ANNEX 2

Review Results on SAICM National Implementation Plan of Japan

(Industrial Associations and Trade Unions)

(March, 2020)

Review Results on SAICM National Implementation Plan of Japan (Industrial Associations and Trade Unions)

Contents

I. Introduction

Strategic Approach to International Chemicals Management (SAICM) National Implementation Plan of Japan was compiled in September 2012 at the Inter-Ministerial Meeting on SAICM to present the country's future strategy to achieve the WSSD 2020 targets. The Plan states, "The progress of SAICM National Implementation Plan will be reviewed in the Inter-Ministerial Meeting on SAICM prior to ICCM4 to be held in 2015, and the results will be announced," and the progress of the Plan was reviewed from 2014 to 2015.

As the WSSD 2020 target year begins, this report describes the results of review of various initiatives by industrial associations and trade unions among other stakeholders in SAICM National Implementation Plan of Japan.

SAICM National Implementation Plan of Japan identifies not only citizens, government agencies, and academic experts, but also workers and businesses as participants in the development of the Plan. It introduces various cases of chemical management initiatives by these stakeholders.

In this respect, the report has compiled various initiatives on chemical management implemented by the industrial associations and trade unions through questionnaire surveys and the obtained results of progress data.

The results of the Review show that progress has been generally made in the initiatives by industrial associations and trade unions, including those reported in SAICM National Implementation Plan of Japan, as well as other initiatives. New initiatives launched by various organizations include furthering activities to manage chemical substances at business operators through the supply chain, providing information to consumers while keeping in mind global business development and the need for further understanding, and promoting efforts to achieve SDGs as they attract increasing public attention as new environmental challenges. Further steps for the industrial associations and trade unions will be considered in the future while taking into consideration details of a new international framework for the management of chemical substances, which will be developed at ICCM5 for the period after 2020, details of a national plan worked out by the government which will replace the SAICM National Implementation Plan of Japan, and the results of this Review.

II. Selected Initiatives by Industrial Associations

1. Japan Chemical Industry Association (JCIA)

1.1 Responsible Care

[Overview of the Initiative]

In the chemical industry, each member company handling chemical substances engages in voluntary activities aimed at preserving the environment, safety, and health, publishing the results of activities, and engaging in dialogue and communication with society in all processes of such substances, ranging from the development, manufacture, distribution, and use of chemical substances to disposal and recycling after final consumption. These activities are collectively called “Responsible Care,” or RC for short.

The International Council of Chemical Associations (ICCA) established the RC Global Charter in 2006 as the guiding principles for the development of the RC initiative. Based on this charter, member companies conduct RC activities on a global scale. Reflecting changes in priority measures thereafter, ICCA revised the Charter in 2014 as a simpler and more specific action strategy. With this revision, in order to create greater awareness of RC and further promote it worldwide, JCIA urged 56 member companies, which widely develop business overseas, to sign the RC Global Charter (as of the end of 2015). JCIA also encouraged its member companies to take more specific actions for GPS/SAICM initiatives, the purpose of the revised 2014 RC Global Charter, which included appropriate management of chemical substances, process safety, and security. Furthermore, JCIA established a revised basic environment, health, and safety policy 2016, which reflected its intentions to approach business partners, provide information to stakeholders, and contribute to sustainable development of society. JCIA’s RC Committee actively works with member companies to achieve five principal goals of Responsible Care and promotes communication with society by publishing the results of activities. As part of its efforts, in 15 areas nationwide, JCIA continues to hold regional Responsible Care meetings in which businesses and stakeholders such as residents in the neighborhoods around factories engage in risk communication.

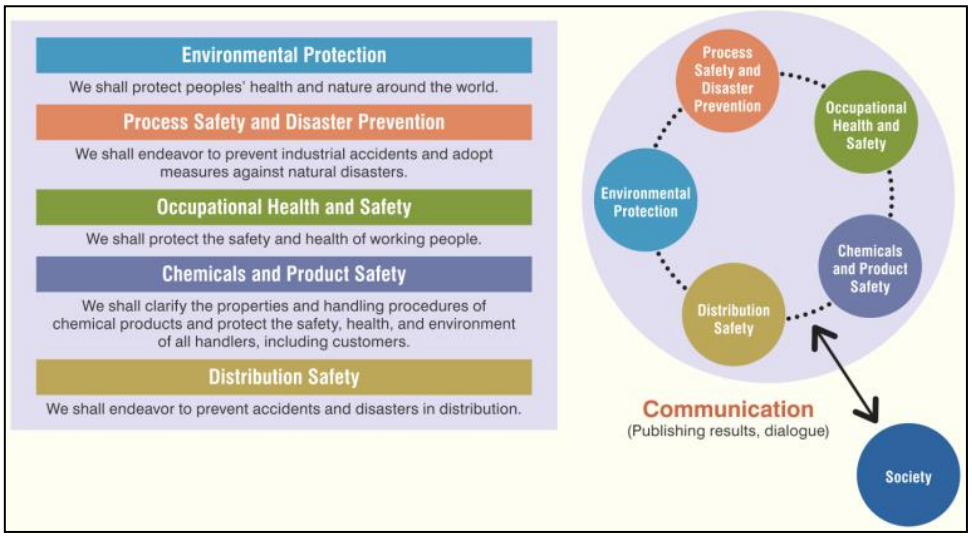

Figure 1 Implementation items for Responsible Care

Gist of Responsible Care Global Charter as revised in 2014

☆ Responsible Care is the chemical industry's unifying commitment to safely managing chemicals and contributing to sustainable development.

☆ The signatories will strengthen the RC initiative and commit themselves to:

1. A corporate leadership culture committed to strengthening the RC initiative
2. Safeguarding health, safety, and the environment through the RC initiative
3. Strengthening scientific and risk-based safe management of chemical products
4. Actively influencing business partners
5. Engaging stakeholders through open communication
6. Contributing to sustainable development of society

Figure 2 Gist of RC Global Charter

Principles of the Japan Chemical Industry Association regarding the Environment, Health and Safety 2016

The members of Japan Chemical Industry Association commit to the following basic principles on the environment, health and safety in conducting our business activities:

1. Safeguard the environment, health and safety in domestic and overseas through strong leadership by management.
2. Strive to continually improve environmental, health and safety performance and the security of facilities, processes and technologies throughout the entire chemical lifecycle from development to disposal, and inform society of the results of such efforts.
3. Further reduce consumption of resources and energy and strive to reduce, reuse and recycle wastes.
4. Protect the environment and people's health and safety by driving continual improvement in chemical product safety and stewardship throughout the supply chain.
5. Strengthen chemicals management systems by participating in the development and implementation of lifecycle-oriented, science-based, and risk-based sound chemical management legislation and best practice.
6. Influence business partners to promote the safe management of chemicals within their own operations.
7. Endeavor to engage in dialogue with local authorities and communities by heeding their concerns regarding the effects of our products and business activities on the environment, health and safety, and by providing them with necessary information to help them understand properly.
8. Further expand dialogue locally, nationally and globally in order to better meet the expectations of stakeholders regarding our efforts with respect to the environment, health and safety.
9. Contribute to the sustainable development of society by developing and providing innovative technologies and other solutions.

Figure 3 Principles of the Japan Chemical Industry Association regarding the Environment, Health and Safety 2016

[Initiative's Outcomes or Progress]

Figure 4 shows changes in emissions of PRTR substances as an outcome of the RC initiative. The progress has the following features:

- ✧ In FY2018, emissions of PRTR substances stood at 10,100 tons, down 78% from FY2000.
- ✧ Because the number of designated substances increased following the revision of the PRTR Act, emissions increased temporarily in FY2010. Since then, however, emissions have been on the decline.
- ✧ A breakdown shows that 92.6% of emissions are into the atmosphere, 7.4% into water, and less than 0.1% into soil.
- ✧ Together with PRTR substances, JCIA is working to reduce VOC emissions voluntarily. In FY2018, total VOC emissions from member companies that supported this initiative were 24,800 tons, down 72% from FY2000.

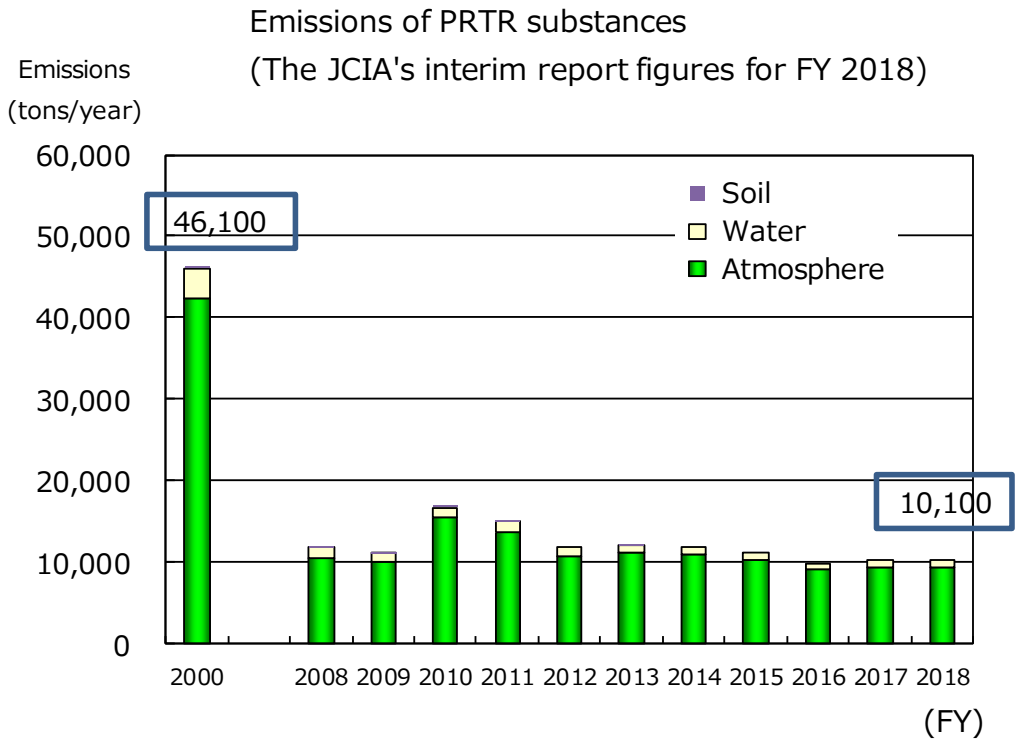

Figure 4. Changes in emissions of PRTR substances from JCIA member companies

1.2 New Chemicals Management Initiative (GPS/JIPS)

[Overview of the Initiative]

The Global Product Strategy (GPS) is an international chemicals management strategy to which ICCA committed itself after the First International Conference on Chemicals Management (ICCM1) adopted the SAICM in 2006. The GPS is designed for each member company to voluntarily conduct risk assessment of its chemical products and proper risk-based management of them accordingly as well as to minimize their risks in the whole supply chain through the disclosure of information on their safety, risks, and management methods to the public at large. Japan Initiative of Product Stewardship (JIPS) is a Japanese version of the GPS. JCIA discloses information on "GPS/JIPS safety summaries (GSS)," one of JIPS's results, to the general public, including customers, on JCIA BIGDr website. The number of accesses to JCIA BIGDr is about 25,000/month.

[Initiative's Outcomes or Progress]

- ✧ As part of its effort to promote GPS/JIPS activities, JCIA prepares and releases publications, including the "Risk Assessment Guidance." In 2016, JCIA opened to the public the "JIPS Mixture Risk Assessment Guidance" based on the GHS method which had newly developed by JCIA.
- ✧ JCIA conducted the first GPS/JIPS Promotion Campaign in 2013 and the second in 2015. In 2016, JCIA created the JIPS Award to officially commend companies that have created many GSSs. As a result, the number of GSS disclosed by Japanese companies stood at 554 as of December 2019 (see Figure 5). Thus, JCIA continues efforts to promote GPS/JIPS.
- ✧ In 2015, JCIA launched the GPS/JIPS Consortium in which the member companies work together to prepare GSS. So far, the Consortium has prepared draft safety summaries (GSS templates) for six substances.
- ✧ From 2014 to 2019, JCIA planned an introductory program for the Chemical Risk Forum, which developed working-level personnel who conducted risk assessments for chemical substances, and opened the program to the public upon implementation, as a means of spreading the concept of risk assessment.
- ✧ JCIA worked with ICCA to host GPS workshops in ASEAN countries from 2009 to 2015 in an effort to support activities to spread GPS in these countries.
- ✧ Since 2015, JCIA has opened to the public some functions of JCIA BIGDr, a user-friendly portal site designed to support members in collecting safety information, conducting risk assessment, and preparing and disclosing GSS, and has continuously updated the site.
- ✧ JCIA developed GSSMaker, a risk assessment tool to help prepare GSS, and BIGDr.Worker, a tool specialized in worker safety which enables risk assessment for mixtures, and has opened them (part of their functions) to the public on JCIA BIGDr website. In 2016, JCIA developed LeadSelector, which selects major ingredients in mixtures in accordance with JIPS Mixture Risk Assessment Guidance, and it was implemented in BIGDr.Worker.

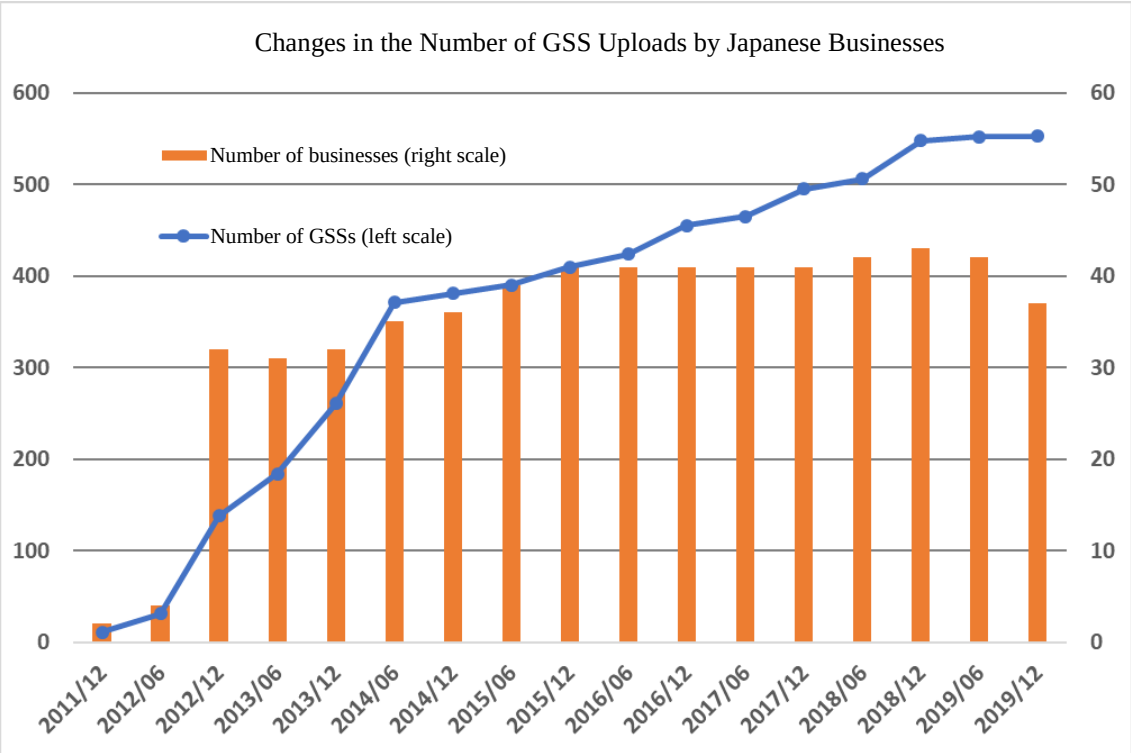

Figure 5　Changes in the number of uploads of GPS/JIPS Safety Summaries

1.3 JCIA BIGDr

[Overview of the Initiative]

To support member companies in their GPS/JIPS activities, JCIA has developed "JCIA BIGDr," a support web portal for collecting various information for risk assessment and learning how to prepare GPS/JIPS safety summaries (GSSs). JCIA opened the portal to its members in 2013 and to the public in 2015 (part of its functions). The JCIA BIGDr website has been upgraded with its data expanded and updated step-by-step. In 2016, the English version of the website was opened to the public. The major functions of JCIA BIGDr are as follows:

- ✧ Portal that provides information on hazardous chemical substances as well as laws and regulations
- ✧ Site that provides guidance on risk assessment and enables downloading of risk assessment tools
- ✧ Site that discloses GSSs
- ✧ Archive of mail magazines that distribute new information and press releases on the management of chemical substances in Japan and abroad
- ✧ Web pages specially developed under Industrial Safety and Health Act (opened in 2016 to support and promote risk assessment as required with the revision of the Act)

Figure 6 shows the top page of JCIA BIGDr. For the relationships between the buttons on the upper tabs of the screen (surrounded by a red line) and functions, see Figure 7.

Figure 6 An image of the top page of JCIA BIGDr (English version)

Figure 7　Functional menus and short descriptions of the functions on JCIA BIGDr

Functional menu	Short description of the function
(i) Hazard Information Database	Links to selected hazard information databases across mainly Japan those government offices make available to the public allow for global search across the board.
(ii) Regulatory Information	Links to regulatory information databases of Japan and other countries allow for global search of regulatory information on substances across the board.
(iii) Links	This page provides links to the sources of information on hazards as well as exposure and risk assessment.
(iv) Documents	Materials used in JCIA seminars on risk assessment and GPS/JIPS safety summary (GSS) preparation and registration are available.
(v) Practice of Risk Assessment	This page describes the whole process from risk assessment to the preparation of GSS using BIGDr functions.
(vi) Risk Assessment Tools	GSSMaker, an intuitive risk assessment tool available in both Japanese and English, is downloadable from here.
(vii) Safety Summary of Japan (GSS)	This page provides GSSs prepared by Japanese companies.
(viii) GPS/JIPS [Japanese]	GPS/JIPS pamphlets are available.
(ix) "Chemi-Maga" Archives [Japanese]	These archives offer information on chemicals management that is contained in "Chemimaga" and "NITE chemimaga" mail magazines issued by "Mizuho Information & Research Institute" and "National Institute of Technology and Evaluation (NITE)" respectively that cover new arrivals and news releases on selected websites of Japan and other countries, as well as latest information on the website of Japan Chemical Industry Ecology-Toxicology & Information Center (JETOC). Such information is available by country/institution and category.

1.4 Chemicals Management in the Supply Chain

[Overview and Results or Progress of the Initiative]

In 2011, JCIA worked with Joint Article Management Promotion-consortium (JAMP) to launch SCRUM Project (Project of Supply chain Chemical Risk management and Useful Mechanism discussion) to enable sharing of chemical risk information across industries.

The objective of the project is to establish a common assessment method and information communication mechanism that are needed for appropriate and efficient risk-based management of chemical substances throughout the supply chain with a view to reducing and even minimizing the risks from exposure to chemical substances. In 2011, SCRUM project investigated and analyzed issues regarding chemicals risk assessments and existing information communication systems in the supply chain, and risk assessment implementation and obtaining hazard information at mid- and downstream business operators. As a result, considering it necessary to create a greater awareness of the need for chemical risk assessment and management among midstream and downstream business operators, SCRUM Project established and disclosed the Guideline for Chemical Risk Management in the Supply Chain, which included examples of risk assessment in 2015, and the Procedure for Risk Assessment of chemicals in the Supply Chain, which presented more specific risk assessment procedures, in 2016. This project was completed in 2017.

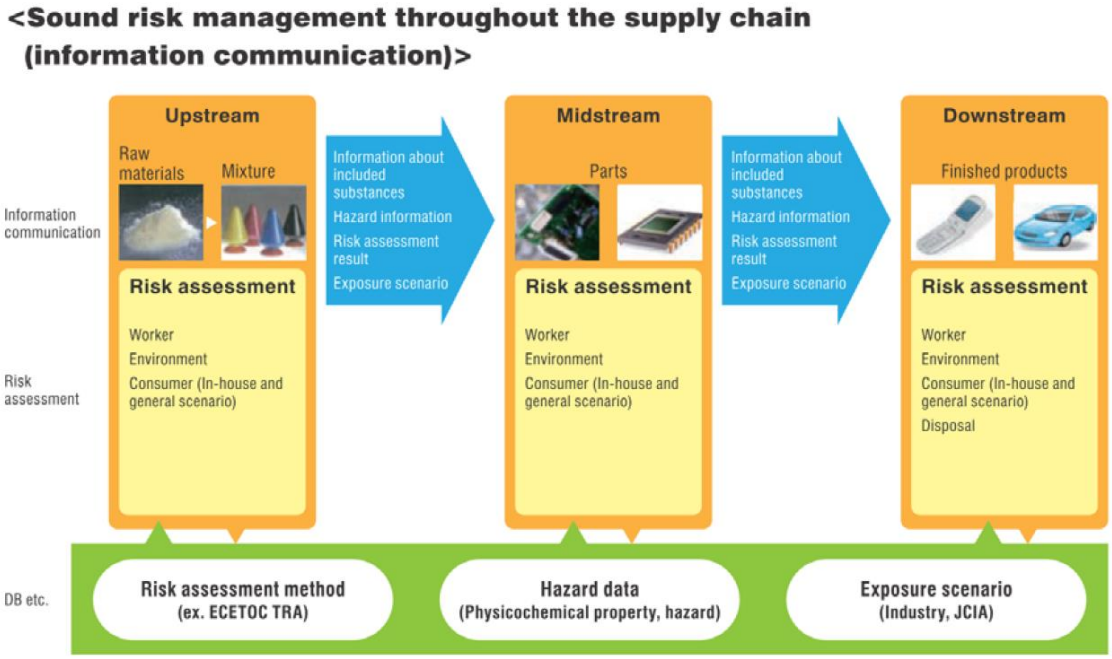

Figure 8 Sound risk management throughout the supply chain (information communication)

In 2013, Ministry of Economy, Trade and Industry set up the "study group on chemical regulations and Japanese business activities in Asian countries," and as one of its members, JCIA examined ideal schemes to communicate information on chemicals in products in the supply chain in various ways. As a deliverable, chemSHERPA was opened public in 2015. chemSHERPA is a common scheme which enables the information communication of chemicals in products in the supply chain and can be used throughout the supply chain in order to properly manage chemicals in products so that they do not adversely affect human health and the environment. Information on chemical products is communicated using chemSHERPA-CI, and items to be communicated include information on transferors/suppliers, names of substance subject to management, CAS registration numbers, and ingredient information such as the percentages of constituents. Meanwhile, information on articles is communicated using chemSHERPA-AI, and in addition to the information by chemSHERPA-CI, information to determine whether chemicals in products abide by law is also communicated. Currently, chemSHERPA is operated by JAMP and is used mainly in the supply chain of the Japanese electric and electronic industries. To expand chemSHERPA to cover not only the supply chains of those industries but also automotive components and other industries as well as the Asian region, JAMP holds periodic meetings with related industry associations and plans to provide managers and working-level personnel at companies in Thailand and Malaysia with training in methods to manage information on chemicals in products using chemSHERPA. It also plans to develop trainers who will guide local suppliers. In the future, it will continue activities to spread chemSHERPA to various countries and institutions.

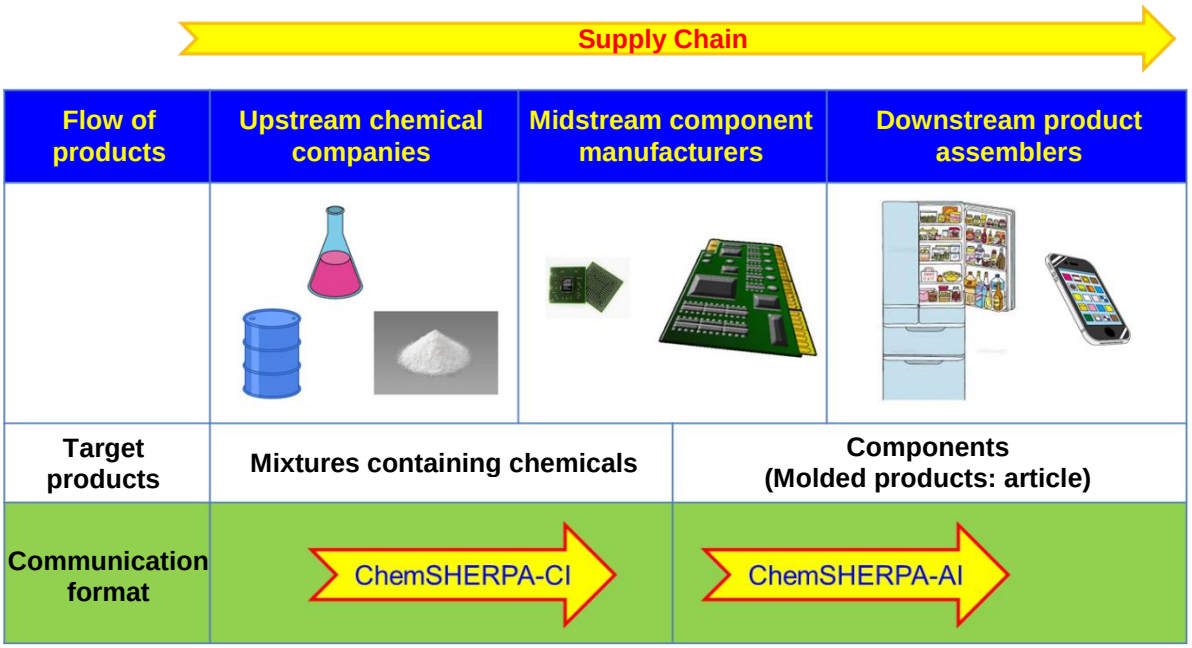

Figure 9 Communication of information in the supply chain using chemSHERPA

1.5 Long-range Research Initiative

[Overview of the Initiative]

The Long-range Research Initiative (LRI) is one of the voluntary initiatives of the ICCA. This long-term initiative is being undertaken with the cooperation of the Japanese, American, and European chemical industries (JCIA, the American Chemistry Council (ACC), and the European Chemical Industry Council (Cefic)). The LRI has three major objectives as shown below:

- To expand scientific knowledge on chemical substances in relation to the health and environment
- To further improve the capacity to safely manage chemical substances and products through the development of new testing and screening methods
- To support public policy decision-making with scientific evidence

The ICCA launched the LRI in 1999 as a global voluntary research support initiative in response to the issues of endocrine disrupting chemicals. In Japan, it has been undertaken by the JCIA since 2000. In 2012, as the environment that surrounded the chemical industry underwent significant changes, the JCIA explored specific ways to establish research policy and research themes that better reflect the needs of member companies, and reviewed the operational structure and relaunched the initiative as a new LRI to publish research results and further promote their utilization.

[Initiative's Outcomes]

1. Adoption of Research Subjects
   In November 2012 (Phase 1), research on 14 subjects began in five research areas. In March 2019 (Phase 7), a total of 11 subjects were adopted (in principle, the maximum support period for one subject was three years).

Figure 10 Research projects adopted under the LRI

Field	Phase 1 Nov. 2012 to Oct. 2013	Phase 2 Nov. 2013 to Jun. 2015	Phase 3 Jul. 2015 to May 2016	Phase 4 Mar. 2016 to Feb. 2017	Phase 5 Mar. 2017 to Feb. 2018	Phase 6 Mar. 2018 to Feb. 2019	Phase 7 Mar. 2019 to Feb. 2020
1. Development and evaluation of new risk assessment methods	9	11	10	8	9	5	4
2. Research on the safety of new chemicals, including nano-materials	1	2	2	3	1	1	1
3. Research on the effects of chemicals on children, elderly persons, and genetic diseases	1	3	4	2	2	2	1
4. Assessment of impacts on ecosystems and the environment	3	3	1	1	1	2	1
5. Other subjects that require urgent response	0	1	1	1	2	1	1
6. Risk assessments for microplastics	0	0	0	0	0	1	3
Total	14	20	18	16	15	12	11

2. Publication of LRI Research Results
The results of LRI researches are being published on journals and/or presented them at academic conferences.

Figure 11 Papers published as Results of LRI Researches

	Phase 1 Nov. 2012 to Oct. 2013	Phase 2 Nov. 2013 to Jun. 2015	Phase 3 Jul. 2015 to May 2016	Phase 4 Mar. 2016 to Feb. 2017	Phase 5 Mar. 2017 to Feb. 2018	Phase 6 Mar. 2018 to Feb. 2019	Phase 7 Mar. 2019 to Feb. 2020
Number of papers published	7	11	4	3	3	4	4

3. Assessment tools developed with the assistance of the JCIA's LRI (such as risk assessment and exposure assessment)
The assessment tools developed with the assistance of the JCIA's LRI are opened to the public.

(1) SWEEs (Integrated Score-based Workplace Exposure Estimation System) (Phases 1-2)
This tool was developed by Prof. Tokai of Osaka University Graduate School of Engineering to estimate the degree of exposure in the working environment. Using the Advanced REACH Tool (ART), a probabilistic exposure assessment tool in Europe, as a model, it was developed as a system adaptable to the working environment in Japan.[1)]

(2) AIST-MeRAM (National Institute of Advanced Industrial Science and Technology Multi-purpose Ecological Risk Assessment and Management Tool) (Phases 1-3 and Phases 4-5)
This software program was developed by Dr. Lin Bin-Le, a chief senior research scientist at the National Institute of Advanced Industrial Science and Technology, and other researchers to assess and manage ecological risks involved in chemicals. It is a quasi-artificial intelligence system equipped with assessment methods and huge volumes of assessment data so that complicated risk assessments can be conducted easily.[2)]

(3) ChemTHEATRE (Chemicals in the Tractable and Heuristic E-Archive for Traceability and Responsible-care Engagement) (Phases 4-6)
This platform was developed by assistant professor Nakayama of Ehime University Center for Marine Environmental Studies to efficiently collect and visualize environmental pollutant monitoring data. By putting together into a single database (ChemTHEATRE) many pieces of information on the concentration of chemicals in the environment that exist in the form of academic papers and reports of public institutions, this tool is expected to ensure the traceability of individual chemicals and reduce costs required to predict their behavior and fate in the environment and assess risks involved therein.[3)]

4. OECD Test Guidelines related to an Alternative to Animal Testing Developed with the Support of the JCIA LRI
The "amino acid derivative reactivity assay (ADRA) using novel cysteine and lysine derivatives"[4)] (research representative: Toshihiko Kasahara, Fujifilm Corp.), a research project supported by the JCIA LRI in Phases 4 and 5, was adapted as the OECD Test Guidelines 442C in June 18, 2019.

Bibliography
1) Ishimaru, T., *et al*., *Society for Risk Analysis, Annual meeting.* (2013.12.7-13, Baltimore)
2) Bin-Le, Lin, *et al.*, *SETAC Europe 24th Annual Meeting.* (2014.5.11-15, Basel)
3) Nakayama K., *et al.*, *8th International Conference on Marine Pollution and Ecotoxicology.* (2016.6.20-24, Hong Kong SAR)
4) Fujita, M., *et al.*, *J. Appl. Toxicol.*, 39(2), 191-208.

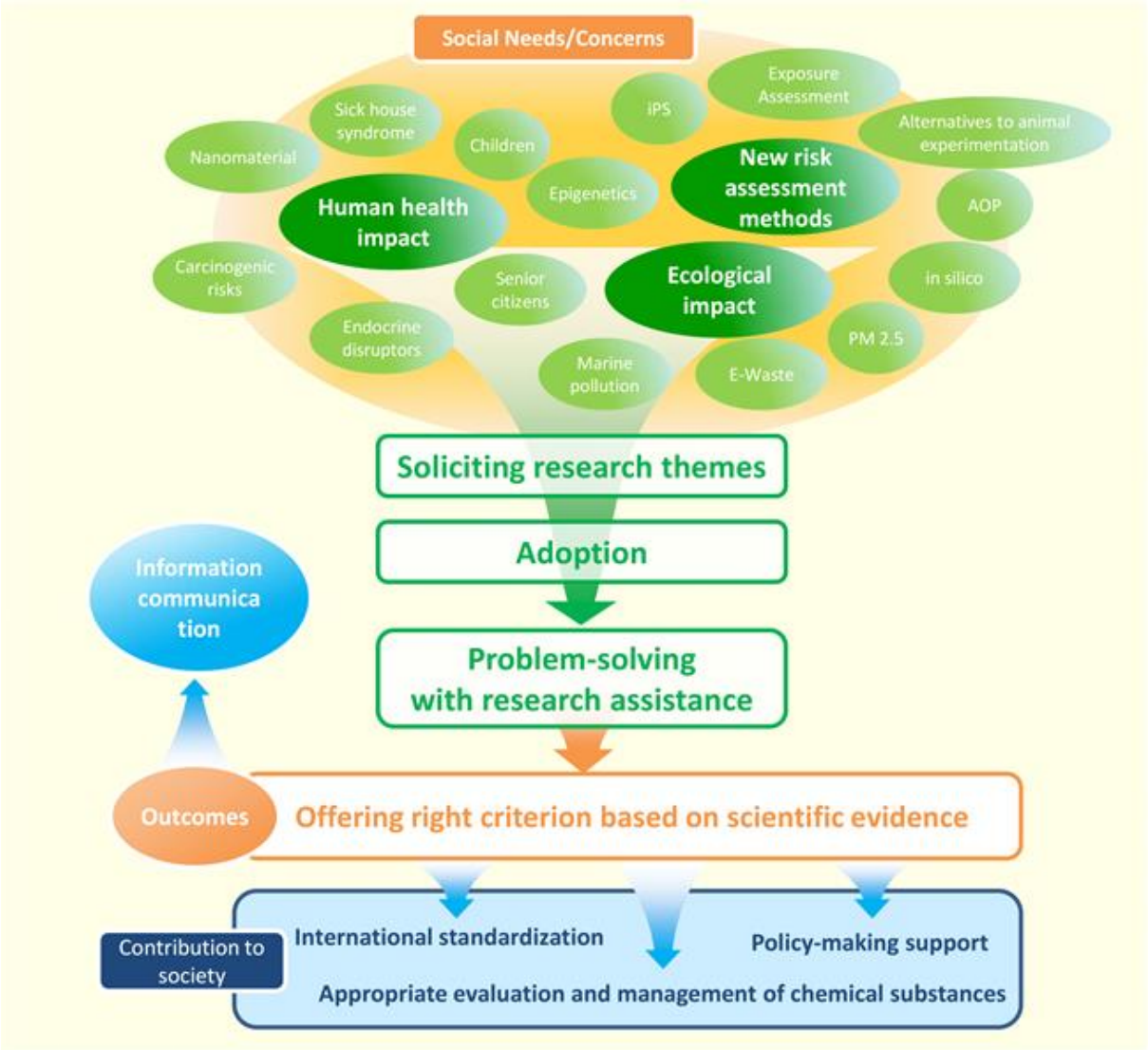

Figure 12 Overview of the Long-Range Research Initiative (LRI)

1.6 Initiatives to Address Issues of Marine Plastic Waste

[Overview of the Initiative]

Plastic and other chemical products are essential for people's lives in society. However, due to their high durability, they will stay in the environment over a long period when they flow into the sea. This could affect the ecosystem, living environment, fisheries industry, and tourism.

In September 2018, the chemical industry established the Japan Initiative for Marine Environment (JaIME) to take the initiative in addressing the issues of marine plastic waste.

As of 2019, the number of members is 50 including chemical and plastic companies and related industry organizations. Japan Chemical Industry Association, the Japan Plastics Industry Federation, Plastic Waste Management Institute, Japan Petrochemical Industry Association, and Vinyl Environmental Council have served the secretariat to jointly manage JaIME.

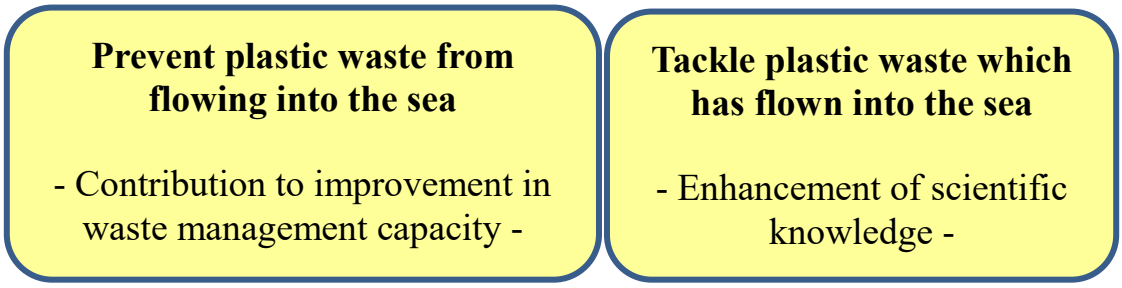

Figure 13 Basic principles of JaIME

[Initiative's Outcomes]

Details of the initiative are described below.

Organizing and sending information on marine plastic waste, and providing opinions of the industry about the trend of domestic and international regulations

- Based on the analyses of various reports and information on marine plastic waste, examination was conducted on the situations of waste plastic management and development of recycling methods in other countries, as well as the trend of domestic and international regulations on waste plastic. The examination results have been used for activities of JaIME, and opinions of the industry on handling policies have been provided as necessary through discussions.

Support for improving the plastic waste management capacity in developing countries in Asia

- For the management of plastic waste, the amount of generated plastic waste must be determined. To quantitatively grasp the amount of plastic manufactured, used, disposed, and recycled, a training project was planned for countries in Southeast Asia. The training project was implemented in Japan in February 2020. The training introduced knowledge and experience of Japan in applying statistical methods to create material flow charts of plastics and building a cooperative relationship among related persons for data collection.

Domestic awareness-raising activities

- It is planned to create DVD educational materials for junior high school students. The creation will be completed in FY2020. The DVD will simply introduce that plastics are made from precious fossil resources so that the students can increase their awareness of valuable plastics and avoid throwing away of plastics. It will also introduce that plastics are very useful, enrich people's lives, and may contribute to sustainable society if people use them responsibly in consideration of waste management and effective reuse.

Accumulation of scientific knowledge

- To promote recycling of plastic resources, it is necessary to select an appropriate evaluation method and effectively use the resources, based on the effects to reduce environmental load in the entire life cycle of plastic waste, including separation and final disposal, according to the type and condition (degree of dirt) of plastic waste.

  To do so, evaluation was conducted on the effects to reduce environmental load (energy resource consumption and CO_2 emission) through energy recovery by incineration and power generation, material recycling, and chemical recycling of plastic containers and packaging discharged from households. The effects on the entire life cycle of waste plastic was evaluated to examine the effectiveness of the methods.

  <Results and conclusion>

  It was found out that energy recovery having a certain power generation efficiency was as effective as material recycling and chemical recycling in terms of environmental load reduction, and could be one of the methods for effective use of waste plastic resources. This led to the conclusion that the methods (energy recovery, material recycling, and chemical recycling) should be properly combined according to the quality and property of waste plastic, in order to improve the rate of effective use of waste plastic resources considering to reduce environmental load of the entire life cycle. The examination report has been published on the website of JCIA.

1.7 Activities related to SDGs

[Overview of the Initiatives]

JCIA launched the SDGs Task Force in January 2017 to review the history of Japanese chemical industry and examine how the chemical industry can contribute to the SDGs. In May 2017, JCIA formulated the visions of the chemical industry towards sustainable development.

Based on the visions, JCIA has been supporting activities of member companies to achieve the SDGs and engaging in dialogue with stakeholders to gain an understanding of the sustainable development of the chemical industry.

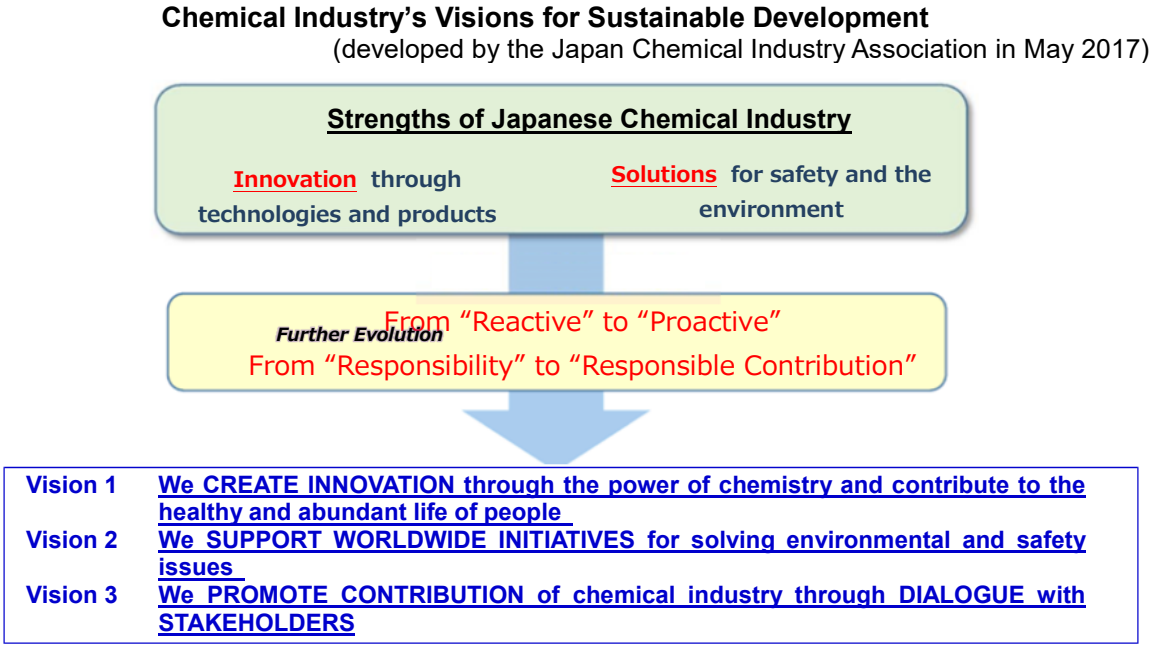

Figure 14 Chemical Industry's Visions for Sustainable Development

[Initiatives' Outcomes]

- ✧ In formulating the "Visions", JCIA has organized and disclosed relevant chemical industry activity cases for each of the 17 SDGs.
  For example, as for Goal 12 "Responsible consumption and production", the vision specifies as follows: Responsible Care as a whole is relevant including chemicals management throughout their lifecycle by SAICM and GPS, development of environmental-friendly and energy-saving processes through functional materials and process technologies, and reduction of waste through development of reuse and recycle technologies.
- ✧ JCIA has established SDGs Subcommittee to support the activities of members and holds study sessions. Members also learn from each other through the SDGs-WG activities to improve their own activities.
- ✧ In December 2018, JCIA opened a dedicated website for the SDGs (https://www.nikkakyo.org/sdgs) and has publicly disclosed the "Visions" introduced above, "Activity reports" of SDGs subcommittee, and "SDGs case examples" to the stakeholders.
- ✧ "SDGs case examples" are intended to support members' activities and engage with stakeholders. They focus on a wide range of products, services, and business activities of member companies in sectors related to the SDGs, such as healthcare, nursing care, medical care, and social infrastructures, as well as the members' activities for addressing food, energy, and environmental issues.

2. Japan Soap and Detergent Association (JSDA)

2.1 Voluntary Environmental Monitoring

[Overview of the Initiative]

JSDA conducts environmental monitoring of four typical types of surfactants (LAS, AE, AO, and DADMAC)*1.

[Initiative's Outcomes]

Since 1998, JSDA has been working on exposure assessment of detergent ingredients. It has been conducting environmental monitoring at four rivers in the Kanto and Kansai regions*2 by measuring concentrations of these four types of surfactants in the water. Based on the measurements for the period of 21 years from FY1998 to FY2018, JSDA has evaluated the ecological risks and concluded that they are below the levels that pose risks to the environment.

JSDA has also developed an ultrasensitive analytical method for Esterquats (cationic surfactant), which is typically used in fabric softeners. This method has been used in the risk assessment report of Esterquats published in March 2014. Furthermore, JSDA has developed a surrogate analytical method for improving the accuracy of analysis. This method has been used in environmental monitoring since 2017.

*1 LAS: linear alkylbenzene sulfonate
AE: polyoxyethylene alkyl ether
AO: alkyl dimethylamine oxide
DADMAC: dialkyl dimethyl ammonium chloride

*2 Seven sampling sites along the Tama, Ara, Edo, and Yodo rivers
These are typical urban/suburban rivers that are susceptible to the inflow of domestic wastewater.

Environmental monitoring of surfactants for 20 years
https://jsda.org/w/01_katud/ktd_201909_kankyoanzen.html

2.2 Risk Assessment

[Overview of the Initiative]

JSDA conducts risk assessment based on the monitoring data of surfactants in river waters. Based on its findings, JSDA concludes that they do not pose unreasonable risks to the ecosystem.

[Initiative's Outcomes]

JSDA conducts risk assessment of some substances formulated in detergents and opens our findings on the website. Risk assessment reports which were published recently are shown below. JSDA also presents these studies at academic conferences and publishes them on academic journals such as the publication of environmental risk assessment of LAS.

- ✧ "Risk assessment of fluorescent brightening agents on human health and aquatic environment," October 2007
- ✧ "Risk assessment of amine oxides on human health and aquatic environment," May 2010
- ✧ "Risk assessment of polyoxyethylene alkyl ether sulfate (AES) on human health and aquatic environment," December 2011
- ✧ "Risk assessment of Esterquats on human health and aquatic environment," March 2014
- ✧ "Aquatic Environmental Risk Assessment of Linear Alkylbenzene Sulfonate (LAS)"
- ✧ *Journal of Japan Society on Water Environment*, Vol. 33, No. 1 p. 1-10, 2010 (https://www.jstage.jst.go.jp/article/jswe/33/1/33_1_1/_article/-char/en/)
- ✧ "Monitoring of river surface water and sediment and environmental risk assessment of surfactants used for household detergent," March 2015 (https://jsda.org/w/01_katud/mizukankyogakkai49.html)
- ✧ "Examination of Predicted No Effect Concentration (PNEC) derivation approach using a higher assessment method -Examination examples using surfactants-," September 2017 (https://jsda.org/w/01_katud/ktd_201709_kankyoanzen.html)
- ✧ "Development of a surrogate analytical method for Linear Alkylbenzene Sulfonate (LAS) targeting river water sample Environment and measurement technology/Vol. 45, No. 9, 2018 (https://www.jstage.jst.go.jp/article/jswe/33/1/33_1_1/_article/-char/ja/)

Figure 15　Report on risk assessments published by JSDA

JSDA's environmental activities are compiled in the annual environmental report. The report is published each year.

Figure 16　Annual environmental report introducing JSDA's environmental activities

2.3 Disclosure of Risk Assessment Findings on the JCIA BIGDr

[Overview of the Initiative]

In the chemical industry, the ICCA plays a leading role in moving ahead with two initiatives: RC and GPS. GPS is a voluntary initiative to minimize the risk of chemicals throughout the supply chain. Under GPS, each company conducts risk assessment of their chemicals and their proper risk-based management accordingly and discloses information on their safety, risks, and management methods to the public.

JCIA promotes the JIPS, the Japanese version of GPS. As part of this initiative, JCIA compiles risk assessment findings into "GPS/JIPS safety summaries" and uploads them to the GPS Chemicals Portal on the ICCA website for information disclosure to the general public.

JSDA discloses 16 sets of risk assessment reports in terms of CAS No. to the public.

[Initiative's Outcomes]

JSDA has already uploaded risk assessment reports on the substances shown in Figure 17 below to the GPS Chemicals Portal. Since the GPS Chemicals Portal was closed down in September this year, the reports have been published on JSDA's chemical risk assessment support portal "BIGDr."

✧ Chemical risk assessment support portal "JCIA BIGDr."
List of GPS Safety Summary by material (Substance name order)
https://www.jcia-bigdr.jp/jcia-bigdr/material/icca_material_list

Figure 17 Substances for which JSDA has uploaded risk assessment reports to the JCIA BIGDr

	CAS No.	Name of substance
Fluorescent brightening agent	16090-02-1	Benzenesulfonic acid, 2,2'-(1,2-ethenediyl)bis[5-[[4-(4-morpholinyl)-6-(phenylamino)-1,3,5-triazin-2-yl]amino]-, disodium salt
	27344-41-8	Benzenesulfonic acid, 2,2'-([1,1'-biphenyl]-4,4'-diyldi-2,1-ethenediyl)bis-, disodium salt
Amine oxides	2605-79-0	1-Decanamine, N,N-dimethyl-, N-oxide
	1643-20-5	1-Dodecanamine, N,N-dimethyl-, N-oxide
	3332-27-2	1-Tetradecanamine, N,N-dimethyl-, N-oxide
	7128-91-8	1-Hexadecanamine, N,N-dimethyl-, N-oxide
	70592-80-2	Amines, C10-16-alkyldimethyl, N-oxides
	61788-90-7	Amines, coco alkyldimethyl, N-oxides
Polyoxyethylene alkyl ether sulfate	3088-31-1	Ethanol, 2-[2-(dodecyloxy)ethoxy]-, hydrogen sulfate, sodium salt
	91648-56-5	Ethanol, 2-(2-ethoxyethoxy)-, 2"-[(C12-15-branched and linear alkyl)oxy] derivs., hydrogen sulfates, sodium salts
	151-21-3	Sulfuric acid monododecyl ester sodium salt (1:1)
Esterquats	94095-35-9	9-Octadecenoic acid (Z)-, reaction products with triethanolamine, di-Me sulfate-quaternized
	91995-81-2	Fatty acids, C10-20 and C16-18-unsatd., reaction products with triethanolamine, di-Me sulfate-quaternized
	91032-11-0	Fatty acids, C12-20, reaction products with triethanolamine, di-Me sulfate-quaternized
	93334-15-7	Fatty acids, tallow, reaction products with triethanolamine, di-Me sulfate-quaternized
	85408-12-4	Octadecanoic acid, reaction products with triethanolamine, di-Me sulfate-quaternized

2.4 International Information Communication

[Overview of the Initiative]

In addition to the preparation and disclosure of GPS/JIPS safety summaries in 2.3, JSDA's efforts that transcend national borders include communicating and exchanging information in the academic field. JSDA organized a session at the 2012 meeting of SETAC Asia/Pacific Academic Society (Society of Environmental Toxicology and Chemistry Asia/Pacific), where experts exchanged views.

[Initiative's Outcomes]

At the SETAC Asia/Pacific meeting, JSDA and American Cleaning Institute (ACI) co-organized a session that focused on surfactants, a key ingredient of detergents. At this session, entitled "An Exploration of the Safety of Major Surfactant Classes in the Environment" JSDA made presentations and lecturers from other countries reported latest studies and data, followed by lively discussions.

Figure 18 Joint session with the ACI

2.5 Introduction of International Standards and Formulation of Voluntary Standards

[Overview of the Initiative]

JSDA has been engaging in the development of a technical guidance and its promotion in the industry with a view to voluntarily applying GHS to household consumer products such as soaps and detergents on a trial basis. It has also collaborated with Japan Soap and Detergent Co-operative Association and Japan Food Cleaners and Hygienic Association to develop "voluntary standards for Dish-washing detergents" for a certain type of kitchen detergents. The labeling of such standards on products are being attempted.

[Initiative's Outcomes]

In 2011, JSDA, together with the industrial associations concerned, began to phase in GHS labeling on human health hazards for product labels with regard to the following categories of products. JSDA is also considering introducing GHS labeling on aquatic environment hazardousness and physiochemical hazardousness such as combustibility.

- ✧ Kitchen detergents (excluding detergents for dish washers)
- ✧ Chlorine bleach
- ✧ Chlorine detergents and acidic detergents (those with a "Danger -- Do not mix" label)

Separately, JSDA publishes easy-to-understand leaflets on GHS for general consumers as part of its educational campaign.

Figure 19 Leaflets for general consumers

Voluntary standards for tableware detergents have been introduced for products that were manufactured on April 1, 2012 onward.

Tableware detergents, which are subject to voluntary standards, are kitchen detergents that are solely used for washing tableware, including those for dish washers. They do not include those that are used also for washing vegetables and fruits. As far as kitchen detergents applicable to vegetables and fruits are concerned, the Food Sanitation Law stipulates ingredient standards safety use guidelines. However, in the past, standards safety use guidelines for tableware detergents were largely limited to those on rinsing. Manufacturers used to work independently to ensure the safety of their products. Now, with unified standards for ingredients, they aim to produce and provide detergent products more suitable for tableware.

[New initiatives following GHS labeling]

To properly use detergents, the way of labeling needs to be reviewed according to changes according to changes surrounding detergent products and in the situation of using the products.. JSDA has applied labeling in accordance with the Household Goods Quality Labeling Act and other related laws and regulations, and as well has voluntarily developed and revised labeling rules.

JSDA has developed new product safety icons that can be used globally and are easier for consumers to understand. The designs of the icons were determined based on the International Standards ISO 3864-3:2012* which provides the design principles for graphical symbols and according to the Japanese Industrial Standards JIS S 0101:2000 Graphical Warning Symbols for Consumers.

For the application of the new product safety icons, JSDA cooperated with the Japan Detergent and Bleach Safety Advisory Council composed of companies that handle chlorine bleach.

JSDA is making efforts to apply suitable product safety labels for calling for further attention.

*Graphical symbols -- Safety colours and safety signs -- Part 3: Design principles for graphical symbols for use in safety signs

- ✧ New product safety icons for detergents
  - Applying simple designs to draw consumer attention to the precautions for use –
  https://jsda.org/w/06_clage/4clean_252-2.html
- ✧ Product Safety
  Voluntary Standard for Use and Applications of Product Safety Icons
  https://jsda.org/e/k_ps_safeuseicon.html

Figure 20 Product safety icons (sequentially introduced from 2018)

- ✧ The icons were introduced at the World Conference on Detergents held in Singapore (October 2016). (https://jsda.org/w/01_katud/w_201610-WCFHC.html)
- ✧ The application of the icons as labeling for general consumers was also examined at the UN GHS meeting (April 2018). (http://www.unece.org/fileadmin/DAM/trans/doc/2018/dgac10c4/ST-SG-AC.10-C.4-2018-5e.pdf)
- ✧ Registration with JIS product safety icons (added to the Appendix to JIS S 0101, December 20, 2018)
- ✧ The product safety icons were applied to GB/T (recommended national standards) for detergent product labeling in China in July 2019.

2.6 Disclosure of Information on Detergent Ingredients

[Overview of the Initiative]

Household detergents sold in Japan are required by law to indicate ingredients on their packaging if their compounding ratio exceeds a certain level. In recent years, however, more and more consumers call for more detailed information in Japan, and progress has been made in voluntary information disclosure regarding the ingredients of household products in other countries. Accordingly, JSDA has established voluntary standards for detergent ingredient information. These standards have been applied since November 2011.

[Initiative's Outcomes]

JSDA's voluntary standards are outlined below:

✧ Scope of applicable products

Of the products included in the "list of household products" (available on JSDA's website), the following categories of products are subject to the voluntary standards:

- Laundry detergents
- Kitchen detergents
- Detergents for housing, furniture, and other similar uses
- Bleach
- Fabric softeners
- Laundry conditioners
- Acidic/alkaline detergents
- Cleansers

Note: Products for institutional use are excluded.

✧ How to disclose

Manufacturers may choose one or more of the following media in disclosing such information according to the relevant nomenclature. Figure 21 shows an example on the website of a detergent manufacturer.

- Product container
- The website of the manufacturer or the website jointly operated by the manufacture and two or more manufacturers including the one in question
- Telephone consultations by the manufacturer
- Other: electronic or non-electronic medium

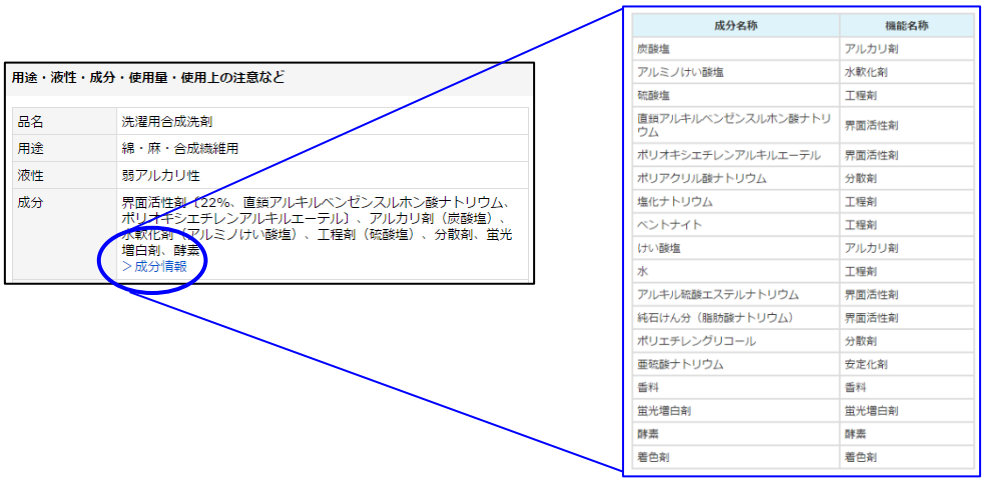

Figure 21 An example of ingredient information disclosure on the website of a detergent manufacturer

3. Four Electrical and Electronic Industry Associations in Japan (Japan 4EE)

3.1 Promotion of Training of Key Persons in Site-based Chemicals Management

[Overview of the Initiative]

Japan 4EE--the Japan Electronics and Information Technology Industries Association (JEITA), the Japan Electrical Manufacturers' Association (JEMA), the Japan Business Machine and Information System Industries Association (JBMIA), and the Communications and Information network Association of Japan (CIAJ)--promotes the training of "key persons in site-based chemicals management," who are capable of managing site risks associated with chemical substances. The idea behind this initiative is that in order to use chemical substances under applicable regulations that are complex and global in scale, it is urgently necessary both to maintain and improve the management levels required for managing business risks and to train human resources capable of such operations.

[Initiative's Outcomes]

After studying an optimal management and training framework for three years that better meets the needs of the electrical and electronic industry, Japan 4EE released a program for training "key persons in site-based chemicals management" in 2013. The training program defines environmental skills required for different job categories to further reduce environmental risks in business activity. Sharing this program, Japan 4EE promotes the training of such chemicals managers.

The Japan Environmental Management Association for Industry has cooperated with promotion of the initiative. In FY2019, Japan 4EE is scheduled to hold a seminar in December on the "Management of chemical substances in business establishments: Risk management and human resource development in the manufacturing business."

3.2 Site Risk Analysis and Research and Analysis of Laws and Regulations Concerning Chemical Substances in Selected Countries

[Overview of the Initiative]

In the face of increasingly strict control of chemical substances at the global level, Japan 4EE is conducting research and analysis of laws and regulations on them in countries where member companies manufacture their products. Based on the achievements of this activity, Japan 4EE worked on the development of a compliance management tool in Japan during FY2014.

[Initiative's Outcomes]

Japan 4EE is developing a compliance management tool that supports member companies in managing their business risks. To this end, Japan 4EE is collecting and analyzing information on risks they face in meeting legal requirements as well as on accident cases at their sites (plants and offices) in Japan to develop a check list for risk management that does not depend solely on empirical decision-making.

4. Japan Automobile Manufacturers Association, Inc. (JAMA)

4.1 Use of the International Material Data System (IMDS)

[Overview of the Initiative]

The JAMA conducts quantitative assessment of chemical substances contained in automobiles for their management using the IMDS, a common tool for the global automobile industry.

[Initiative's Outcomes]

The IMDS is designed to communicate environmental information throughout the supply chain. This system has been developed with a view to complying with the ELV Directive. The IMDS has been a standard tool for the management of chemical substances in the automobile industry in addition to the heavy metal industry. Its outline is described below:

✧ Operation

The IMDS is funded and operated by member automobile manufacturers in Japan, the US, and Europe. (System operations are entrusted to DXC Technology.)

✧ System features (see Figures 24 and 25)

The IMDS:

- communicates information in the supply chain by using a unified format;
- manages data on chemicals in auto parts, which is huge in the number of items;
- allows auto manufacturers to integrated provided supplier data into their own data and submit it to their purchasers;
- allows the user to see registered standard material data and official standards (ISO, JIS, DIN, etc.)
- Has two kinds of information--"part/item number (and other recipient-specific information)" and "tree structure information" and allows the user to send the same data to different recipients by adding the former type of information only; and
- Has a robust security system to protect confidential information

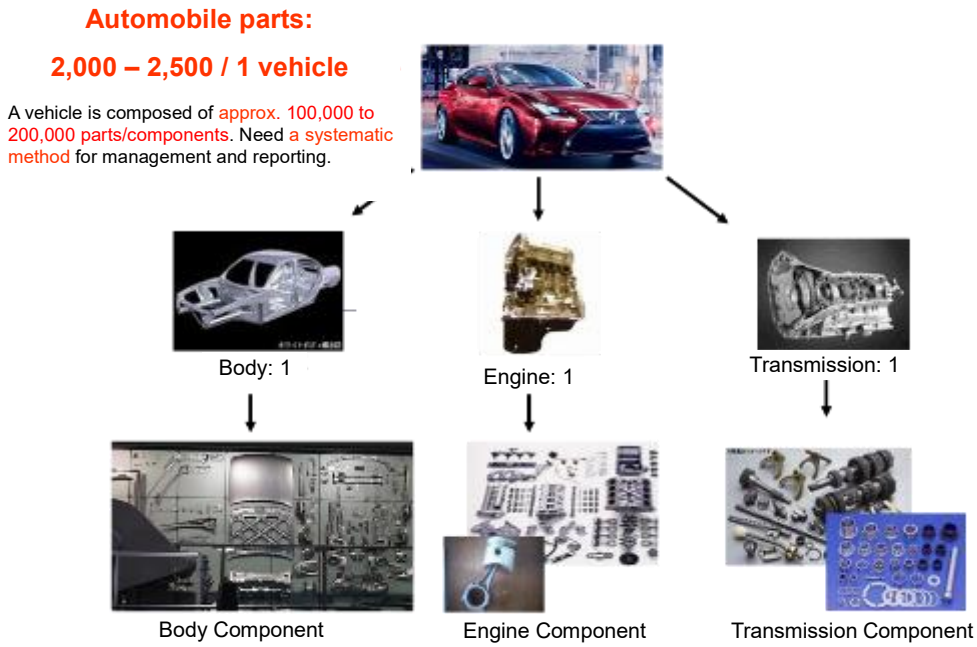

Figure 22 A huge number of parts constitute an automobile

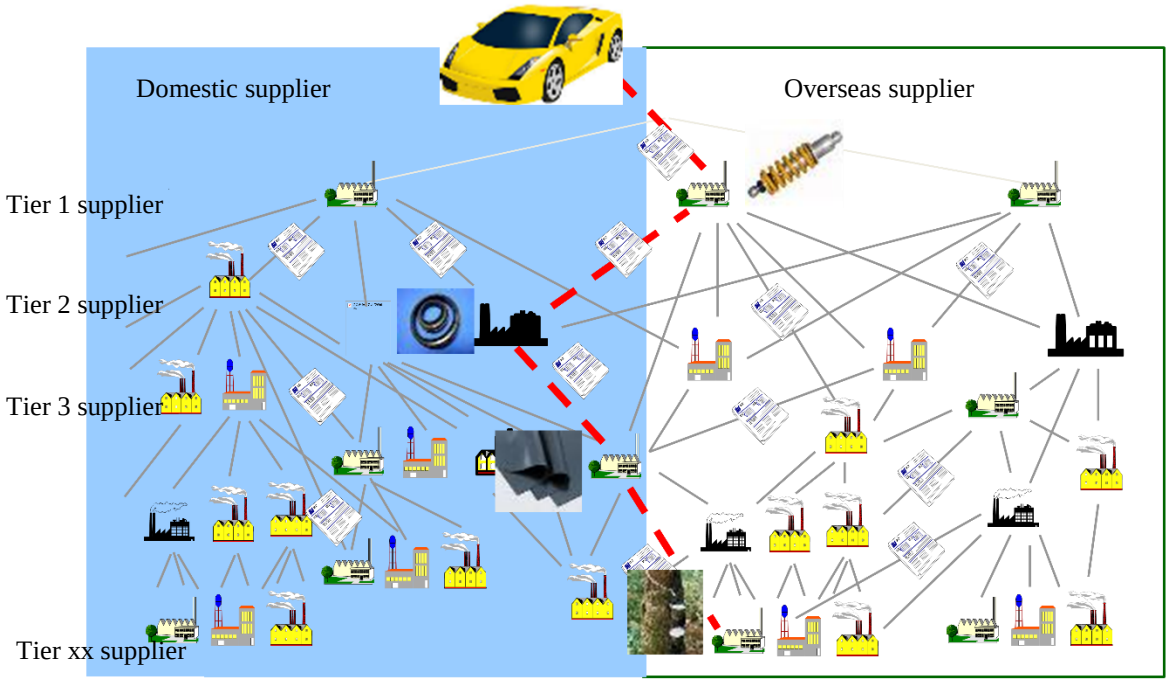

Figure 23 Complex supply chain for automobile parts (conceptual diagram)

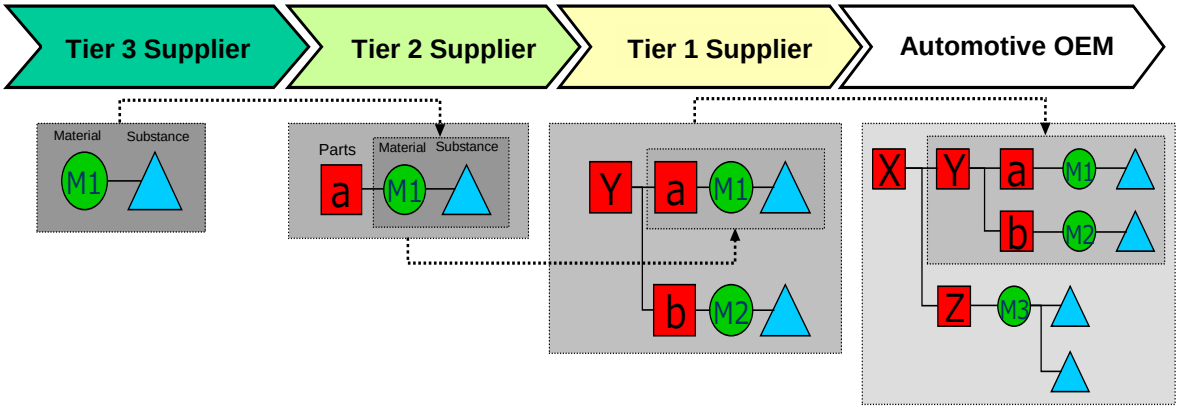

Figure 24 A conceptual rendering of information communication in the IMDS

✧ Actual performance (as of the end of April 2019; see Figure 25)
- Number of registered suppliers: 178,506
- Number of registered users: 503,702
- Total number of Material Data Sheets (MDSs): 74,535,558

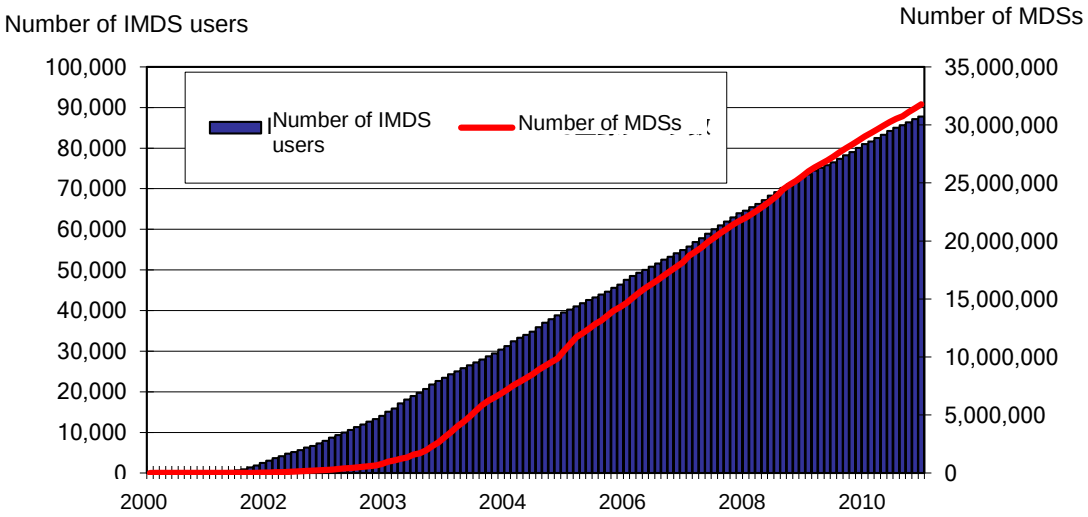

Figure 25 Changes in the number of IMDS users and MDSs (2000-2010)

✧ Harmonized chemical substance list (GADSL: Global Automotive Declarable Substance List)
GADSL has been developed and updated by the Global Automotive Stakeholder Group (GASG), which is made up of manufacturers of automobiles, auto parts, and chemicals in Europe, the US, and Japan. The common chemical substance list for the automobile industry was released in 2005 and most recently updated in 2014 (ver. 10). The list of chemical substance subject to laws and regulations of relevant countries was also released (3,454 compounds in 250 substance categories). GADSL has been widely used for in-house standards of auto manufacturers and parts manufacturers.

4.2 Development of the Policy to Cope with the REACH Regulation

[Overview of the Initiative]

The JAMA has worked with other industrial associations in the world to develop a unified guideline on Europe's REACH Regulation. It encourages its members, including suppliers, to follow the guideline. The guideline has been revised as necessary and the fourth edition was published in 2018 after revising some parts according to the guidance on requirements for substances in articles of the European Chemicals Agency.

- ✧ ECHA guidance: https://echa.europa.eu/-/guidance-on-requirements-for-substances-in-articles
- ✧ Automotive Industry Guideline on REACH: https://www.acea.be/publications/article/reach-automotive-industry-guideline

Figure 26 Automotive Industry Guideline on REACH

5. Joint Article Management Promotion-consortium (JAMP)

5.1 Initiative to Facilitate Information Communication Regarding Chemical Substances in Products

[Overview of the Initiative]

With the belief that creating and disseminating a detailed system for appropriately managing information related to articles (aliases for components and moldings) containing chemical substances in products, and disclosing and transmitting such information within supply chains is critical for improving industrial competitiveness, the JAMP was established in September 2009 as a group of 17 founding corporations that agree with the above premise. It is one of the major groups voluntarily working on cross-industrial products management.

Regulations on chemical substances in products, such as Europe's REACH regulations, are being introduced and tightened around the world including the US and Asian countries. In such a situation, initiatives for information communication have been developed in a supply chain. Meanwhile, based on the issue that individual companies have a heavy workload as they need to input data in multiple data formats, basic requirements for a new information communication scheme and challenges for implementing the new scheme were discussed at the METI "Council on regulations on chemical substances and the expansion of Japanese enterprises in Asian countries" held in 2013. The background to the examination and development of the new information communication scheme is described below.

The new information communication scheme, called "chemSHERPA," was developed by METI in 2015 and has been managed by JAMP since 2016.

Period	Examination and operation system	Initiatives
May 2013 to Mar. 2014	• Council on Regulations on Chemical Substances and the Expansion of Japanese Enterprises in Asian Countries (Asia Council), Information Sharing WG	✓ Examined issues related to the expansion of Japanese enterprises in Asian countries in response to the increase in international regulations on chemical substances and the globalization of supply chains. ✓ Published the summary of the handling policies
Jun. 2014 to Mar. 2015	• Review Conference of the New Information Communication Scheme • Validation WGs on substance/material lists, chemical product tools/converters, molding tools/converters, IT systems/tools	✓ Formulated the new information communication scheme ✓ Collected public opinions on the substance list and developed standards for declarable substances ✓ Developed the data format (XML Schema, for chemicals and for moldings) ✓ Trial production of data creation support tools for chemicals and moldings ✓ Created manuals and documents for data creation support tools ✓ Carried out the first verification of data creation support tools with the participation of about 130 companies ✓ Examined the operation system and rules of the new information communication scheme
Apr. 2015 to Mar. 2016	• Steering Committee • Provisional office of chemSHERPA • WGs on tool technology, substance list technology, promotion plan	✓ Carried out the second verification of data creation support tools ✓ Developed official data creation support tools and organized documents ✓ Released and started the operation of official data creation support tools (October 2015) ✓ Dissemination and promotion of chemSHERPA ✓ Determined the official management organization and delivered the tools
Apr. 2016	• Started operation by JAMP	✓ Operated concurrently with JAMP's existing schemes (MSDSplus, AIS) for two years ✓ Revised the maintenance of declarable substances of chemSHERPA, improved the operability of data creation support tools, and carried out activities for promoting the tools

Figure 27 Background to the examination and development of the new information communication scheme

[Initiative's Outcomes]

- ✧ Information communication items and data formats of chemSHERPA were created for chemicals and moldings. The available data creation support tool is free of charge and has been downloaded by about 75,000 users inside and outside Japan.
- ✧ As of October 4, 2017, 102 companies and organizations agree to promote chemSHERPA.
- ✧ JAMP continues to periodically revise the declarable substances list, revise the data creation support tools, revise the tool guidance and quick manual (including English and Chinese versions), and enhance the converter function with other information communication schemes than chemSHERPA.
- ✧ JAMP has held seminars for users of the scheme. In addition to holding lectures on fundamentals of the scheme, it has held delivery lectures and domestic seminars for manufacturers associations upon request. For chemSHERPA users, operational lectures have been held by an external company authorized by JAMP.
- ✧ Globally, JAMP, with the support of METI, has conducted operational and leadership training in Thailand, etc. In addition, it is promoting the adoption by attending international forums of the IEC, APEC, and industrial associations, and holding lectures in China.
- ✧ For developing the scheme for information communication of chemical substances in products by using chemSHERPA, JAMP has promoted the international standardization of the scheme and examined its compatibility with schemes of other countries and organizations.

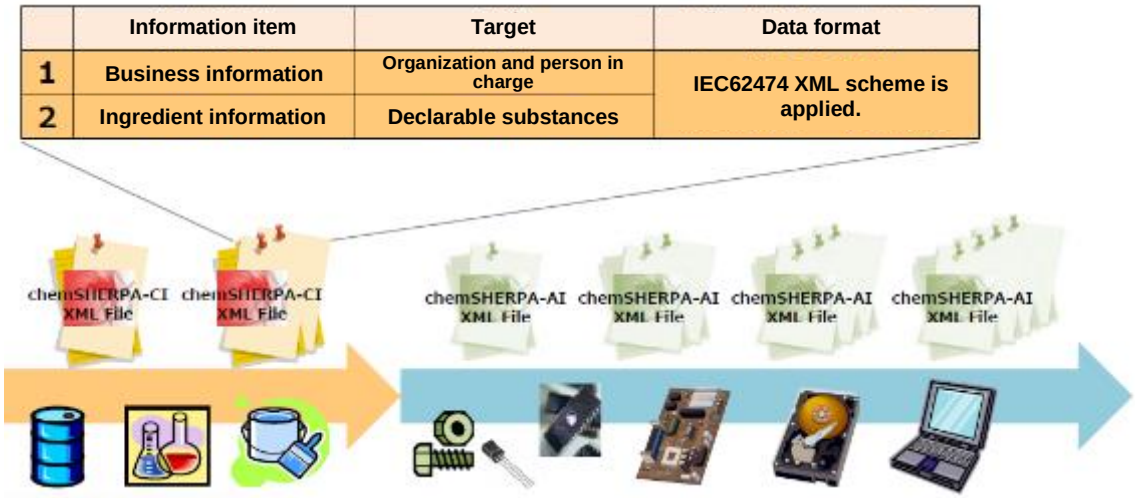

Figure 28 Information communication of chemicals and data format

Figure 29　Classifications and objectives of lectures

Classification	Objectives	Target
Basic lecture	(1) Understand the necessity and importance of information communication of chemical substances in products (2) Understand the system (chemSHERPA) for the operation and management of chemical substances in products (3) Prepare for the development of an internal management system and explanation and instructions to suppliers	• Persons who have not been engaged in the management of chemical substances in products • Managers of chemical substances management departments • Persons in charge of responding to surveys on chemical substances in products
Operational lecture	Understand the system (chemSHERPA) for the information communication of chemical substances in products (to a level at which information can be communicated in practical operations)	• Persons in charge of disclosure and communication of information on chemical substances in products in a supply chain • Managers of departments in charge of responding to surveys on chemical substances in products

III. Selected Initiatives by Trade Unions

6. Japanese Trade Union Confederation (JTUC-RENGO)

6.1 Raising awareness and making recommendations to improve the level of occupational health and safety, including the management of chemical substances

[Overview of the Initiative]

For preventing work-related accidents, including proper management of chemical substances, and improving the level of industrial health and safety, the Japanese Trade Union Confederation (JTUC-RENGO) has carried out awareness-raising activities by developing guidelines and holding training sessions. It has also requested the government to revise or develop policies based on the knowledge and issues obtained through the activities.

[Initiative's Outcomes or Progress]

In June 2018, JTUC-RENGO developed the "JTUC-RENGO Guidelines on Health and Safety Initiatives (FY2018 to FY2022 edition)" to ask member companies to use the Guidelines. The Guidelines introduce the implementation and operation of the industrial health and safety management system and risk assessment in the workplace, including the handling of chemical substances, as well as activities necessary for the implementation and operation.

For raising member companies' awareness and finding out issues through the dissemination of the Guidelines, JTUC-RENGO continues to hold lectures by experts, study sessions, information exchange, and discussions in central and local governments, such as the "industrial health and safety conference" and "industrial health and safety network training."

Based on the knowledge obtained through these opportunities, it has attended government councils to provide opinions and request parties for the revision or development of policies. The opinions and requests have been made for the dissemination of information on the risks and particularity of chemical substances for smoothly handling the substances in case of a disaster, strengthening of risk communication, and clarifying the responsibilities of national and local governments for risk comparison of alternative substances of harmful substances, etc.

[JTUC-RENGO Guidelines on Health and Safety Initiatives]
https://www.jtuc-rengo.or.jp
/activity/roudou/data/roudouanzen_torikumi_shishin_201806.pdf

6.2 Strengthening of Chemical Substances Management and Security and Disaster Management Function of Industrial Complexes

[Overview of the Initiative]

The Japanese Federation of Energy and Chemistry Workers' Unions (JEC-RENGO), a member organization of the JTUC-RENGO, has participated in discussions at the following government councils as the representative of workers.

- Chemical Substances Council
- Review meeting of experts on working environment management using personal sampler
- Public hearing in accordance with the provisions of Article 113 of the Labor Standards Act
- Review meeting on the management of chemical substances in the workplace

JEC-RENGO has periodically exchanged opinions with related industrial organizations and requested government organizations, such as METI and the Ministry of Health, Labour and Welfare (MHLW), and major parties having a friendly relationship to revise or develop policies. It has also demanded the strengthening of initiatives for chemical substances management and security and disaster management function of industrial complexes.

[Initiative's Outcomes or Progress]

At the METI Chemical Substances Council held once a year, members of JEC-RENGO have participated to confirm trends in revisions of the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Evaluation Act), the Act on the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures (Ozone Layer Protection Act), and the Act on Rational Use and Appropriate Management of Fluorocarbons (Act on Discharge and Control of Fluorocarbons). In January 2019, the Chemical Substances Evaluation Act reviewed the national maximum amount of chemical substances produced and imported through 2018 subject to the new special notification and report schemes, for securing the safety of human health and ecosystems. As a result of the review, the national maximum amount has been changed to the environmental emission amount, to which information on purpose of use is added.

At the MHLW review meeting of experts on working environment management using personal sampler (October 2017 to October 2018), the deputy secretariat of JEC-RENGO participated in discussing the introduction of a measurement method using a personal sampler in addition to the existing working environment measurement method. The report of the review meeting concluded that it would be desirable to introduce the measurement method using a personal sampler at a wide range of workplaces where working environment measurement is required by the industrial health and safety order, for securing the health of workers.

At the MHLW public hearing in accordance with the provisions of Article 113 of the Labor Standards Act (February 2019), the deputy secretariat of JEC-RENGO participated as the representative speaker of workers to state the Federation's opinion. The opinion was that "bladder cancer by ortho-toluidine" should be added to the Appendix of Article 35 of the Ordinance for Enforcement of the Labor Standards Act according to the report of the review meeting of the same Article. The opinion was approved, as it would contribute to securing workers' compensation in the case of work-related diseases and preventing workers' health problems. As a result, bladder cancer caused by being engaged in work under environmental exposure to ortho-toluidine has been added as a work-related disease provided in the Revised Ministry Ordinance for Enforcement of the Labor Standards Act which went into effect in April 2019.

At the MHLW review meeting on the management of chemical substances at workplace (from September 2019), the deputy secretariat of JEC-RENGO will participate in discussion on the prevention of work-related diseases and injuries caused by chemical substances (as of December 2019).

JEC-RENGO has also requested central government ministries and agencies and major parties to control chemical substances based on the proper evaluation on the management of chemical substances. As for the request for strengthening security and disaster management function of industrial complexes for minimizing damage in case of a large-scale disaster anticipated in the future, budget and other measures have been implemented.