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lead</td>
<td>7439-92-1</td>
<td>0.070</td>
<td>wt%</td>
</tr>
<tr>
<td></td>
<td>Cadmium chloride</td>
<td>10108-64-2</td>
<td>0.004</td>
<td>wt%</td>
</tr>
</tbody>
</table>

Note: The denominator to be used for the calculation of a substance concentration within the product is not the total value of materials comprising the product but the mass of the product.

8. Total Amounts of Material within Article

(Display example)

<table>
<thead>
<tr>
<th>Material</th>
<th>Material Classification No.</th>
<th>Material Mass</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramics</td>
<td>N720</td>
<td>10.0000</td>
<td>g</td>
</tr>
<tr>
<td>Zinc plating</td>
<td>S001</td>
<td>1.8880</td>
<td>g</td>
</tr>
</tbody>
</table>

Data are automatically calculated and displayed when the AIS Input Support Tool provided by JAMP is used.
AIS Information on Assembled Products

**<AISs for original components>**

- Item No. in AIS
- 4. Composition Information
- MSDSplus

**Composition information in integrated AIS**

- 4. Composition Information

**<AIS for complex article>**

- 4. Composition Information

**Simplified composition information**

- Declarable substances & materials incl. voluntary declarable substances

6. Information to be Declared

- Declarable substances & materials covered by applicable regulations

8. Total Amount of Material within Article

- Material information summarized for identical materials
  (Materials containing a declarable substance are also summarized.)

**Examples**

- Information on homogeneous materials containing a declarable substance covered by regulations, and on substances
- Information on homogeneous materials containing a declarable substance not covered by regulations, and on substances
- Information on homogeneous materials not containing a declarable substance
Basic Rules in Preparing AISs

- For articles that do not undergo chemical changes during the manufacturing process such as assembled products, mechanical components, thermoplastic molding, etc., AISs can be prepared by transferring necessary information from MSDSplus.

- For articles that undergo chemical changes (e.g. formation of new substances or volatilization) during the manufacturing process, including plating films, paint films, and thermosetting resins (for resin molding or bonding), AISs must be prepared using information obtained from the manufacturers of preparations (agents, pellets, etc.) regarding substances that will be formulated after processing.
Suppliers of preparation-type sub-materials have the responsibility to prepare AISs according to the after-use condition of the preparations.

Obtain information on chemical substances contained in the preparation through JAMP MSDSplus.

<table>
<thead>
<tr>
<th>Classified as a &quot;preparation&quot; at the time of purchase</th>
<th>Classified as an &quot;article&quot; after use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adhesives</td>
<td>Solidified adhesive resin</td>
</tr>
<tr>
<td>Paints</td>
<td>Paint films</td>
</tr>
<tr>
<td>Solder</td>
<td>Solder after use</td>
</tr>
<tr>
<td>Plating solution</td>
<td>Plating films</td>
</tr>
<tr>
<td>Ink</td>
<td>Solidified ink</td>
</tr>
</tbody>
</table>

(Example)
- A volatile component in a solvent separates and solidifies.
- A monomer hardens and becomes resin.
- Metal ions change to form a metal film.

Because preparations undergo a compositional change after use, the users have the responsibility for the management of substances and materials contained in articles.

A substance must be managed according to its composition after a chemical change has occurred following the use of the preparation. Collect and input data onto AISs accordingly and provide the information to users.
Preparation and Submission of AIS
Procedure and Unit for Issuing AIS

- The unit to be used for issuing an AIS is a "product for sale" consisting of "original components."
- AISs must be issued separately for main products and packaging.
  - Please use the AIS Input Support Tool provided by JAMP when preparing AISs.
  - Please submit the English (or Japanese) version of AISs wherever possible.
  - Please submit one AIS for each product type supplied to NEC.
  - Please submit AISs to NEC in the "XML" format (please use the AIS Input Support Tool).

AISs for products consisting of multiple components

If the product you are supplying to NEC is not a single component but an assembly of multiple components, please prepare one AIS for each component and process your data so as that the AISs for all components of the product are integrated into one AIS.
Storage and Submission Format of Generated Data

- Output and storage of data in **XML** format
- Storage and input of data in **XML** format

**Supplier**
- AIS /MSDSplus
- Saved data

- Output data into the **XML** format = ***kbite/file***
- Save data in the original format of the Tool = ***Mbite/file***

**NEC**
- AIS /MSDSplus
- Stored data

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Article Unit for Obtaining and Preparing AIS

AISs for materials and sub-materials procured externally, and AISs for components and materials manufactured within the company.
Information Distribution Infrastructure (GP) Developed by JAMP

What is Information Distribution Infrastructure?
JAMP has been developing an information distribution infrastructure (Global Portal: GP) with the aim to improve speedy exchanges of information on chemical substances contained in products (MSDSplus and AIS) within supply chains (scheduled to be completed in June 2009).

The GP will play a role of an exchanger that will allow information to be exchanged over electronic systems. Once the index information of AISs (MSDSplus & AIS) is registered in the GP, the system will automatically provide information in response to requests from the users, eliminating human work and the need for the requests to be replied individually.

NEC believes that the utilization of the GP will reduce the large workload associated with the conventional process used, which required survey requests to be handled individually regarding chemical substances contained in our products. NEC plans to make the best use of the GP, believing that it will facilitate the speedy exchange of information.
Problems Associated with the Current Information Exchange Process

If there is no information distribution infrastructure

Provider of information

Recipient of information

Information exchange process using AIS and MSDSplus requires new information to be provided to customers every time the information is updated. The workload will be significant if each company tries to establish a system to handle necessary work on its own.

- Necessary to provide information to each customer separately.
- Necessary to provide the latest information to all customers.
- Heavy workload in both sides
- Low reliability
- The latest information is not available (unknown).
- Necessary to invest considerable time and efforts required in obtaining information.
- Necessary to send requests to a large number of suppliers.
- Significant investment must be made by each company.

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- Necessary to send requests to a large number of suppliers.
- Significant investment must be made by each company.
Purpose of JAMP Information Distribution Infrastructure

Distribution of up-to-date information will be easy and efficient with the information distribution infrastructure.

- **Improved information collection**
  - Single channel for providing information to multiple customers

- **Improved security**
  - The latest (updated) information can be automatically provided to customers through the log function provided with the information distribution infrastructure.

- **Efficient information delivery**
  - Minimum operation workload
  - Improved reliability

**Provider of information**

- Single channel for providing information to multiple customers
- The latest (updated) information can be automatically provided to customers through the log function provided with the information distribution infrastructure.

**Recipient of information**

- Single channel for receiving information from multiple suppliers
- Improved information collection
- Improved security

**JAMP information distribution infrastructure**

- Delivery history

**AIS sheet**

- (1) Data processing history function, index management function
- (2) Data change notification function
- (3) Security function (provision of data only to intended users)
JAMP Information Distribution Infrastructure (GP) Utilization Concept at NEC

1. Connect to JAMP-GP and specify AIS to be obtained.
2. System or AS of each company registered in GP.
3. Connect to applicable information delivery system and request AIS to be obtained.
4. Supplier Web

NEC system (to be launched in July 2009)

Web

Company ID / GP Sheet ID

Obtain requested AIS.

JAMP-GP (to be launched in July 2009)

Return requested AIS to JAMP-GP.

Supplier Web

Suppliers

Web
Supplier Web Service of NEC

Process concept of chemical substance survey requested to suppliers from NEC

NEC will promote the use of the Supplier Web service or JAMP information infrastructure for collecting information on chemical substances contained in products.

The following function will be available free of charge:
- Notification e-mail service for new requests
- Component composition registration and product AIS processing on the Web screen
- Survey reply to customers registered with the service, survey request to manufacturers (up to 20 companies)

The following function will be available with a fee:
- Survey reply to customers via JAMP-GP
- Information collection from over 20 manufacturers (including collection via JAMP-GP)
- Information exchange using file transfer

The system can also be used for providing information to customers other than NEC.
Example of Supplier Web Operation Procedure

1. **Survey request from NEC**
   - Supplier product
     - Component B
     - Prepare AIS for original components manufactured within the company

2. **Obtain AISs from manufacturers of materials**
   - NEC product
     - Component A
     - Component B
     - Component C

3. **JAMP AIS Input Support Tool**
   - XML output
     - F.xml

4. **Product survey response**
   - Register AIS for original components on the Web
     - E.xml

5. **Product AIS processing and registration**
   - To NEC
     - Component C
     - Reply to survey request

6. **Registration of product composition**
   - Bottom-up calculation for Product B

7. **Input quantity of components**
   - Component E
   - Component F

8. **Operations on Web screen**
   - XML output
   - Input quantity of components

---

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4. Cooperation Request

for SVHC Surveys
Collection of SVHC Information

- The launch of the full-scale survey of SVHC information for all products subject to compliance with REACH is scheduled after April 2009.

- Please prepare for data calculation within your company and make preliminary requests to your suppliers.

- About 5000 substances are registered for AIS and MSDSplus.
  - Please provide mandatory information regarding 15 SVHC during the initial period.
  - Please provide other information as it becomes available.
  - New substances will be continually added according to the changes in applicable legislations.
Means for Suppliers in Providing Information to NEC

- NEC will start a web service for suppliers (Supplier Web) in line with the launch of the JAMP information distribution infrastructure (Global Portal) (June 2009).

- Suppliers are asked to first provide AISs and MSDSplus using this web service.

- NEC expects further information to be provided via the network between NEC's Supplier Web and JAMP-GP.
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