“chemSHERPA,” a scheme that facilitates sharing information on chemicals in products

[Overview Description]
Contents

• Background on Information Transfer Schemes
• Major Elements of Information Transfer Scheme
• Declarable Substances
• Information and Data Format for Chemicals and Articles
• “Area” to enter Compliance Information
• Criteria to provide Composition Information
• Responsible Information Handling
• Data Entry Support Tools
• Promotion of Standardization of new schemes
Background on Information Transfer Scheme

Currently, two schemes of JAMP and former JGPSSI serve as Japan’s standard CiP guidelines for electric/electronic field. (IMDS for auto industry) Nevertheless, such “standard schemes” account for 36% of overall data-handling practices: another 64% is comprised with company’s own reporting format, which causes substantial burden to midstream operators.

[Uses of information transfer scheme]

Proportion of data format required by customers (164 SMEs; multiple answers)

- Providers’ own format (domestic) 30%
- Providers’ own format (overseas) 4%
- Recipients’ own format (domestic) 64%
- Recipients’ own format (overseas) 3%
- Other (own formats, etc.) 11%
- Analysis data 16%
- JAMP 19%
- JGPSSI (current VT62474) 11%
- IMDS 6%

[Cost for chemical management]

Chemical management cost per company (Averages of 65 large companies and 74 SMEs) (1,000 yen/year)

<table>
<thead>
<tr>
<th></th>
<th>SMA</th>
<th>Large companies</th>
<th>Average</th>
<th>(breakdown) analysis cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Upstream</td>
<td>25,230</td>
<td>7,740</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midstream</td>
<td>26,850</td>
<td>13,890</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Downstream</td>
<td>28,710</td>
<td>19,090</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>16,350</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Large co. total</td>
<td>25,790</td>
<td>11,770</td>
</tr>
<tr>
<td>SMEs</td>
<td></td>
<td>Upstream</td>
<td>3,000</td>
<td>1,680</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Midstream</td>
<td>1,530</td>
<td>870</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Downstream</td>
<td>1,560</td>
<td>540</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>4,180</td>
<td>3,810</td>
</tr>
<tr>
<td>SME total</td>
<td></td>
<td></td>
<td>2,230</td>
<td>1,280</td>
</tr>
</tbody>
</table>

* JAMP: Joint Article Management Promotion-consortium
* JGPSSI: Japan Green Procurement Survey Standardization Initiative
* IMDS: International Material Data System

[Source] Research on actual situation of CiP information transfer (research commissioned by METI, FY2013)
What’s chemSHERPA?

A scheme that facilitates sharing information on chemicals in products

• Information transfer between supply-chain partners is essential for appropriate management of chemicals in products (CiP), in order to continuously respond to expanding regulations. The chemSHERPA can be used as a common scheme for information transfer across a supply chain.

Designed for steady & efficient information transfer

• Applicable to various products and industries. Throughout a supply chain, from up- to down-stream, This scheme allows organizations to transfer the CiP information under a shared policy.

Toward a better information transfer and chemical management in a supply chain

• The chemSHERPA ensures “responsible information handling” that transfers composition information based on a common substance list, as well as compliance information for articles, striving for a better CiP management in the future.

Starts operation in October 2015

• Based on the second phase verification results, the data entry support tools were finalized and formally released in October 2015.

chemSHERPA [kémʃéərpə] : Chemical information SHaring and Exchange under Reporting Partnership in supply chain
Major Elements for Information Transfer Scheme

[Rules on the use]
The principles that all organizations using chemSHERPA for information transfer shall satisfy.

[Declarable substances]
Chemical substances subject to information transfer. Selected based on relevant regulations (law/regulation, industry criteria, etc.)

[Data format]
Format for computerizing information on chemical substances in products. Adopts XML schema of IEC 62474.

[Data entry support tools (and compatible software)]
Software to enter and/or browse data in a specific format. Data entry support tool provided under the scheme; also assumes package software and operators’ in-house system.

[IT system] (Future plan)
Group of systems for efficient information transfer among operators in a supply chain, such as database and communication portal, etc.
Declarable substances (1)

**Basic idea to select relevant management standards**
- The new scheme seeks to establish a chemical management standard that is a need of and is agreeable in entire supply chain, which ensures and facilitates information transfer for chemical substances in products in the supply chain.

**Selection of relevant management standards**

1. **General**
   - Relevant standards are selected from laws/regulations and/or industry criteria related to chemical substances in products.
   - Prescriptions of regulations (condition, language, criteria, etc.) are adopted without modification.

2. **Laws & regulations**
   - For the 1st edition, major chemical regulations in Japan, US and EU are selected.
   - Regulations in Asian countries may be selected in future as necessary, based on full discussions. Addition to relevant standards will be determined in line with a specific procedure under the scheme.

3. **Industry criteria**
   - For the 1st edition, those of electric/electronics and auto industries are selected.
   - Regulations of other industries may be selected in future as necessary, based on full discussions. Addition to relevant standards will be determined in line with a specific procedure under the scheme.

**Maintenance and management of declarable substance list**
- Substance list is to be revised twice a year (in January and July).
- For revision in relevant substances, rules will be developed while accepting proposals from the public.
Declarable Substances (2)

Relevant standards

<table>
<thead>
<tr>
<th>Relevant standard ID</th>
<th>Laws/regulations and industrial standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR01</td>
<td>Chemical Substances Control Law (Japan): Class I Specified Chemical Substances</td>
</tr>
<tr>
<td>LR02</td>
<td>Toxic Substances Control Act (TSCA) (US): Section 6</td>
</tr>
<tr>
<td>LR03</td>
<td>Directive 2011/37/EU Targeted substances list</td>
</tr>
<tr>
<td>LR04</td>
<td>2011/65/EU Targeted substances list</td>
</tr>
<tr>
<td>LR05</td>
<td>EU POPs REGULATION (EC) No 850/2004 Annex I</td>
</tr>
<tr>
<td>LR06</td>
<td>EU REACH REGULATION (EC) No 1907/2006 Candidate List of Substances of Very High Concern for Authorisation (SVHC), Authorisation List</td>
</tr>
<tr>
<td>LR07</td>
<td>EU REACH REGULATION (EC) No 1907/2006 Annex XVII Restriction substances</td>
</tr>
<tr>
<td>IC01</td>
<td>Global Automotive Declarable Substance List (GADSL)</td>
</tr>
<tr>
<td>IC02</td>
<td>IEC 62474 DB Declarable substance groups and declarable substances</td>
</tr>
</tbody>
</table>

Declarable substances: defined by the sumset of chemical substances falling under laws/regulations and industrial standards that constitute relevant standards. (Artist's rendition of inclusion relationship)
For chemical products, composition information shall be provided as information on chemicals in products.

XML schema of IEC 62474 is used as the data format, ensuring consistency with data format for articles.
For articles, composition information and/or compliance information shall be provided as information on chemical substances in products.

XML schema of IEC 62474 is adopted as the data format, facilitating promotion in overseas countries.

<table>
<thead>
<tr>
<th>Type of information</th>
<th>Content</th>
<th>Data format</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Business information</td>
<td>Name of company, person in charge, etc.</td>
</tr>
<tr>
<td>1</td>
<td>Composition information (Level) – component - material - substance</td>
<td>Declarable substances</td>
</tr>
<tr>
<td>2</td>
<td>Compliance information</td>
<td>Specified by “Area”</td>
</tr>
</tbody>
</table>
“Area” to enter Compliance Information

- Items to be entered for compliance information (substance, reportable application, reporting threshold, etc.) can be selected with “Area”.

Setting “Area”

- Select an Area from laws/regulations and/or industry criteria (relevant standards).
- IEC 62474 is adopted as Area by default for compliance information for electric & electronic appliances.
- Addition of Area is subject to future consideration for other industries, as necessary.

<table>
<thead>
<tr>
<th>Area</th>
<th>Relevant law/regulation, industry criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 62474</td>
<td>IEC 62474 DB: Declarable substance groups and declarable substances</td>
</tr>
</tbody>
</table>

Data entry window for the Area “IEC 62474” (partial image)
### Criteria to provide Composition Information

<table>
<thead>
<tr>
<th>Threshold under Regulation</th>
<th>Concentration of declarable substance</th>
<th>Whether to handle composition information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clarified as reportable application, or application unknown</strong></td>
<td>equal to or greater than allowable concentration under Regulations</td>
<td>Required to provide composition information, incl. declarable substance.</td>
</tr>
<tr>
<td></td>
<td>equal to or greater than 0.1wt% of chemSHERPA's voluntary criteria and below allowable concentration under Regulations</td>
<td>Provide composition information incl. declarable substance, in line with voluntary criteria under chemSHERPA.</td>
</tr>
<tr>
<td></td>
<td>below 0.1wt% of chemSHERPA's voluntary criteria</td>
<td>Not required to provide composition information on declarable substance. Optional reporting.</td>
</tr>
<tr>
<td>Prescribed threshold &gt; 0.1wt%</td>
<td>equal to or greater than allowable concentration under Regulations</td>
<td>Required to provide composition information of declarable substance in products.</td>
</tr>
<tr>
<td></td>
<td>below allowable concentration under Regulations</td>
<td>Not required to provide composition information of declarable substance in products. Optional reporting.</td>
</tr>
<tr>
<td><strong>Clarified as other than reportable application</strong></td>
<td>equal to or greater than 0.1wt% of chemSHERPA’s voluntary criteria</td>
<td>Provide composition information incl. declarable substance, in line with voluntary criteria under chemSHERPA.</td>
</tr>
<tr>
<td></td>
<td>below 0.1wt% of chemSHERPA’s voluntary criteria</td>
<td>Not required to provide composition information of declarable substance in products. Optional reporting.</td>
</tr>
</tbody>
</table>

- Declarable substances are controlled under Regulations and therefore are not subject to protection of confidential business information (CBI) in principle.
Responsible Information Handling

- All information handled between supply chain operators under the chemSHRPA is deemed as “responsible information handling”.

[Chemical products]
- For “responsible information handling” for chemical products, organizations shall take every effort to prepare composition information by using information from suppliers or based on its own knowledge. Such information to be handled needs authorization before delivery, as being in accordance with “responsible information handling”.

[Articles]
- For “responsible information handling” for articles, organizations shall take every effort to prepare composition information by using information from suppliers or based on its own knowledge. Such information to be handled needs authorization before delivery, as being in accordance with “responsible information handling”. For declarable substances subject to regulations in a selected Area, operators provide such information of all substance contained by above reporting threshold of composition information.
- For “responsible information handling” for articles in terms of compliance information, organizations as article providers shall conduct material declaration based on specific criteria in “Area” to its customer. Level of compliance information based on Area corresponds to the level of requirement in relevant regulations in the Area.

[for both]
- Information obtained from upstream organizations needs be transferred to downstream ones without giving any omission or deletion of the information.
- Information on purchased products is not necessarily available from suppliers. Therefore, organizations shall make a reasonable effort to supplement information by adding its own knowledge and scientific findings to it, as necessary, in order to prepare own data for subsequent information handling.
Data entry support tool for two types of info.

Upstream (raw-material manufacturer) | Midstream | Downstream (Final assembly manufacturer)
--------------------------------------|----------|--------------------------------------
Chemicals | Mixture | Raw material | Subassembly | End product

- chemSHERPA
- CI: Chemical Information
- AI: Article Information

CI : Chemical Information
AI : Article Information

<table>
<thead>
<tr>
<th>Display</th>
<th>Data entry support tool for chemicals</th>
<th>Data entry support tool for articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumed user</td>
<td>Operators that provide chemical substances and mixtures.</td>
<td>Operators that provide articles.</td>
</tr>
</tbody>
</table>
| Information contained (output) | CI: Chemical Information  
  - Business information  
  - Composition information | AI: Article Information  
  - Business information  
  - Composition information  
  - Compliance information (when Area is selected) |
Data entry support tool for chemicals

[Input support]
○ Select & enter info on substance that is mastered in external list.
○ Substance search by partial match of CAS No., substance name (Jpn/Eng/Chn) and filter by relevant standards, etc.
○ Citing CI already prepared for data entry; additional importing.

[External list]
Lineup includes:
○ Substance search list
○ Material list
○ Application list
Data entry support tool for articles

[Main windows and items for data entry]

**Window** | **Info item** | **Item for data entry**
--- | --- | ---
Business info. view | Issuer and Authorizer info. | Company name, address, person in charge, contact info, authorizer info, date of authorization, date of preparation, etc.
 | Product and component info. | Product name, number, manufacturer, quantity, unit, date of issuance, etc.
 | Requester info. | Company name, address, person in charge, contact info, date of request, reply deadline, etc.
Composition info. view | Info with structure of level → component → material → substance. | Level and its quantity, component and its quantity, material, material mass, substance name, content rate per material, exemption code, etc.
Compliance view. | Compliance info for specific Area. | Content status (Y/N) for each reporting ID, content rate, quantity of content, usage code, application, portion used, etc.

[Input support]
- Select & enter info that is mastered in external list, for substance, material, exempted application, etc.
- Substance search by partial match of CAS No., substance name (Jpn/Eng/Chn) and filter by relevant standards, etc.
- Integration of composition info., combining AI of purchased components.
- Citing AI already prepared for data entry; additional importing.
- Convert composition info to compliance info., in line with selected Area. (partly applied)

[External list]
Lineup includes:
- Area info.
- Substance search list
- Material list
- Application list
- Conversion factor

[System requirements]
- OS: Microsoft Windows Vista, 7, 8, 8.1
- Monitor resolution: XGA (1024 x 768) or higher
- .NET Framework 4 or higher
- Microsoft Excel 2007 or higher

Authorization file contains information with no error and authorized.
Request file contains information on requested product and requester.
Temporary file is under development. (No transfer allowed in supply chain)

Format: (Excel)

*2: The form can be exported by window (Business/composition/compliance)
Promotion of Standardization of the new scheme

- chemSHERPA
  - JAMP MSDSplus
  - JAMP AIS
  - JGPSSI/Ver.4

- Other formats

- Entire supply chain
- Conformity with int’l standards
- Various product categories
- Global implementation

October 2015
Advisory note on the use of chemSHERPA

- “Rules on the use of information on chemical substances in products” provides the principle of information transfer for chemical substances in products. Organizations who use the chemSHERPA, a chemical information transfer scheme, need to ensure correct understanding of and conformity with this scheme.
- If you use the Data entry support tool, please make sure to read supportive materials before use, such as Operation manual, Data entry manual, FAQs, etc.
  - The tool can be downloaded from chemSHERPA website, free of charge.
  - Document materials (Rules on the use, Operation manual, Data entry manual, etc.) can also be downloaded from chemSHERPA website.
- Specification of Data entry support tool may be changed due to revisions of laws/regulations or industry criteria or for the purpose of addition or improvement of functions. Please note that such changes may cause gap in part with this material.
- Supplementary documentation may also be revised as necessary.
- Please check chemSHERPA website for latest news and revisions of tools and documents.

- Disclaimer: chemSHERPA assumes no responsibility whatsoever for any direct or indirect damage or loss caused by use of information or data provided by or created with Data entry support tool. Users of this tool have full responsibility for all contents of information provided under the scheme.

chemSHERPA website  https://chemsherpa.net/