

ANNUAL REPORT 2023



Japan Chemical Industry Association



ANNUAL REPORT 2023

Scope of the report

Activities of the Japan Chemical Industry Association

Period covered

This report is based on activities and initiatives in FY2022 (April 1, 2022 to March 31, 2023).

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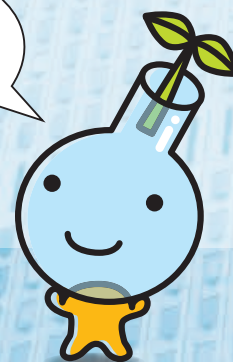


Editorial Policy

The JCIA Annual Report is released each year to broadly inform all stakeholders, including members, of JCIA activities. In editing the report, we have endeavored to provide easy-to-understand reports on the activities of each committee and JCIA's various efforts to build a sustainable society.

There are also plans to issue the JCIA Annual Report Reference Material, a compilation of various data related to JCIA activities, in fall.

October 23 is
Chemistry Day



JCIA's official character
Nikka-chan

* In this report, JCIA is an abbreviated term for the Japan Chemical Industry Association which is our official name.



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TOP MESSAGE

Enhancing the presence of the chemical industry that contributes to building a sustainable society

In 2022, as the economy recovered from the impact of the COVID-19 pandemic, there were concerns that the recovery would stagnate due to supply restrictions on semiconductor materials and other products and rising prices. Meanwhile, efforts to achieve carbon neutrality are progressing, and the chemical industry is expected to further accelerate innovation that will help achieve carbon neutrality.

In order for the chemical industry to continue to develop soundly in the future while providing products and services that support healthy, comfortable, and convenient lifestyles and solutions to various social issues, we will continue to work toward building a sustainable society by focusing on three key themes: further contributing to carbon neutrality; strengthening communication with society; and providing peace of mind by enhancing safety in operations and chemical product management.

1 | Further contributing to carbon neutrality

With growing expectations for technological development that contributes to the transition to a sustainable society, the chemical industry is required to accelerate the implementation of its innovations in society in order to achieve carbon neutrality by 2050. JCIA supports “energy conversion” from fossil fuels to renewable energy, recycling of waste plastics and CCU (CO₂ capture and utilization), and “raw material conversion” through carbon cycle by artificial photosynthesis. In particular, for chemical recycling, we are working on standardization of international rule designing aiming to create a market. Furthermore, it is important to foster a society in which the environmental value of sustainable products made with these technologies is understood and recognized. Therefore, we are working with the government and other industries to promote the spread of quantitative evaluation methods such as LCA and carbon footprint.

2 | Strengthening communication with society

In order to spread new solutions created through technological innovation to society, JCIA will endeavor to communicate the potential and possibilities of the chemical industry to society, including how the use of chemical products contributes to reducing environmental impact throughout their lifecycle.

Recently, the international chemical industry has made progress in restructuring the framework of regulations and voluntary initiatives, and there is a growing necessity for global communication to convey the presence and opinions of the chemical industry in Japan. JCIA will strengthen international collaboration by deepening exchanges with overseas industry organizations through the International Council of Chemical Associations (ICCA) and other organizations, and will communicate that the chemical industry is beneficial and indispensable to society and that it is important to take into account national and regional circumstances.



3 | Providing peace of mind by enhancing safety in operations and chemical product management

Providing peace of mind by enhancing safety in operations and chemical product management remains the most important theme for the chemical industry's continued existence. To ensure safety and security, we will work to strengthen risk assessment based on past cases, as well as develop and share Accident-Prevention Guidelines and a collection of best practices. In chemical product management, we will establish robust and appropriate risk management integrated with the supply chain to provide safe and secure chemical products at all times.

The chemical industry is facing challenges such as high facility aging and labor shortages due to a declining birthrate and aging population. To ensure continued safe operations, we will promote smart safety by supporting the establishment of a system that make full use of cutting-edge digital technologies such as IoT and big data, and the development of human resources to support it.

The environment surrounding the chemical industry is changing drastically toward building a sustainable society, as we are required to achieve carbon neutrality by 2050, and negotiations on an international agreement to end plastic pollution are fully in swing. The chemical industry and plastics play a very important role in supporting comfort and convenience in our daily lives and solving all kinds of social issues. As JCIA Chairman, I would like to lead the association to enhance our presence by communicating the innovation and value that it creates in response to the changing times and environment. I hope for your continued support.

福田 信夫

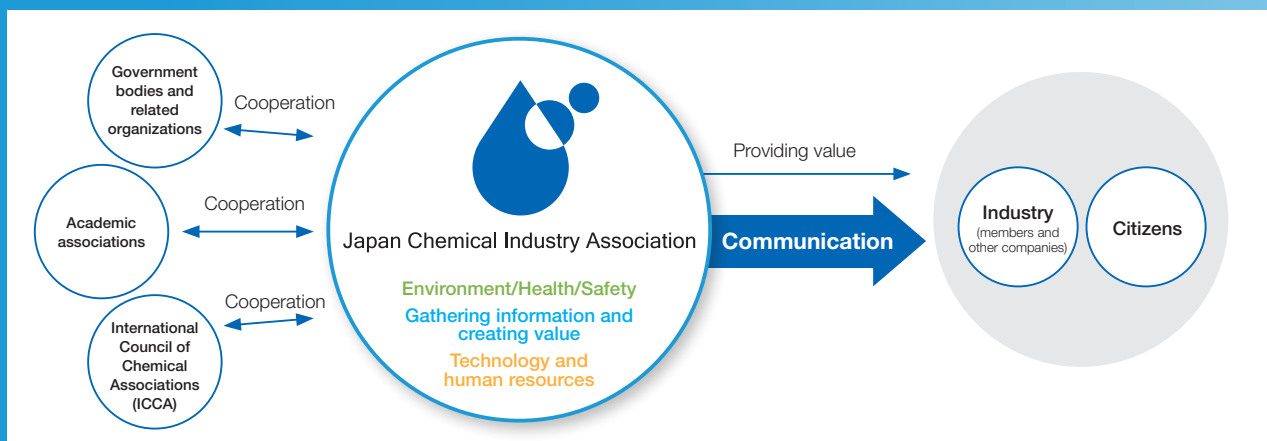
FUKUDA Nobuo

Chairman
Japan Chemical Industry Association (JCIA)

Japan Chemical Industry Association

About the Japan Chemical Industry Association

The Japan Chemical Industry Association (JCIA) engages in various activities with the aim of contributing to the sustainable development of human society. It does this by providing value to its members and the public, while at the same time monitoring changes in the environment surrounding the Japanese chemical industry and working with government bodies, related organizations, academic associations, and the International Council of Chemical Associations (ICCA).



■ JCIA at a glance

Name

Japan Chemical Industry Association (JCIA)

Established

April 1948: JCIA formed as a voluntary association
 June 1991: Shifted to an incorporated association as a legal entity
 April 2011: Shifted to a general incorporated association

Mission

JCIA seeks to promote the healthy development of the chemical industry through the research and study of the production, distribution and consumption of materials relating to the chemical industry. JCIA also focuses on the research and study of various issues relating to the technology, labor, environment and chemical safety of the industry, and on planning appropriate measures and actions for the economic prosperity of Japan and the betterment of the national standard of living.

Activities

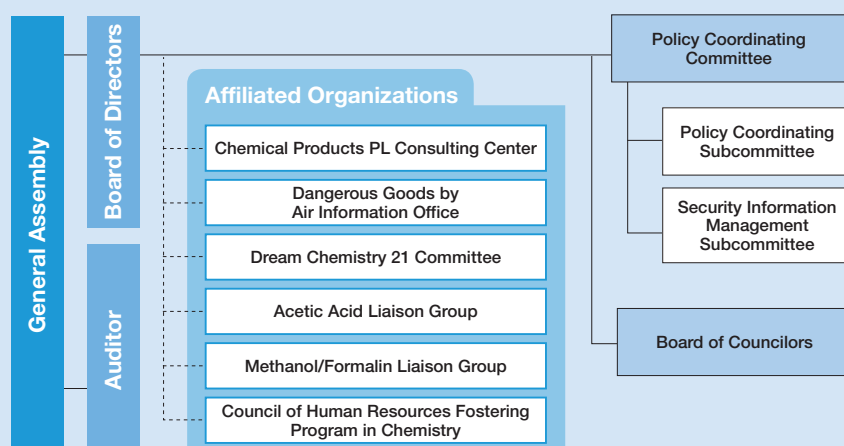
1. Research and study on the production, distribution and consumption of chemical products.
2. Research and study on issues concerning technology, labor, the environment, chemical safety, etc., as well as planning and promoting measures and actions.
3. Commendations for outstanding achievement in new technologies and safety records.
4. Collection and dissemination of information, communication and cooperation with related organizations in Japan and overseas.
5. Public outreach and advocacy activities, workshops and seminars.
6. Other operations in addition to the above that are necessary to achieve JCIA's mission.

Fiscal Year

From April 1 to March 31 of the following year

■ Organizational Chart of JCIA

The Japan Chemical Industry Association (JCIA) is organized into the General Assembly, the Board of Directors, Auditors, the Policy Coordinating Committee, the Board of Councilors, business-specific committees and the Secretariat. The General Assembly, which is composed of all JCIA member companies and organizations, is the supreme decision-making body. The Assembly resolves important issues related to JCIA management, as well as the business plan, budget and financial statements. The Board of Directors consists of the Directors and Executive Directors elected from among the member companies and resolves issues related to JCIA business and activities.



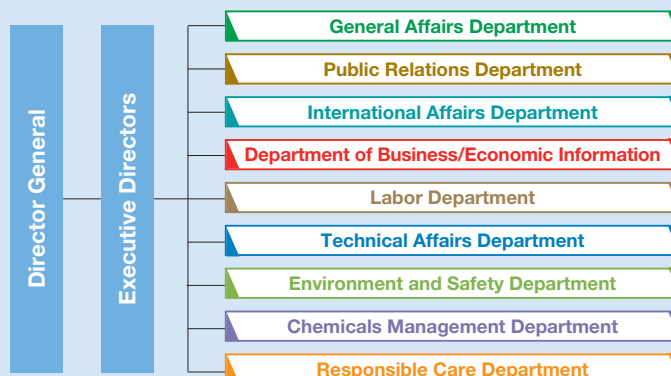
Board members of the Japan Chemical Industry Association (As of July 1, 2023)

Chairman (Representative Director)	FUKUDA Nobuo	Mitsubishi Chemical Corporation Director of the Board and Counselor
Vice Chairman (Representative Director)	IWATA Keiichi	Sumitomo Chemical Company, Limited. Representative Director & President
Vice Chairman (Representative Director)	SHIMAMURA Takuya	AGC Inc. Director, Chairman
Vice Chairman (Representative Director)	KUWADA Mamoru	Tosoh Corporation Representative Director, President
Vice Chairman (Representative Director)	TANAKA Minoru	KANEKA CORPORATION President, Representative Director
Director	KUDO Koshiro	Asahi Kasei Corporation President & Representative Director
Director	HASEBE Yoshihiro	Kao Corporation President and Chief Executive Officer
Director	HARA Koichi	JSR Corporation Representative Director and Managing Officer
Director	KATO Keita	SEKISUI CHEMICAL CO., LTD. President and Representative Director
Director	OGAWA Yoshimi	Daicel Corporation President and Chief Executive Officer
Director	INO Kaoru	DIC Corporation Representative Director, President and CEO
Director	IMAI Toshio	Denka Company Limited Representative Director, President & CEO
Director	TAKAMURA Mikishi	TOAGOSEI CO., LTD. President and Representative Director
Director	YOKOTA Hiroshi	Tokuyama Corporation Representative Director, President and Executive Officer
Director	SAWAMURA Koji	NOF CORPORATION Representative Director, President and CEO
Director	GOTO Yujiro	NIPPON SHOKUBAI CO., LTD. Senior Advisor
Director	GOTO Teiichi	FUJIFILM Holdings Corporation President and CEO, Representative Director
Director	HASHIMOTO Osamu	Mitsui Chemicals, Inc. President & CEO
Director	IZUMIHARA Masato	UBE Corporation President & CEO
Director	MORIKAWA Kohei	Resonac Holdings Corporation Representative Director, Chairman
Director General	SHINDO Hideo	The Japan Chemical Industry Association Director General
Executive Director	FUKAO Yuji	The Japan Chemical Industry Association Executive Directors
Executive Director	OZAKI Satoshi	The Japan Chemical Industry Association Executive Directors
Executive Director	HANDA Shigeru	The Japan Chemical Industry Association Executive Directors
Executive Director	SUKATA Tokuo	The Japan Chemical Industry Association Executive Directors
Auditor	WAKUMOTO Atsuhiro	Nippon Kayaku Co., Ltd. Representative Director, President
Auditor	FUJII Masashi	MITSUBISHI GAS CHEMICAL COMPANY, INC. Representative Director, President

Committees



Organizational Chart of JCIA Secretariat



Toward a Sustainable Society

The chemical industry is tackling various issues to improve people's lives through the supply of a wide variety of materials, and to protect the environment, health, and safety across all stages from development and manufacture through consumption and disposal of chemical products.

In collaboration with industry, government, and academia, JCIA supports the chemical industry's efforts to achieve carbon neutrality by 2050 and communicates that chemical products and innovations contribute to the growth of a sustainable society.



Realization of a carbon-neutral society: Aiming to build a sustainable society

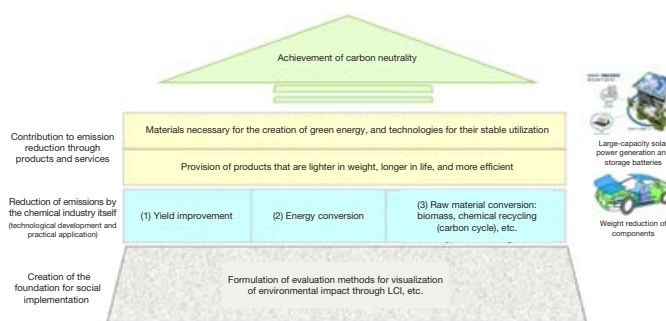
JCIA believes that carbon neutrality is not necessarily synonymous with decarbonization in terms of the definition of carbon neutrality in the chemical industry. In fact, a variety of carbon-containing products are essential to our daily lives, and a completely decarbonized lifestyle is not possible. We believe that the carbon neutrality we should aim for is not to consume any more carbon in the ground, but to make good use of the carbon that is currently on the earth's surface by recycling it. On the other hand, because the chemical industry uses a large amount of energy during manufacturing, it is necessary to work on reducing CO₂ emissions during manufacturing at the same time.

Accordingly, as important measures to become carbon neutral in the chemical industry, we believe it is necessary to convert raw materials from fossil raw materials to circulating carbon sources on the earth's surface, and to reduce CO₂ emissions by converting energy used in manufacturing to carbon neutral fuels.

The JCIA has summarized this idea and published The Chemical Industry's Stance on Carbon Neutrality in 2021. This stance is based on the two principles of reducing GHG emissions by the chemical industry itself and contributing to GHG emission reductions through products and services. Efforts to reduce GHG emissions by the chemical industry itself are mainly focused on energy conversion and raw material conversion, including carbon recycling. In efforts to contribute to GHG emission reductions through products and services, we aim to reduce GHG emissions by providing materials and technologies necessary to create green energy, as well as products that are lighter, longer-lasting, and more efficient, and by ensuring that these products and services are used by users.

As the chemical industry, it is our mission to create value for our customers and society through our products and services, and as a solution provider, we can make a significant contribution to GHG emission reduction throughout the entire value chain. In order to achieve carbon neutrality, it is necessary for society as a whole to bear the burden, and it is important to visualize the environmental burden and develop evaluation methods and calculation rules as a foundation for building such a system. The first step toward becoming carbon neutral is to assess and understand the current CO₂ emission structure in order to consider and implement a path to CO₂ emission reduction.

The carbon footprint (CFP) is a method for quantitatively



understanding the CO₂ emissions of products and services throughout their life cycles, from resource extraction, raw material procurement, manufacturing, processing, and distribution to disposal and recycling, and is an effective method for understanding the structure of current CO₂ emissions. The chemical industry, which provides products to many industries, is required to work on CFP calculation and disclosure in step with other industries, cross-industry movements, and other trends in order to solve the social issue of reducing CO₂ emissions in the entire value chain. For this reason, JCIA prepared the Guidelines for CFP Calculation of Chemical Products in the Chemical Industry and released them in March 2023, with the aim of providing a document that will serve as a basis for companies in the chemical industry to calculate CFP for their own products. These guidelines are expected to serve as a basis for organizing guidelines and calculation rules at each company.

https://www.nikkakyo.org/upload_files/global_warming/clca/cLCA-CO2/Jpn_Chem_Industry_CFP_Guideline.pdf



Furthermore, chemical recycling (CR) is important for the chemical industry, which aims to shift to a carbon cycle, because it can return a wide range of resources, including carbon, to raw materials for a wide range of products, creating a circulation loop. Based on the concept of CR, which involves recycling a wide range of chemical products to utilize all carbon sources, JCIA is also working on the development of international standards (ISO) and certification systems related to CR.



Responses to plastic pollution issues

■ Holding the 2nd Outreach to Asia Training Seminar

The Japan Initiative for Marine Environment (JalME) held the second Outreach to Asia Training Seminar from July 27 to August 2, 2022, following the Outreach to Asia Training Seminar held in February 2020 for policy makers from ASEAN countries. A total of 36 government, industry, and academia representatives from eight countries (Indonesia, Thailand, Malaysia, the Philippines, Myanmar, Vietnam, India, and China), which are members of the ASEAN Federation of Plastic Industries (AFPI) and the Asia Plastics Forum (APF), participated (11 of them online). The program was similar to the first training session, but in order to support the preparation of plastic material flow diagrams by the participating countries, a presentation was made on the procedures for the Thai method, and issues to be addressed for its introduction in each country were also discussed. Through this training program, we were able to widely convey Japan's knowledge, experience, and technology related to waste management to participants from industry, government, and academia in Southeast Asian countries, and to teach them the importance of creating plastic material flow diagrams and the know-how needed to create them, leading to full-scale efforts to create material flow diagrams in Thailand and Indonesia.

■ Subtitles in Southeast Asian languages added to the English version of the educational DVD

In June 2022, we created a video with Indonesian, Thai, and Vietnamese subtitles for the English version of Plastics and Us, which was produced in January 2021 as a video teaching material for junior high school science education. The video was introduced to participants at the second Outreach to Asia Training Seminar and international meetings attended by Southeast Asian countries, and was used for overseas awareness-raising activities.

■ Accumulation of scientific knowledge

In order to study the optimal recycling treatment method for waste plastics in the future, we conducted LCA evaluation on new recycling technologies such as chemical recycling (monomerization, etc.) using industrial waste plastics as input materials, which were not included in the LCA evaluation conducted in 2019, and evaluated the environmental impact reduction effect. The results of the evaluation were summarized in a research report, LCA Evaluation of Industrial Waste Plastics, which was released in September 2022. Through the implementation of various LCA assessments, we were able to provide useful data for selecting effective plastic utilization methods, including energy recovery and chemical recycling.



SDG initiatives

■ Overview and progress

In 2018, JCIA established the SDGs Subcommittee and began activities to support JCIA members' initiatives toward achievement of the United Nations Sustainable Development Goals (SDGs). The subcommittee members have been engaged in working group activities to think and learn together, holding study sessions, and introducing SDG activities of member companies. In December 2018, we launched a website dedicated to the SDGs, and in October 2020, we published examples of SDG activities (22 examples) from member companies as a collection of SDG case studies to show stakeholders that the chemical industry is making considerable contributions toward achievement of the SDGs.

In addition, we shifted to a network for exchange the SDG information (opinions), in which any JCIA member can participate,

and the SDGs Subcommittee was suspended in April 2021. The SDG information (opinions) conducts activities in two main areas: working group activities, which are voluntary study groups of volunteers, and an information exchange and study session on topics of interest to participating members. Furthermore, in cooperation with the Japanese government and associations related to chemicals, we are striving to promote SDG activities by JCIA members.

In FY2022, as a working group activity, we learned about suggestions for solving issues related to human rights in corporate activities through study sessions by a lecturer from the Human Rights and Humanitarian Affairs Division of the Ministry of Foreign Affairs and interviews with pioneering companies on understanding human rights due diligence and internal development.

Website

<https://www.nikkakyo.org/sdgs/page/overview.html>



Case studies

<https://www.nikkakyo.org/sdgs/page/case.html>



Activities as a Member of the International Community

JCIA's activities are not limited to Japan. As a member of the International Council of Chemical Associations (ICCA), representing the Japanese chemical industry, JCIA participates in international specialized chemical industry conferences and other activities, including programs intended to train human resources and convey expertise on chemicals management to support the progress of the chemical industry in the East Asia and Southeast Asia regions. On the subject of 'Energy and Climate Change' in particular, which the ICCA has identified as one of the major themes, we play an important role as the Chair in harmonization of the chemical industry's global message on its contributions to responding to climate change.

ICCA (International Council of Chemical Associations) Activities

ICCA was established in 1989 by the chemical industry associations of Japan, the United States, Europe, and Canada. Currently, with the addition of China and India as new members, its full members now include chemical industry associations from North America, South America, Europe, Asia, Oceania, and the Persian Gulf States, bringing the total membership to approximately 50 countries and regions. The organization structure was modified in November 2022 to simplify the decision-making structure and to manage the effectiveness of activities across themes involving multiple groups. Currently, the organization consists of four core Leadership Groups and five Cross-Cutting Groups, which are responsible for implementing strategic initiatives to solve issues in their respective fields, as well as for policy recommendations and other activities. See the ICCA website for more information.

ICCA Energy and Climate Change Leadership Group (E&CC LG) Activities

The ICCA E&CC LG proactively communicates information on the roles and achievements of the chemical industry as a solution provider in response to global energy and climate-change issues, and strives to earn the international community's understanding.

In 2022, we participated in two events at COP27 in Egypt: World Climate Summit and Pathways to Sustainable Building Markets through Lifecycle-based Information, and disseminated information on the contribution of the chemical industry.

In addition, the Innovation Task Force within the LG has begun to consider revisions to Enabling the Future in order to communicate more effectively in future activities, including COP28 in 2023. In addition, the Carbon Neutrality Task Force has started to consider pathways to achieving carbon neutrality.

ICCA Chemicals Policy and Health LG (CP&H LG) Activities

The CP&H LG has formed subgroups on individual issues related to ICCM5, and is working with the PLG on issues in plastic additives and microplastics in particular. At the intersessional process meetings IP4.1 and IP4.2 in preparation for ICCM5 and the first additional meeting of the open-ended working group (OEWG) on the establishment of the Science Policy-Panel (SPP), the chemical industry submitted its views and participated in discussions, summarized the views of the chemical industry, and drafted an

ambition to show the chemical industry's contribution to the strategic objectives under discussion for ICCM5. JCIA also participated in the OEWG meeting onsite and submitted its opinions to the Ministry of Economy, Trade and Industry and the Ministry of the Environment, in addition to submitting opinions through ICCA. The Microplastics Advanced Research and Innovation Initiative (MARII) also held its first workshop. JCIA, along with LRI researchers, participated onsite to present and discuss microplastics research in Japan.

Activities of the ICCA Plastics Leadership Group (PLG)

At UNEA 5.2 in February 2022, a resolution was passed to establish an Intergovernmental Negotiating Committee (INC) to negotiate new global measures on plastic pollution issues. The PLG participated in the first meeting of the INC held in Uruguay at the end of November 2022, where it expressed industry's views and exchanged views with representatives of national governments and relevant stakeholders. JCIA also acted as a member of the PLG and submitted its opinions from industry to the Ministry of Economy, Trade and Industry and the Ministry of the Environment.

RCLG Semi-annual Meeting

In September 2022, the regular autumn meeting was held in Paris in a face-to-face format for the first time in three years. The main agenda items discussed were the completion of the RC self-assessment tool by ICCM5, which is scheduled to be held in Germany in September 2023, in order to highlight the importance of RC activities; and a proposal to improve the reporting method of KPIs, changing to a format where each member can report anonymously and directly on the web. JCIA also presented case studies of sustainability initiatives in the Asia-Pacific region, including Japan and seven other APRO countries.



Holding the 17th Asia Pacific Responsible Care Conference (APRCC)

APRO is an organization of 16 chemical industry associations in the Asia-Pacific region. The APRCC is held every two years with the aim of revitalizing RC activities in the region. The conference was held in a hybrid format for the first time based in Taipei in December, 2022. In addition, the participation fee was waived for this year's event, and

a recording was made available for viewers who live in different time zones. As a result, a total of 587 people registered for the event, including 251 from Taiwan. This number of registrations was almost double the normal APRCC. From Japan, four people, including APRO Chairman Yashima, participated as speakers and moderators, contributing to the success of the conference.



ICCA ASEAN Regulatory Cooperation Project (ARCP) Activities

The ASEAN Regulatory Cooperation Project is a project targeting the ASEAN Economic Community. The goal is to promote activities focused on risk-based chemicals management and to apply ICCA's global policy on regulatory cooperation to chemicals regulations that are being developed in the region. JCIA participates in this project led by the Singapore association as a member of the organization along with the American Chemistry Council (ACC) and the European Chemical Industry Council (Cefic). In November 2022, an online seminar on GHS, chemical inventories, and the current state of chemical management in each country was held for participants from governments and industry in ASEAN member states.

APEC Activities (Chemical Dialogue)

JCIA participates in the Chemical Dialogue, a sub-forum of the APEC Committee on Trade and Investment. The Chemical Dialogue is a forum for representatives of regulators and industry that aims to identify solutions to the challenges faced by the chemical industry in the Asia-Pacific region. Together with promoting trade and improving the levels of sound management of chemical substances through supporting expansion of regulatory cooperation and harmonization in the region, it also promotes understanding of the roles of the chemical industry as a provider of innovative solutions for sustainable economic, environmental, and social development. It also serves as a venue for effective cooperation between industry and government to improve chemical product stewardship and safe use.

AMEICC Activities

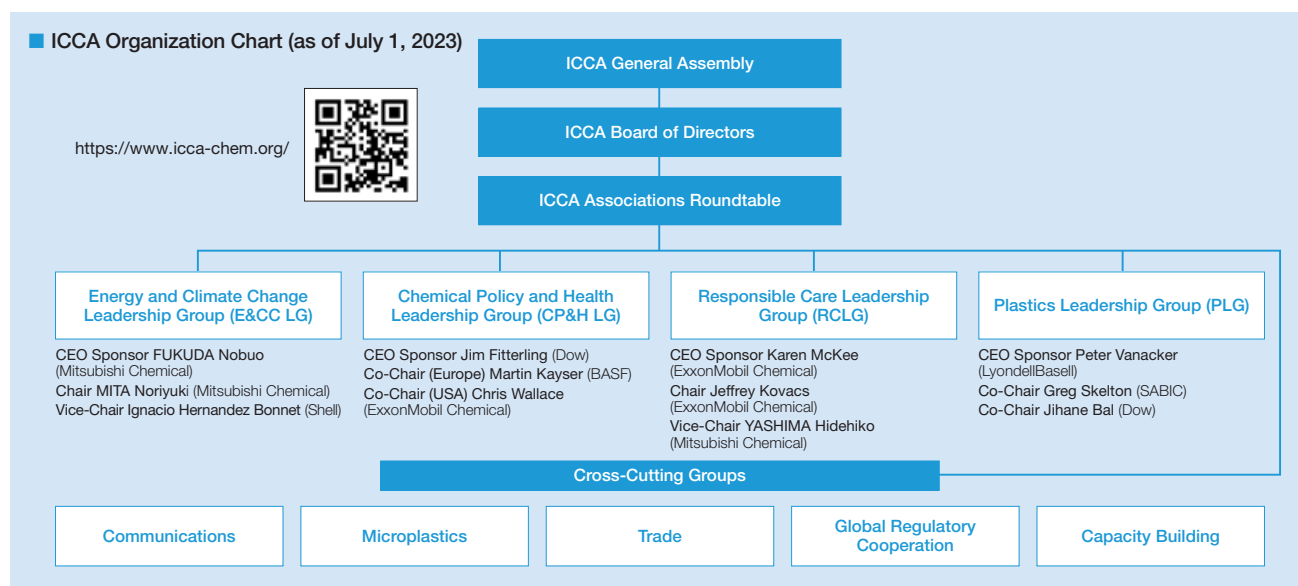
The ASEAN Economic Ministers (AEM) and the Minister for Economy, Trade and Industry (METI) Economic and Industrial Cooperation Committee (AMEICC) is a subordinate organization of the AEM-METI that implements practical economic and industrial cooperation in the ASEAN region. The Technical Working Group and the Working Group on Chemical Industry were held online in August 2022, and reported on topics including carbon neutrality, the circular economy, and ARCP activities.

Participation in OECD Conferences

JCIA participated in various conferences held by the Organisation for Economic Co-operation and Development (OECD)—Chemicals and Biotechnology Committee, Working Party of National Coordinators of the Test Guidelines Program, Working Party on Manufactured Nanomaterials, Working Party on Hazard Assessment, Working Party on Exposure Assessment, Working Party on Risk Management, and Extended Advisory Group on Molecular Screening and Toxicogenomics—as a member of the Business and Industry Advisory Committee (BIAC), an advisory body to the OECD representing the private sector. In doing so, we gathered and communicated useful information for members as well as expressing their views.

ICCA LRI International Workshop

The ICCA-LRI international workshop entitled Advancing Chemical Risk Evaluations Through Use of New Approach Methods (NAMs): Challenges and Opportunities was held in Japan in June 2022, in collaboration with the National Institute of Technology and Evaluation (NITE). The hybrid format, which also utilized online participation, attracted 379 registered participants from 26 regions, including Japan, the US, and Europe, to present and discuss issues related to the development and utilization of NAMs, a new safety assessment method that replaces animal testing. The workshop consisted of five sessions, where specific issues and solutions were shared for the future utilization of NAMs in risk assessment of chemicals, including the identification of knowledge gaps.



JCIA's Human Resource Development

The chemical industry supports the development of both society and the economy by providing various materials, and human resource development is important for the industry to continue to grow. Therefore, JCIA implements various human resource development measures for the next generation. For elementary, junior high, and high school students, we hold educational events to stimulate interest in chemistry, and for university and graduate students, we hold exchange events with companies and provide chemical industry education, as well as scholarships. In addition, for adult members, we also hold seminars and training courses on numerous topics including safety and disaster prevention, occupational health and safety, and chemical management to promote the development of the next generation of human resources who will carry the future of the chemical industry.

Chemistry Personnel Cultivation Program (for undergraduate and graduate students)

Summary:

JCIA promotes the Chemistry Personnel Cultivation Program in order to train young people, who takes an important role as the foundation for strengthening the international competitiveness of and promoting Japan's chemical industry. The program provides information on the human resource needs of the chemical industry to graduate-level chemistry majors throughout Japan and supports doctoral candidates in fields that meet those needs. At present, 32 JCIA member companies participate in the program, and in FY2022, the following activities were undertaken.

Offering scholarships:

JCIA scholarships of 200,000 yen/month were provided to each of 35 students recommended by the majors, which is under the JCIA program. The scholarship is available for up to three years, until the end of the doctoral program.

Promoting exchanges program between universities and JCIA companies:

The Industry-Academia Exchange Meeting 2022, a venue for exchanges with universities and companies, was held face to face and online in October. At the meeting, 11 scholarship recipients who are in the second year of their doctoral course, gave presentations on their research and two doctors, who now work at JCIA member companies, shared their experience at the companies.

The forum was attended by 25 members from member companies and 51 faculty members and students from universities, who engaged in a lively question-and-answer session on the research presentations by the scholarship recipients. In addition, a graduate of the program gave a presentation on what companies expect from a doctoral student, their attitude toward work, and what they would like the students to work on during their time as a student. A video

of the forum is available on the website of the Chemistry Personnel Cultivation Program.

Supporting job search activities:

JCIA held the Student-Company Exchange Meeting 2022 in Tokyo and Osaka in November and December respectively to support the job search of doctoral students. 47 doctoral students from supported majors and 19 member companies participated in the event, which featured presentations by students on their research, as well as company presentations by participating companies. Participants visited the poster presentations of students and company booths of their respective interests and deepened mutual exchanges.



Scene of the Student-Company Exchange Meeting

Supporting chemical industry education:

With the cooperation of member companies, we offer the Chemical Industry Course to some supported majors in order to deepen undergraduate and graduate students' understanding of the chemical industry. Employees working on the frontline of chemical companies serve as instructors, explain the history, present, and future of the chemical industry from a solution provider perspective, and present information on various subjects, including topics companies are currently focusing on and what they personally find appealing about the industry.

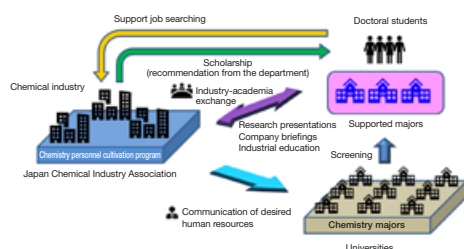
In FY2022, the program continued from the previous year, with lectures held at Osaka Metropolitan University, the University of Tokyo, and Tohoku University. Although some of the classes were online, face-to-face lectures were revived, and students deepened their understanding of the chemical industry through direct contact with corporate lecturers.

Participants commented, "I was reminded that our lives are made possible and enriched by the development of the chemical industry," and "In R&D, we tend to focus on finding ways to solve problems, but I learned that discovering problems is also an important process."

Chemistry Personnel Cultivation Program website
https://www.nikkakyo.org/Jinzai_ikuseiProg/



Overview of the Chemistry Personnel Cultivation Program



Calling for applications and screening supported major:

In September, there was a call for the 13th applications for support in FY2023. Applications were received from eight majors, which included two new majors, and the screening committee met in December and selected six majors to provide support starting in FY2023 (four reselected majors and two new major).

The Chemistry Personnel Cultivation Program has been highly praised by industry, academia, and the government as an initiative that educates and makes use of people with advanced science knowledge ahead of other industries. In FY2022, 12 scholarship recipients in

supported majors completed their doctoral program, and 11 of them were employed by companies. Of those, seven were hired by JCIA member companies.

In addition, the total number of scholarship recipients in the Chemistry Personnel Cultivation Program has reached 108, and 84 of them are active in industry, including 45 who have been employed by our member companies. Through the Chemistry Personnel Cultivation Program, we will work to further strengthen the partnership between industry and academia and move forward with more extensive support activities.

Dream Chemistry 21 Project (for elementary and junior and senior high school students)

Consisting of JCIA, the Chemical Society of Japan, the Society of Chemical Engineers Japan, and the Japan Association for Chemical Innovation, the Dream Chemistry 21 Committee hold events appropriate for children of all ages to convey to them wonder and enjoyment of chemistry and to encourage their interest in chemistry. For elementary school students, there are the “Kids’ Chemistry Experiment Show” and “What? Why? Science Experiment Lab,” as hands-on events in which children conduct experiments and build things, and for junior and senior high school students, there is the annual Chemistry Grand Prix, a national competition in which junior and senior high school students compete based on their chemistry skills. In addition, we send students who do exceedingly well in the Chemistry Grand Prix as representatives of Japan to the International Chemistry Olympiad, where high school students from about 80 countries and regions around the world compete based on their chemistry skills annually.

Please refer to page 22 of this report (Activities of the Dream Chemistry 21 Project in FY2022) for details of activities in FY2022.

Dream Chemistry 21 Project
official website
<https://www.kagaku21.net/>



Industrial Safety Course (for working people)

The Industrial Safety Course is jointly sponsored by JCIA, the Petroleum Association of Japan, and the Japan Petrochemical Industry Association. Dr. Atsumi Miyake (Vice President and Professor of Yokohama National University) serves as the president of this school, and the purpose of this school is to train future managers and safety experts who have a deep understanding of safety in the petroleum and chemical industries.

In previous years, the course was held on-site, but due to the impact of the spread of the COVID-19 pandemic, it was unfortunately cancelled in FY2020, and in FY2021, the course was held in a completely online format. In FY2022, 28 students from 23 member companies of the three co-sponsoring organizations participated in a total of 13 lectures that were given by invited lecturers who guide the safety related initiatives of the three co-sponsoring organizations, and managers in charge of relevant ministries and agencies. In principle, the lectures were held online, and students participated almost once a week, except during the year-end and New Year holidays, to learn the basics of industrial safety, the background of accidents that have occurred in the past, advanced safety initiatives in the industry, safety education and awareness raising, and to deepen their knowledge on the ideal approach to safety in the petroleum and chemical industries through group discussions using the breakout room function of the online conference tool.

The group presentations and completion ceremony in March were held in a hybrid face-to-face and online format. It was the first time in three years that the students were able to interact with each other and were provided an opportunity to realize the importance of face-to-face interaction in building a network of people.

Completing the Industrial Safety Course, the students will return to their respective workplaces to think about the ideal approach to safety in their own workplaces and take action. We hope that the activities will lead to further fostering a culture of safety and preventing accidents at each workplace.



List of lectures and seminars

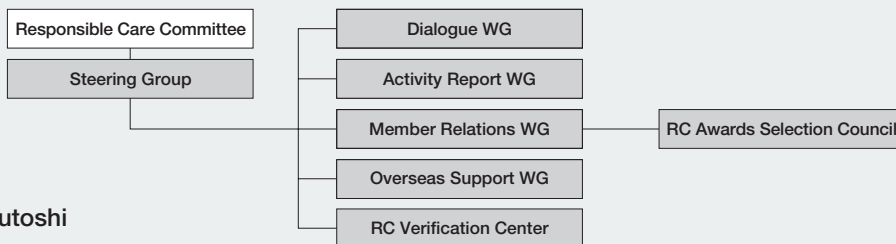
Name of lecture or seminar	Mission	Frequency
Security Export Control Seminar	Provide introduction to export of products and manufacturing technologies based on the Foreign Exchange and Foreign Trade Act	Once a year
Training for Chemical Plant Production Site Leaders	Learn about the mindset required of production site leaders at chemical plants and the concept of process safety capabilities to achieve safety at production sites, not only through lectures but also through case studies and exchange of opinions among participants	Four times a year
Safety Management Seminar For Transportation of Dangerous Goods	Acquisition of knowledge on land, sea, and air transportation of dangerous goods	Once a year
Chemical Risk Forum	Training of practitioners in risk-based chemical substance management (annual series of 10 educational seminars)	May to February of the following year (10 times per year)
Issues in International Commerce Seminar	Explain the anti-dumping system, rules of origin, unfair trade practices report, EPA/FTA, and so on	Once or twice a year
Industrial Safety Course	Develop managers who can understand future safety in the oil and chemical industries, and safety experts who have a broad purview (13-part lecture series)	November to March of the following year (13 times per year)
Human Resources & Labor Affairs Staff Development Seminar	Cultivate leaders in the HR and labor affairs divisions who are responsible for the next generation of workers (a series of 8 seminars held every second year)	May to December (Eight times/every other year)
Lecture on the Importance of Standardization	Teach and spread the importance of standardization through lectures that have a different theme every year	Once a year
Risk Assessment Seminar (using BIGDr.Worker)	Learn about risk assessment methods for workers Learn how to perform risk assessment including mixtures by utilizing BIGDr.Worker	Twice a year
Risk Communication Training	Improvement of communication skills in community dialogue (ability to understand the other person's position and values and to respond appropriately to unexpected questions)	Once a year



Committee Chairman, TAKASE Futoshi
Senior Executive Officer UBE Corporation

Responsible Care Department

Activity Report: Responsible Care (RC) Committee



Note: WG/Working Group

Contributing to the Continuous Improvement of RC Activities and the Realization of a Sustainable Society

Based on our goal of contributing to the realization of a sustainable society, we will strive to further raise awareness of RC activities and strengthen the presence of the chemical industry through continuous improvement of our RC activities and deployment of open activities. Amidst the drastically changing environment surrounding the chemical industry, we are actively developing various activities in Japan to meet the needs of the members.

Overseas, we are actively supporting RC activities of the member companies in Asian countries to expand the scope of RC activities.

Activity Outline

The purposes of the RC Committee are to support member's RC activities, to help improve further society's trust in members and in the chemical industry, and to contribute to the sustainable progress of the chemical industry and of society. Toward this target, the Committee focuses its efforts on supporting the continuation of RC activities and tackling the important tasks of stimulation and expansion of the range of these activities.

FOCUS

Overseas Support Activities

Lectures for managers and workshops (WS) for national staff were held in cooperation with the chambers of commerce and industry in Thailand and Indonesia. Due to the difficulty of holding these events onsite as a result of the spread of the COVID-19 pandemic, they were held online in FY2022, as in the previous year. In Thailand 60 people attended the lectures and 85 people attended the WS, while in Indonesia 34 people attended the lectures and 40 people attended the WS.

The ASEAN occupational safety training, an activity of the AMEICC, was also held online for each of the six ASEAN countries, instead of being held locally. The session attracted many participants; the Philippines had 34 participants, Cambodia 37, Malaysia 40, Laos 37, Indonesia 48, and Thailand 39. During the exercises held at the local venues, participants were seen actively engaging in discussions.

Each lecture utilized e-learning materials translated into the local language. According to a survey conducted after the training, the e-learning lectures were well received, and many participants requested that the program



ASEAN occupational safety training:
(top) participants in Laos
(Bottom) Participants in Cambodia

be continued in future training sessions. Therefore, in FY2022, we focused on creating e-learning materials translated into local languages and completed 18 lectures on chemical plant and process safety management.

RC Member Study Meetings

The purpose of the study meetings are for the members of the Responsible Care (RC) Committee of the Japan Chemical Industry Association to gather together, listen to lectures by experts in RC activities, and exchange opinions in small groups to gain insights into RC activities and to build on these insights for future activities.



The meeting had been held regularly every year, but was cancelled in 2020 and 2021 due to COVID-19 pandemic. In 2022, the study meeting was held for the first time in three years, and after a lecture on machine safety initiatives in the chemical industry, group work was conducted on measures to prevent trapped and entangled worker accidents. The lecture included a comparison of chemical plant safety and machine safety, and the group work session featured a lively exchange of opinions on the activities of each participating company and the causes of and countermeasures

against occupational accident cases. Conducting group work immediately after the lecture is an effective way to fully acquire what was learned. At the end of the study meeting, each group reported the results of their discussions, and the lecturer pointed out things that they had not noticed in the group work.

The theme of this year's study meeting was machine safety initiatives, and up until now study meetings have been held on a variety of topics, including fostering a culture of safety, human

resource development, efforts to improve local disaster prevention capabilities, and the use of risk management in RC. We plan to continue to hold study meetings on themes to promote RC activities in the future.

TOPICS

TOPIC 1 Regional Dialogue

Face-to-face regional dialogue meetings, which were last held in FY2019 due to the impact of the COVID-19 pandemic, were held for the first time in three years in the Yokkaichi



area of Mie Prefecture on October 28 and in the Yamaguchi Higashi area of Yamaguchi Prefecture on November 18, respectively. We were able to hold these events by taking various measures, including limiting the number of participants at the venue and allowing participation via online viewing.

In addition to these two areas, six other areas (Kashima, Chiba, Toyama/Takaoka, Aichi, Osaka, and Hyogo) held dialogues using a written format, as a result of discussions that took into consideration the opinions of residents in each area, in order to prevent the spread of infection. Efforts were made to realize two-way dialogue as much as possible through the use of questionnaires.

TOPIC 2 Risk Communication Training

In dialogue meetings for RC activities, companies are required to have the skills to communicate accurately and smoothly based on an understanding of the other party's position and values. In order to learn this skill practically, we hold risk communication training once a year.

In FY2022, due to the impact of the COVID-19 pandemic, the training was held online on September 26, as in FY2020 and FY2021. As in FY2021, a mock dialogue exercise was conducted online, as an effective method for improving communication skills.

In addition, this year we invited Professor Toshiko Kikkawa of Keio University to play the role of a stakeholder from outside to strengthen and improve participants' ability to respond to questions, including unexpected ones. Participants commented that they recognized the importance of communicating what the other party



needs to know, gaining the other party's understanding of factory risks and discussing those risks.

TOPIC 3 RC Verification Activities

RC activities are the basis of the activities of chemical companies. While protecting this foundation, each company engages in corporate activities by taking elements of the SDGs and ESG in order to achieve sustainable growth over the long term, and publishes the results to society through annual reports and sustainability reports. JCIA has been conducting verification activities with the aim of improving the quality and reliability of each company's report, and conducted verification based on the newly revised RC Code in 2022. Six RC member companies were audited for report verification, including online verification. In addition, two companies were audited for activity verification and one company was audited for GHG verification. As a result, the cumulative total number of reviews completed since the verification activity began in 2002 has reached 258 reviews.

TOPIC 4 Publication of the 100th Anniversary Issue of Responsible Care News

Responsible Care News celebrates its 100th issue with the spring issue on May 25, 2022 26 years after the first issue was published in 1996. For the 100th anniversary issue, we received congratulatory messages from Keidanren Chairman Mr. Tokura and other representatives from industry, government, academia, and the private sector, as well as a new cover design. The global outbreak of the COVID-19 pandemic that began at the end of 2019 has forced the JCIA to suspend or scale back its Responsible Care activities, and the Responsible Care News, which introduces the contents of these activities, has been affected and saw a reduction in the number of issues and pages published. Regardless, we will continue to strive to enhance the contents with the aim of publishing the 200th issue of the JCIA Responsible Care News.

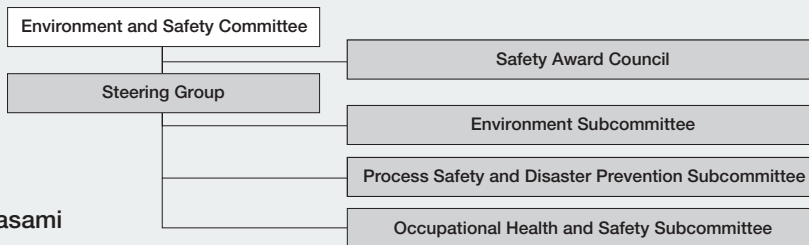




Committee Chairman, TOBITO Masami
Corporate Officer, Resonac Holdings Corporation

Environment and Safety Department

Activity Report: Environment and Safety Committee



Safety and Environmental Considerations During Manufacture of Chemical Products Are the Top Priority

We are addressing various issues related to the environment, health, and safety in the chemical industry under the Principles of JCIA regarding the Environment, Health and Safety, with environmental protection, process safety and disaster prevention, occupational health and safety, and distribution safety as important issues. In addition, we will keep abreast of the latest domestic and international trends and actively disseminate information to our members in order to keep them informed, as well as to voice our opinions in consideration of the situation of the chemical industry. Through the implementation of voluntary activities, we will produce appropriate results, thereby continuously enhancing the trust of society in the chemical industry as a whole.

Activity Outline

The Environment and Safety Committee promotes environmental protection, process safety and disaster prevention, occupational health and safety, and distribution safety, which are the pillars of responsible care. The committee supports the autonomous activities of its member companies by sponsoring various lectures and safety awards, and it also disseminates and shares useful information from administrative authorities and related organizations through its three subcommittees, and collects members' opinions and requests and submits them to administrative authorities and other organizations.

FOCUS

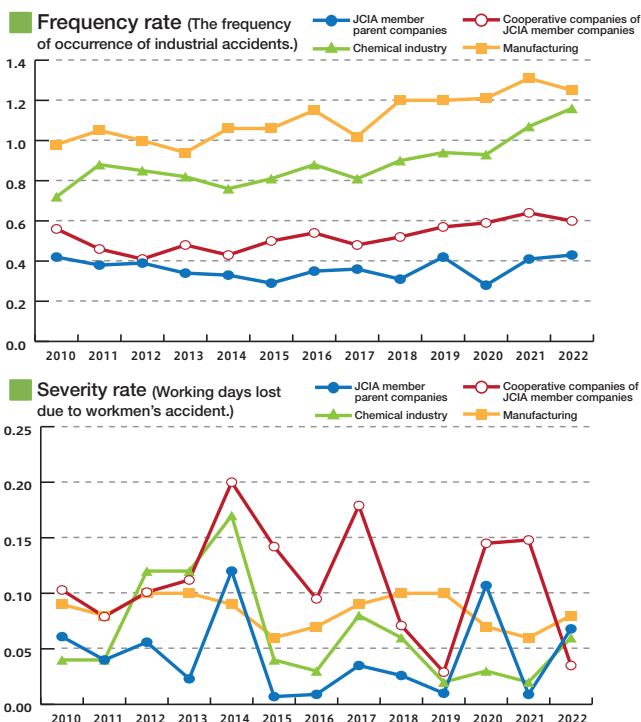
Safety and Accident-Prevention Initiatives

In order to prevent accidents, we are making efforts based on the three pillars of support for voluntary efforts by member companies, support for the introduction of smart industrial safety, and cooperation with administrative authorities and related organizations. As part of support for voluntary efforts by member companies, the Process Safety and Disaster Prevention Subcommittee shared case studies of accidents related to the chemical industry and held accident case study meetings on individual cases. In addition, the Environment and Safety Department dispatches lecturers to Improvement Training for Chemical Plant Production Sites Leaders in order to improve industrial safety competency, thereby supporting human resource development in terms of both safety infrastructure and safety culture. As for support for introduction of smart industrial safety, a working group was established to plan and hold lectures on introduction of smart factories and smart industrial safety, and improvement of cyber security for industrial control system. For cooperation with administrative authorities and related organizations, in relation to the ongoing revision of the High Pressure Gas Safety Act, in addition to participating as an observer in the Ministry of Economy, Trade and Industry's subcommittee, we held several meetings to exchange opinions between the Ministry and member companies to reflect the views of the chemical industry.

Workplace-Accident Prevention Initiatives

The pillar of JCIA's workplace accident prevention activities is cooperation in the promotion of administrative measures for occupational safety and health, including the 14th Occupational Safety & Health Program, which was newly established in 2023. In particular, as the legal framework for

chemical substance management in the workplace is about to undergo a major change from conventional legal compliance to autonomous management, we carefully share and disseminate information from the Ministry of Health, Labour and Welfare to our member companies, and at the same time, we collect the opinions of our members, submit them to the government to cooperate, and work together to make



things better. The Occupational Safety and Health Subcommittee, which is the main arena of activities, has become more active with a significant increase in the number of committee members as revisions to laws and regulations related to occupational safety reach their climax. Furthermore, we are actively holding briefing sessions for our members and affiliated organizations to promote understanding. In addition, JCIA will continue to compile the survey on occupational accidents as our voluntary activity, and will also work to reduce the number of accidents involving entanglement and falls in the manufacturing industry in line with the 14th Occupational Safety & Health Program.

Environmental Protection Initiatives

As part of our efforts to ensure compliance with environmental laws and regulations, we collect the latest information on revisions to laws and regulations and share it with the Environment Subcommittee, etc.,

so that it can be steadily reflected in the environmental conservation activities of our member companies. In addition, the opinions of the chemical industry are collected and presented to the government and related organizations. Meanwhile, as part of voluntary efforts to reduce environmental impact, we are promoting efforts to reduce emissions of volatile organic compounds (VOCs) identified by JCIA independently in addition to those for which notification is required under the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR). In addition, JCIA has established a voluntary control plan for hazardous air pollutants and is working to further reduce emissions. We have also set autonomous targets for wastes and are promoting resource recycling through means such as reducing emissions, reducing the volume of landfill waste disposal, and encouraging recycling, as well as disclosing the results of these efforts publicly.

TOPICS

TOPIC 1 Autonomous VOC Reductions

Our autonomous reduction target for VOCs in FY2025, which include substances subject to the PRTR and those added to the list by JCIA, is no deterioration from the FY2010 level, with continuous efforts made specifically to reduce highly harmful substances. In FY2021, the target was achieved with a 37% reduction from the FY2010 level (and 78% reduction from the FY2000 level). We will continue our voluntary reduction efforts as our activity volume impacted by the spread of the COVID-19 pandemic has begun to recover since FY2021.

TOPIC 2 Reducing, Reusing, and Recycling (3R) Industrial Wastes

We participate in the Japan Business Federation (Keidanren) Voluntary Action Plan for Establishing a Sound Material-Cycle Society, with an FY2025 industry target of maintaining a final disposal volume of 170,000 tons or less and a recycling rate of 65% or higher. In FY2021, we achieved the targets with a final disposal volume of 164,000 tons (69% reduction from FY2000) and a recycling rate of 71%. We will continue to promote further reduction of waste and resource recycling, taking into account trends in a decarbonized society and resource recycling.

TOPIC 3 Lecture on Duties and Responsibilities of Shippers Involved in the Transportation of Dangerous Goods

JCIA held a lecture on duties and responsibilities of shippers involved in the transportation of dangerous goods for the first time in order to raise awareness of shippers' responsibilities in the transportation of hazardous materials and to stimulate distribution safety efforts by member companies. An attorney well versed in legal precedents and laws related to the transportation of dangerous goods was invited to give a lecture on duties and responsibilities of shippers involved in the transportation of dangerous goods, with a focus on hazardous materials and related regulations. Approximately 400 people in charge of corporate operations, logistics, legal affairs, and chemical management participated online on the day of the event, and many questions were asked after the lecture, indicating a high level of interest in ensuring the safety of the transportation of dangerous goods.



TOPIC 4 Lecture on Smart Factories and Smart Industrial Safety

While many JCIA members understand the importance of smart industrial safety, many companies find it difficult to pinpoint a starting point for implementing smart industrial safety initiatives. The Process Safety and Disaster Prevention Subcommittee newly established a smart industrial safety working group (WG) in FY2022 and planned and held related lecture. Lectures were given on six themes that would be useful not only to major members but also to SME members based on the results of surveys conducted by the WG members such as automatic plant control using AI, a hazard source search system using linguistic AI, improvement of worksite environment using IoT, in-house development of a vibration management system using inexpensive acceleration sensors, and utilization of drones. Approximately 400 people attended the lecture, which was followed by a lively Q&A session, demonstrating the high level of interest in smart factories and smart industrial safety.

TOPIC 5 Safety Symposium

The purpose of the Safety Symposium is to deepen understanding of common occupational safety issues such as fostering a safety culture through panel discussions and introduction of safety activities of the JCIA Safety Award winners. Due to the impact of the COVID-19 pandemic, the Safety Symposium was held online again in FY2022, but this time with a record 438 participants. In the first part of the Safety Symposium, presentations on safety activities were made by six plants, including the Tsukuba plant of Japan Fine Coatings Co., Ltd., which won the top prize of the 46th JCIA Safety Award (2022). The second part, a panel discussion on the theme of how to continue with no accidents, focusing on the role of top management, was moderated by Dr. Suzuki, Chairman of the JCIA Safety Award Council (Professor Emeritus of Okayama University), during which representatives from award-winning companies exchanged opinions on how to continue to achieve disaster-free.

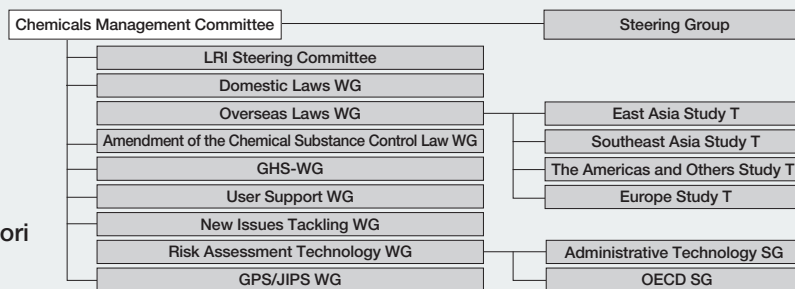




Committee Chairman, ITO Takanori
Executive Officer, Sumitomo Chemical Co., Ltd.

Chemicals Management Department

Activity Report: Chemicals Management Committee



Note:
WG/Working Group
SG/Subgroup
T/Team

MESSAGE

Toward the Firm Establishment of Efficient Chemicals Management

The basic policies are to strengthen support for chemicals management in business activities and to further spread and expand voluntary contributions from the industry. We are doing a variety of activities, such as dispatch of information related to chemical management to member companies and compliance to the revision of related laws and regulations in Japan and overseas. Regarding legal compliance in Japan, JCIA participates in various governmental committees and working groups on behalf of the chemical industry, and offers opinions to relevant authorities. JCIA also aims to strengthen our support activities with the aim of establishing and disseminating more efficient and sophisticated risk assessment technologies.

Activity Outline

The Committee have established close relationships with relevant organizations, including administrative authorities, in order to communicate useful information to members about domestic and overseas regulatory trends regarding chemical management, and collects opinions and requests of members to submit them to the administrative authorities. As voluntary activities in the industry, the Committee is promoting GPS/JIPS and tackling new issues, as well as supporting research related to risk-assessment techniques for chemical products.

FOCUS

Trends in Domestic Chemicals Laws and Regulations, and Our Responses

In addition to swiftly ascertaining trends in domestic regulations on management of chemicals and communicating related information to members, JCIA also collects the opinions of member companies and offers these to regulators.

In accordance with the Act on the Regulation of Manufacture and Evaluation of Chemical Substances, JCIA confirms the validity of the risk assessment of the listed chemical substances in cooperation and collaboration with related organizations and member companies that handle the substances concerned, submits opinions to the authorities, and disseminates information about the results of deliberations. In addition, Amendment of the Chemical Substance Control Law WG was re-launched and a task force was formed to study the revision of the law. The Amendment of the Chemical Substance Control Law WG gathered opinions on the contents of the desired revision, and based on the results, the TF discussed and shared the conclusions of the study in FY2022 with the authorities.

With regard to the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR), we continued with our efforts to raise awareness about the revision of the Cabinet Order on the revision of the applicable substances promulgated in October 2021, which will come into effect on April 1, 2023, and to ensure that the modification of SDS (safety data sheet) and other measures be implemented.

In response to the revision of the Industrial Safety and Health Act, we prepared and published examples of SDSs as a response

to the revision of the government ordinance. In collaboration with the Environment and Safety Department, we also responded to the expert panel on chemical substance management, gathered the opinions of business operators regarding the setting of concentration standard values, and submitted them to the authorities.

In addition, we swiftly collect and provide information on trends in chemicals regulations to members, including the Poisonous and Deleterious Substances Control Act, the Act on Pharmaceuticals and Medical Devices, and the Narcotics and Psychotropics Control Act.

Trends in International Chemicals Laws and Regulations, and Our Responses

We keep abreast of the latest trends in chemicals management regulations in each country and provide information to our members, while at the same time, we strive to understand the status of responses and concerns of member companies. To respond appropriately to regulatory trends around the world, we also collected the views of member companies and offered opinions to regulators as necessary in Europe, South Korea, Vietnam, Indonesia, and other countries. In particular, JCIA has submitted 8 letters of opinion to the authorities in relation to REACH/CLP in Europe. In submitting our opinions, we exchanged information with domestic and foreign industry associations, and in addition to JCIA's independent submission of opinions, we prepared and submitted position papers jointly with industrial associations in each region. In addition, JCIA provides information to the Japanese authorities on regulatory trends in Europe and the efforts of its members, while cooperating with them by exchanging information in advance of

submitting opinions.

GHS Trends, and Our Responses

In addition to providing basic training, in an annual chemical risk forum course, on JIS Z7252: 2019 (Classification of Chemicals Based on Globally Harmonized System of Classification and Labelling of Chemicals [GHS]) and JIS Z7253: 2019 (Hazard Communication of Chemicals Based on GHS-Labeling and Safety Data Sheet

[SDS]), both of which are Japanese GHS standards based on the Sixth Edition of UN GHS, we also support GHS utilization through means such as responding to inquiries from members. In addition, as both JIS will be five years old in 2024, at which time the Industrial Standardization Act requires consideration of revision, the GHSWG held discussions and decided to revise both JIS based on the revised 9th edition of the UN GHS document, and drew up a plan (plan starting from FY2023) to proceed with the revision work.

TOPICS

TOPIC 1 LRI Activities

The Long-range Research Initiative (LRI) is an initiative launched by the ICCA to study the effects of chemical substances on human health and the environment as a global voluntary initiative underway through cooperation among chemical industry associations in Japan, the United States, and Europe.

The JCIA LRI has adopted five new research projects in FY2022 from the following research themes: development of alternative methods to animal testing; research on human exposure; safety assessment of chemical substances with new properties; and development of evaluation methods to promote safety assessment under chemical substance related laws and regulations.

The findings of LRI research are reported at regular annual meetings. The meeting for FY2022 was held online on August 26, 2022. In addition to reports on the results of completed research topics and on progress on ongoing research topics, a symposium was held at the same time to discuss the theme of further promotion of the development of alternative test methods for animal experiments and their practical application.

JCIA has established the JCIA LRI Awards to recognize researchers who have generated outstanding research results. In FY2022, winners of the Eighth Japanese Society of Toxicology LRI Award and the Seventh Japanese Society for Alternatives to Animal Experiments LRI Award were Professor Gi-Wook Hwang (Faculty of Pharmaceutical Sciences, Tohoku Medical and Pharmaceutical University), and Lecturer Masaki Nishikawa (Graduate School of Engineering, Tokyo University), respectively.

TOPIC 2 FY2022 JIPS Awards

JCIA presents the JIPS Award to member companies that have made outstanding efforts in voluntary activities related to risk assessment and risk management of chemicals in consideration of the supply chain (JIPS activities). The JIPS Awards for FY2022 were reported at a meeting of the Chemicals Management Committee held on March 2, 2023, with Resonac Corporation winning the Grand Prize and Kao Corporation winning an Excellence Award. In addition, Resonac Corporation gave a special lecture on the theme of sustainability initiatives at Resonac.



Grand Prize: Resonac Corporation
From left: Ikeda, Ogawa, Yoneda, Nishioka, Sato



Excellence Award: Kao Corporation
From left: Mizooku, Kameyama, Koike, Yamane

TOPIC 3 Chemical Risk Forum and Risk Assessment Seminar (for adults)

JCIA has operated the Chemical Risk Forum as a training forum for workers who conduct risk assessments of chemicals since 2008. In FY2022, a total of 10 sessions were delivered online, which included various activities, such as lectures on risk assessment fundamentals, training on tools necessary to conduct risk assessments, and information on topics such as trends in regulations both in Japan and overseas. The general course, which participants could freely choose to attend at the venue or online, and the in-house online course, which could be widely used for in-house training, were offered to a total of approximately 4,000 participants from a wide range of business fields.

Furthermore, the Risk Assessment Seminar was held jointly with the Chemical Risk Forum, with a total of 72 people attending the elementary course and the practical course, which correspond to the worker risk assessments required by the Industrial Safety and Health Act. The elementary course covered knowledge and risk assessment methods necessary for chemicals management, while the practical course introduced simplified measurement methods and explained the key points of the revision of the Industrial Safety and Health Act and how to respond to the revised law.

TOPIC 4 Chemical management in the Supply Chain

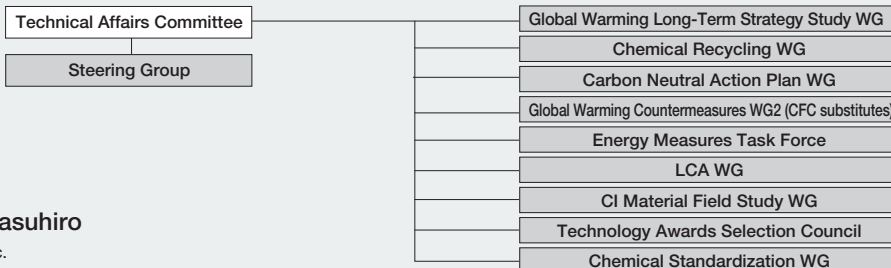
To promote appropriate chemical management in the supply chain, JCIA has provided support for development of an appropriate management infrastructure related to domestic and international promotion of the chemSHERPA, a scheme to facilitate sharing of information on chemical substances contained in products, operated and managed by the Joint Article Management Promotion-consortium (JAMP). We also responded to the Global Automotive Declarable Substance List (GADSL) prepared and maintained by the Global Automotive Stakeholders Group (GASG), whose membership represents automakers, auto parts makers, and chemical companies in Japan, North America, and Europe through means including submittal of opinions on its maintenance and management, from the standpoint of the chemicals industry. Furthermore, we also cooperated in maintenance and preparation of international standards through participation in organizations including the Japan committee and working group for the TC111 international environmental standard on electric and electronic devices, being advanced by the electric and electronics industry, including the Japan Electronics and Information Technology Industries Association (JEITA). We have begun development of a new information communication system, Chemicals Management Platform (CMP), in cooperation with the automotive and electrical/electronic industries.



Technical Affairs Department

Activity Report: Technical Affairs Committee

Committee Chairman, HOSOMI Yasuhiro
 Managing Executive Officer, Mitsui Chemicals, Inc.



Note: WG/Working Group

Efforts to Carbon Neutral and Recycling Society

In the Keidanren Carbon Neutrality (CN) Action Plan, the CO₂ emission reduction target for FY2030 was revised to a higher target. We will continue to make various efforts to realize CN by 2050 under the new target. In addition, we will continue to fulfill the role of the chemical industry as a solution provider that contributes to the reduction of CO₂ emissions in a wide range of areas through its products and technologies toward the realization of a carbon-recycling society. As the Technical Affairs Committee, we will strive to achieve these goals by further deepening cooperation among our members.

Activity Outline

We actively participate in activities related to preventing global warming and creating a recycling society, and work to tackle various issues. In addition, we promote the chemical industry as a solution provider for global warming by responding to the government's policy for the realization of GX, strategic standardization of chemical recycling, support for the improvement of LCA response capabilities, and activities in the E&CC LG at ICCA.

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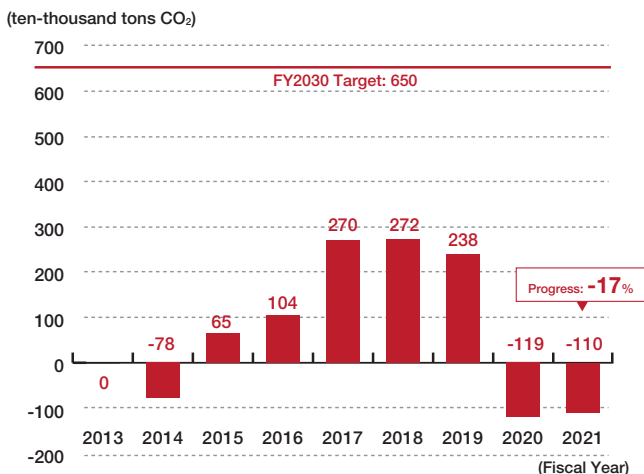
Carbon Neutral Action Plan FY2021 Results and New Targets for FY2030

The FY2030 target in the Carbon Neutrality Action Plan is a reduction of 6.5 million t-CO₂ compared to BAU based on the FY2013 level and a reduction of 6.79 million t-CO₂ in the absolute amount. In contrast, the results for FY2021 were an increase of 1.1 million t-CO₂ (progress rate -17%) compared to BAU, and an absolute reduction of 5.93 million t-CO₂ (progress rate 87%). This is mainly because, although the impact of the production volume reduction due to the COVID-19 pandemic is on a recovery track compared

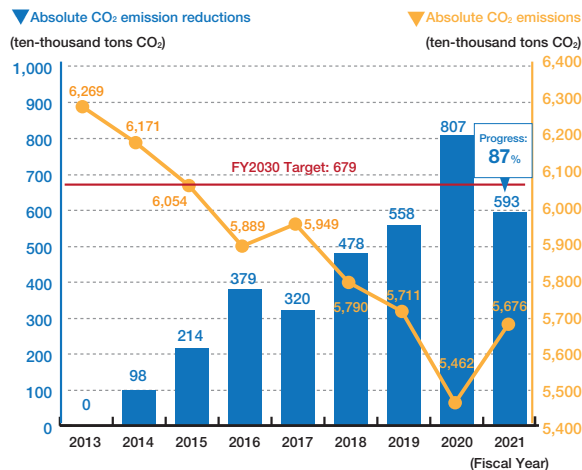
to FY2020, production is still not fully back to the situation before the pandemic. In addition, as in previous years, we were able to conduct a survey with a 100% collection rate of questionnaire forms, thanks to the cooperation of participating companies. The survey report was submitted to the Japan Business Federation and the Ministry of Economy, Trade and Industry, and was duly assessed by the Chemicals and Nonferrous Metals Working Group of METI's Industrial Structure Council.

In March 2023, we reviewed the FY2030 CO₂ emission reduction target of the Keidanren Carbon Neutrality Action Plan,

CO₂ emission reductions compared to BAU (electricity emission factor: fixed)



CO₂ emission reductions and emissions (electricity emission factor: adjusted)



and decided on a new target of 32% absolute reduction (20 million tons-CO₂ reduction) from the FY 2013 level. The new target uses only absolute emissions amount as an indicator to clearly show the chemical industry's commitment to the target.

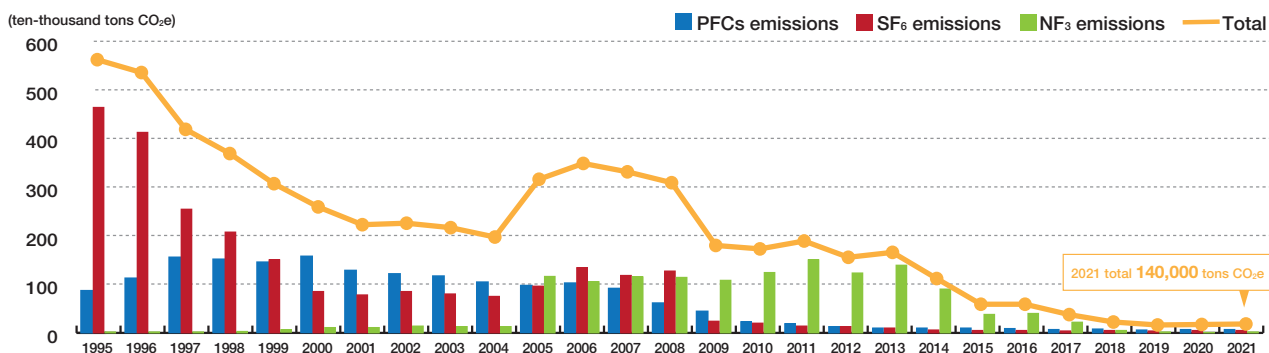
JCIA's activities will be based on this new target from FY2023.

	Base year	Absolute amount	BAU comparison
New target	FY2013 (in accordance with the global warming prevention plan)	32% reduction (20 million t CO ₂ reduction)	Not set
Previous target	FY2013 (in accordance with the global warming prevention plan)	10.7% reduction (6.79 million t CO ₂ reduction)	6.79 million t CO ₂ reduction

Achieved FY2030 Targets for Three CFC Substitutes

Efforts to reduce emissions of three gases (PFCs, SF₆, and NF₃) by 2021 compared to the base year of 1995 achieved the 2030 target for all three gases (PFCs: 97% against 90% reduction by 2030; SF₆: 98% against 90% reduction by 2030; NF₃: 99% against 85% reduction by 2030.) The efforts to reduce emissions during the production of 3 gases were reported as an example of target-achieving industry by the Working Group on measures to deal with Fluorocarbons of the Chemical Policy Subcommittee under METI's Industrial Structure Council.

PFCs, SF₆, and NF₃ emitted during manufacturing process



TOPICS

TOPIC 1 Activities Related to LCA

The avoided emissions of CO₂ achieved by converting detached houses to ZEH (net zero energy house) was calculated and published on the JCIA website. According to this study, if 300,000 ZEH energy-saving standard houses are built in 2030, the GHG avoided emissions based on the 30-year flow base is calculated to be 7.26 million t-CO₂eq compared to the conventional average house, which reflects the housing composition in 2020 (<https://www.nikkakyo.org/node/1047>).

In addition, in order to enable companies in the chemical industry to accurately calculate and disclose their carbon footprints, we prepared the Guidelines for Calculation of Carbon Footprint of Products in the Chemical Industry as the chemical industry's own standards and rules based on the knowledge of each company in the industry and in accordance with international rules and the Ministry of Economy, Trade and Industry's CFP calculation guidelines, and released them in March 2023 (see page 7 for details).

TOPIC 2 Long-term Strategy for Global Warming

In order to achieve carbon neutrality in the chemical industry by 2050, we have calculated and announced that the cumulative amount of carbon neutrality-related investment in the chemical industry by 2050 is approximately 7.4 to 9.7 trillion yen (approximate estimate).

At the 5th General Assembly of the Diet members caucus for strengthening measures in decarbonization of steel and heavy chemical industries (held on June 8), we explained that carbon cycle of raw materials is also very important in the chemical industry and deepened their understanding (see page 7 for details).

At the 6th Joint Meeting of the Hydrogen Policy Subcommittee and the Subcommittee on Ammonia and Other Decarbonized Fuel Policies (held on November 16) hosted by the Ministry of Economy, Trade and Industry, we explained the applications of hydrogen and ammonia in the chemical industry, demand scale, issues and policy requests toward GX seen in the chemical industry.

TOPIC 3 Chemical Recycling

It is important to build a sustainable society by utilizing all carbon sources and recycling them into a wide range of chemical products, not just plastics. Based on this concept, we believe it is important to design strategic international rules and ensure consistency in the efforts of each company, and we have reorganized the existing Waste Plastics CR WG into the Chemical Recycling WG to accelerate discussions on how strategic standardization should be with market creation and social implementation in mind, to further promote chemical recycling.



Public Relations Department

Activity Report: Public Relations Committee

Committee Chairman, KOGA Meiko

Executive Officer, SEKISUI CHEMICAL CO., LTD.

Public Relations Committee

Chemistry Day Promotion WG

Note: WG/Working Group

For Raising the Presence of the Chemical Industry

The chemical industry, which supplies products with a wide variety of functions, is expected to contribute to the realization of carbon neutrality by 2050 as a solution provider for various issues. The Public Relations Committee will widely disseminate information on the activities of JCIA and the Dream Chemistry 21 Project, and conduct communication activities with society to contribute to enhancing the presence of the chemical industry, which is working toward the creation of a sustainable society.

Activity Outline

The Public Relations Committee communicates information to society at large through the media on the chemical industry's initiatives and JCIA's activities related to the environment, health, safety, and human resource development. The committee also communicates the usefulness and attractiveness of chemistry to young people through chemistry-related participatory events and video distribution.

FOCUS

JCIA's Communication

JCIA communicates information in a timely manner on the chemical industry's efforts to realize a sustainable society and JCIA's major activities through the chairman's press conference, press releases, press coverage, and the JCIA website. In FY2022, we communicated as appropriate and emphasized the importance of the estimated amount of investment in the chemical industry to achieve carbon neutrality (CN), the review of the CO₂ emission reduction targets in the CN Action Plan, the creation of guidelines for calculating the carbon footprint of chemical products, as well as responsible care activities, LRI activities of JCIA, activities of the Japan Initiative for Marine Environment (JaIME), and human resource development measures.

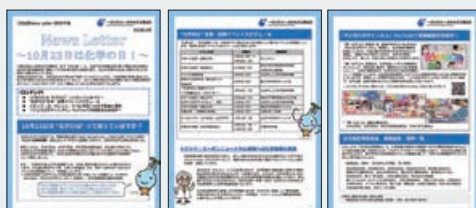
In addition, we introduced the chemical industry's and JCIA's activities to our members and a wide range of stakeholders through our annual report and the Chemical Industry of Japan in Graphs, which are published annually, and our monthly e-mail newsletter, PR Net.



TOPICS

TOPIC 1 Promoting Awareness of Chemistry Day

JCIA is working to promote awareness of Chemistry Day and Chemistry Week* as a priority theme for enhancing the presence of the chemical industry. In FY2022, we planned and placed special advertisements in general newspapers and specialized newspapers for October 23, Chemistry Day. "JCIA News Letter: October 23 is Chemistry Day!" was also produced and distributed to media reporters, and posted on the JCIA website. In addition to the origin of Chemistry Day and information on related events, the news letter introduced the chemical industry's contribution to achieving carbon neutrality and the Kid's Chemistry Channel to raise awareness of Chemistry Day and the chemical industry.



News Letter

* In 2013, the Chemical Society of Japan, the Japan Society of Chemical Engineers, the Japan Association for Chemical Innovation, and the Japan Chemical Industry Association designated October 23 as Chemistry Day and the Monday through Sunday including October 23 as Chemistry Week in order to promote the importance of chemistry and the chemical industry, which contribute greatly to our lives and economy, and the appeal of chemistry that supports our daily lives.

TOPIC 2 Renewal of the JCIA Website

In March 2023, the JCIA website (for the general public) was renewed and released to the public. In addition to summarizing our efforts to address issues facing the chemical industry and the activities of JCIA, we have created a website with a responsive design that can be viewed from smartphones and tablet devices, aiming to make it easier to understand and use. We hope you will find it useful.





Activities of the Dream Chemistry 21 Project in FY2022

The Dream Chemistry 21 Committee, consisting of JCIA, the Chemical Society of Japan, the Society of Chemical Engineers Japan, and the Japan Association for Chemical Innovation, has designated October 23 as Chemistry Day and the week including that day as Chemistry Week to implement and support related events. The committee also organizes various events to convey the wonder and fascination of chemistry to children and to encourage their interest in the field.



Chemistry Day campaign banner

EVENT

What? Why? Science Experiment Lab

This is a participatory event (6 times a year) for 1st to 4th graders to experience the wonders of chemistry and think about why and how things happen. Experiments, crafts, and observations are conducted with junior/senior high school teachers and university faculty members as instructors in order to deepen interest in and understanding of chemistry and chemical products. Due to the impact of the COVID-19 pandemic, the event was held three times in FY2020 and once in FY2021. In FY2022 we took thorough measures to prevent infection and held a total of six sessions, allowing a total of approximately 200 elementary school students to experience the fun of chemistry experiments.



Chemistry Grand Prix 2022

We hold the Chemistry Grand Prix every year, in which junior and senior high school students from all over Japan compete in chemistry (jointly sponsored with the Chemical Society of Japan). The Chemistry Grand Prix 2022 had 3,215 applicants, and the first round of the competition (online examination) was held on July 18, 2022, and the second round was held from August 23 to 25, 2022. In the second round, 70 applicants took a written test involving experiments, and the five applicants with the highest overall scores were awarded the Grand Prix Award. In addition, the top-scoring winners of the Grand Prix were sent to represent Japan at the International Chemistry Olympiad.



Kids' Chemistry Experiment Show

This is a participatory event for elementary school students in which companies and organizations conduct elaborate experiments, allowing them to touch, create, and think about chemistry. The event was suspended after 2020 due to the spread of the COVID-19 pandemic, but is scheduled to be held in Tokyo in the summer of 2023 for the first time in four years.

Dispatch of Students to Represent Japan at the International Chemistry Olympiad

The International Chemistry Olympiad is a chemistry festival where high school students from around the world compete in chemistry and deepen their friendship. The 54th Olympiad was held in China online from July 10 to 18, 2022, with 326 participants from 84 countries and regions, and all of the four students representing Japan won gold medals, making an unprecedented achievement (only about 10% of the participants win gold medals).

After the competition, the four representatives paid a courtesy visit to the Ministry of Education, Culture, Sports, Science and Technology, where they received an award from Minister Keiko Nagaoka, followed by a meeting with State Minister Fusae Ota of the Ministry of Economy, Trade and Industry.



Kid's Chemistry Channel distribution begins



In July 2022, we launched the Kid's Chemistry Channel on YouTube in place of the Kids' Chemistry Experiment Show, which has been suspended since 2020, and began distributing videos of chemistry experiments conducted by chemical companies and organizations. Through video distribution, the channel introduces children to the fun, enjoyment, and role of chemistry.



The Dream Chemistry 21
Project official website is here. →





International Affairs Department

Activity Report: International Activities Committee

Committee Chairman, ASADA Koji

Managing Executive Officer, DIC Corporation



Gathering Information on Trade Issues and Dealing with Unfair Trade

While the use of free trade agreements and economic partnership agreements (EPAs) such as TPP11 (CPTPP) and RCEP is expected, the environment for international trade is changing, including the promotion of WTO reform, market-distorting industrial subsidies, and business and human rights. In this context, we will work with the government to advocate the wishes of chemical companies with regard to EPAs, remediation of unfair trade, trade remedies, and requests for tariff revisions. We will also work on realization of a sustainable society and development of the chemical industry through ICCA activities and interaction with business associations in China, South Korea, etc.

Activity Outline

The committee strives to ascertain trade issues related to the chemical industry and provide information to member companies. In addition, it gets authorities to reflect the opinions of the domestic chemical industry, strengthens its relationships with the chemical industries of China, South Korea, and other overseas chemical-related organizations through dialogue, and participates in the administration of the ICCA. By doing so, the committee deals with the association's international affairs.

FOCUS

Video Message Shown at China Petroleum and Chemical International Conference

The Japan-China Chemical Industry Conference, which has been held alternately in Japan and China since 2015, was postponed for the third consecutive year in FY2022 due to the spread of the COVID-19 pandemic. However, JCIA Chairman Fukuda, Director General Shindo, and Japan Petrochemical Industry Association Chairman Iwata sent video messages respectively to the China Petroleum and Chemical International Conference (CPCIC) held in Ningbo, Zhejiang Province, China, in November.

Chairman Fukuda said, "The chemical industry is in a position to create new value and lead other industries toward the realization of a sustainable society and carbon neutrality. It is important to

strengthen international cooperation and communicate internationally that the chemical industry is a solution provider for social issues, and we would like to contribute to the sound development of the chemical industry in Japan and China while further deepening cooperation with the CPCIF."

Director General Shindo introduced specific initiatives by JCIA and said, "China and Japan are working actively together to realize the development of a sustainable and resilient society. We hope to overcome the COVID-19 pandemic and further strengthen the partnership between the two countries through the Japan-China Chemical Industry Conference, along with the continuous exchange of information and opinions."

TOPICS

TOPIC 1 13th Japan-South Korea Annual Meeting Held Online

In December 2022, the 13th Japan-South Korea Annual Meeting was held. This meeting has been held annually since 2010 by JCIA and the Korea Chemical Industry Council (KOCIC) with the aim of developing the chemical industries of both countries and maintaining and strengthening relations between them. Due to the impact of the COVID-19 pandemic, the meetings were held online this year as well. At the meeting, JCIA and KOCIC explained their specific efforts on the themes of goals and plans for achieving carbon neutrality by 2050 and the status of efforts for chemicals management regulations in Europe, and actively exchanged opinions. In addition, JCIA introduced the revision of the ministerial ordinance on the Industrial Safety and Health Act promulgated in May 2022, especially the contents of the revision regarding SDS (safety data sheets).



TOPIC 2 Holding a Hybrid Seminar on Rules of Origin

Every year, JCIA invites instructors from Tokyo Customs to hold a seminar on Rules of Origin. In FY2022, the meeting was held in a hybrid format in December, co-hosted with the Kansai Chemical Industry Association, with approximately 90 participants. Understanding the rule of origin is important to obtain lower tariff rates (EPA preferential rates) on imports and exports with economic partnership agreement (EPA) partner countries. In the meeting, an overview of EPAs, how to check preferential tariff rates, and rule of origin were explained, as well as a case study using chemical products as an example. In addition, the requirements for authorized operators under the authorized economic operator (AEO) system and case studies of the system were also explained.



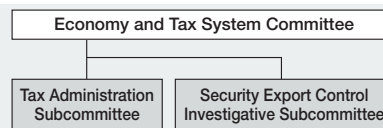


Department of Business/Economic Information

Activity Report: Economy and Tax System Committee

Committee Chairman, KASUYA Toshiro

Senior Executive Officer, AGC Inc.



Aiming for New Growth of the Chemical Industry in a Rapidly Changing Social Environment

The economic environment surrounding the chemical industry is becoming increasingly uncertain amid the recent international situation, with concerns of a global economic recession due to high energy and raw material prices and monetary tightening in various countries. Meanwhile, in order to promote GX and achieve further growth, it is necessary to promptly address various issues such as innovation creation under any circumstances. In response to these challenges, we will strive to make proposals on regulations and systems, such as the tax system, and disseminate useful information for operating businesses.

Activity Outline

As various deregulation and tax system revisions are made for the development of the Japanese economy, in order to respond to these developments and make it possible for the chemical industry to achieve further growth, we gather and share information on the economy and tax system and make recommendations and requests for policies. We also implement responses to current issues related to the economy and business as appropriate.

FOCUS

FY2023 Requests for Revisions to the Tax System

- Expansion of the tax system to promote innovation such as research and development**
 - Expansion of the tax system to promote open innovation
 - Expansion of R&D tax credits and relaxation of requirements
- Establishment of a tax system to promote capital investment**
 - Addition of intermediate materials production facilities with significant decarbonization effects to the tax system for promoting investment related to carbon neutrality, etc.
- Development of tax system related to international taxation**
- Review of global warming tax in the context of overall policies conducive to growth**
- Exemption of gasoline tax and petroleum and coal tax on raw materials for manufacturing petrochemical products from the main taxation system**

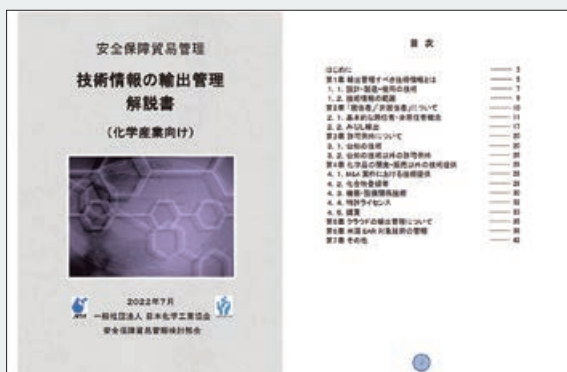
In FY2022, we have identified the five priority request issues on the left to promote capital investment for the creation of breakthrough innovation and decarbonization that will contribute to growth toward achieving carbon neutrality.

We also made joint requests in cooperation with other industry associations, and in particular, we worked closely with the Ministry of Economy, Trade and Industry on the R&D tax system, which resulted in the extension of the deadline and the expansion of the system. Going forward, we will continue to request further expansion of the tax system to accelerate innovation, and we will also request expansion of the system for capital investment to promote investment in the chemical industry to achieve carbon neutrality.

TOPICS

TOPIC 1 Compilation of an Export Control Manual for Technical Information

The Security Export Control Investigative Subcommittee sets an action plan to develop useful operations tools for security export control staff of member companies. In FY2022, the committee compiled a Q&A-style guide on export control of technical information, a topic that is



becoming increasingly important in light of the recent international situation but also a difficult one to understand, and posted it on the JCIA member website.

TOPIC 2 Responding to Current Global Issues

As countries continue to work toward carbon neutrality, we shared information on the EU's Carbon Border Adjustment Mechanism, focusing on the progress of institutionalization and its impact on Japan, and proposed opinions in conjunction with the International Affairs Department.

In Japan, the Cabinet approved a basic policy for the realization of GX and a bill was submitted to the Diet. In light of this, we worked with the General Affairs Department and the Engineering Department of the JCIA to share information with members, including holding a briefing by the Ministry of Economy, Trade and Industry. In particular, information from the perspective of how carbon pricing would affect the tax system was utilized by the Tax Administration Subcommittee to set the direction of requests for tax system reform.

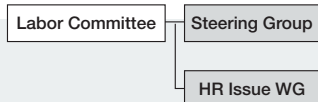


Labor Department

Activity Report: Labor Committee

Committee Chairman, TAKEDA Makoto

Senior Executive Officer, Nippon Kayaku Co., Ltd.



Note: WG/Working Group

Continuing to Promote Support for Human Resource Development and Appropriate Information Sharing with Member Companies

In FY2022, all 8 sessions of the Human Resources & Labor Affairs Staff Development Seminar (held every other year) were held in person for active discussions. On the other hand, a training program for production site leaders at chemical plants used an online system. We also continue to gather and disseminate various types of labor information, such as that on wages, bonuses, etc., and regularly hold information sharing meetings with labor organizations. We will continue to promote the sharing of meaningful information and provide human resources development support for member companies.

Activity Outline

We offer support for human resource development through Human Resources & Labor Affairs Staff Development Seminars, training for production site leaders, and HR Issue working group-driven activities as well as provide opinions to the government regarding labor-related measures and law revisions through Keidanren. We also regularly exchange information with labor union organizations to maintain good relationships.

FOCUS

Human Resources & Labor Affairs Staff Development Seminar

We held a total of eight biennial Human Resources & Labor Affairs Staff Development Seminar from May to December 2022.

In addition to thinking and learning about human resources and labor affairs functions within management, this seminar aims to create a network of personnel involved in the same human resources and labor affairs duties within the chemical industry, and is intended for participants in the mid-level HR manager level.

The seminar was conducted with thorough measures against the COVID-19 pandemic infection in place, and none of the 10 trainees from 10 companies missed a single class and engaged in heated discussions each time in response to questions posed by the lecturers.

At the final meeting, all participants gave a presentation titled "Human Resource Management Strategy That I Think is Necessary for My Company" on issues that their company faces and what

could be done to solve the problem from a human resources perspective. Presentations were followed by a lively exchange of opinions. It is hoped that participants will make use of not only the business and management perspectives they acquired through the eight meetings but also their relationship with coworkers that makes a candid expression of opinion possible.



TOPIC

Renewal of Training for Chemical Plant Production Site Leaders

The Training for Chemical Plant Production Site Leaders started in FY2016 for member companies as well as companies that have difficulty holding training sessions independently. The training is a package of lectures on process safety and disaster prevention, occupational health and safety, and risk assessment. Before the spread of the COVID-19 pandemic, the training was conducted in person, but switched to web-based training in FY2020, and was conducted in June, August, and October of FY2022 and March of 2023. A total of 804 participants have participated so far.

The textbook has been revised twice to cover more accident cases, but in light of the fact that it was much too focused on detailed technical content, a new textbook that is easier to understand for on-

site leaders was created in cooperation with the Environment and Safety Department, for a renewed training. The revised text includes a new section on learning how to be a field leader.

In addition, the concept of process safety capability is more carefully explained, and participants are encouraged to deepen their understanding of the relationship between the causes of accidents and safety infrastructure by watching accident case studies on DVD and discussing what was the root cause of these accidents. Furthermore, the content of the training is designed to clarify how the training should work on participants' awareness, as well as what the participants should specifically implement after returning to their workplaces.

The renewed training was conducted in person in March 2023, with thorough measures taken to prevent the COVID-19 pandemic. We will continue to implement the program in FY2023.



Three JCIA Awards

The 47th JCIA Safety Award

These awards are conferred on chemical plants that have achieved high-level safety records through occupational health and safety and process safety and disaster prevention activities and are implementing extremely excellent safety initiatives, which serve as models for the industry. We hold the safety symposium which consists of presentations by representatives of the award-winning sites as best practices regarding their safety activities, and a panel discussion among the representatives of the sites to discuss the major theme of "how to maintain disaster-free." Many member businesses get inspired these as reference-models for their own safety activities.

Award	Award Winner
JCIA Annual Safety Award Grand Prize	Denka Company Limited Shibukawa Plant
JCIA Annual Safety Award First Prize	Toray Industries, Inc. Nasu Plant
JCIA Annual Safety Award First Prize	DIC PLASTICS Inc. Saitama Plant
JCIA Annual Special Safety Award First Prize (SME establishments)	Asahi Kasei Corporation Wakayama Plant

The 55th JCIA Technology Award

JCIA Technology Awards recognize companies that have contributed to the progress of the chemical industry and economic society through the development and industrialization of excellent chemical technologies in order to promote chemical technologies. JCIA awards the Grand Prize, the Special Technology Prize, and the Environmental Technology Prize, and values their excellent achievement.

Award	Award Winner	Awarded Theme
Grand Prize	Resonac Holdings Corporation	MCL-E-705G/MCL-E-795G that achieves mass production of low thermal expansion copper clad laminates in organic substrates for logic semiconductors and base materials in industry
Special Technology Prize	Tokuyama Dental Corporation	Development and launch of OMNICHROMA, the world's first dental restorative material based on structural color
Environmental Technology Prize	Denka Company Limited	Development and commercialization of carbonating admixture LEAF that contributes to realization of CO ₂ absorption and fixation concrete

The 17th JCIA Responsible Care (RC) Award

These awards, which are conferred on individuals or groups that have contributed to promoting RC activities, are aimed at further motivating and energizing the people involved in RC activities.

Award	Award Winner	Awarded Theme
Grand Prix Award	Sumitomo Chemical Company Limited, Responsible Care Department (Energy & Climate Change)	Our Contribution to the Achievement of Carbon Neutrality for Society at Large
Jury's Special Award	Kao Corporation, SCM Division, Global SCM Strategy Center, Human Capital Strategy	Fostering leaders who support production divisions of Kao (Kao Techno School)
Outstanding Award	Sanyo Chemical Industries, Ltd., Kyoto Factory, Environment and Safety Management Department	Activities that listen to the voices of cooperating companies
Award for Effort	Polyplastics Co., Ltd., Fuji Plant, General Affairs/Safety & Environment Department	Maintaining reliability with members of local areas - Continuous communicative activities under the COVID-19 Situation -

JCIA Annual Safety Award Grand Prize

Denka Company Limited Shibukawa Plant

I would like to express our deep appreciation for the honor of being awarded the JCIA Annual Safety Award Grand Prize.

Our company places the highest priority on safety, and in light of past disasters, we are aware that functional safety is not sufficient, and we are actively investing in equipment for fundamental safety. In addition, all employees at our plant, including those of our subcontractors, maintain close communication, share their knowledge, and develop distinctive safety activities. We are very honored to have received this award in recognition of these efforts.



Tetsuo Noguchi
Shibukawa Plant, Denka Company Limited

Grand Prize

Resonac Corporation Electronics Business Headquarters

We are very honored to receive the JCIA Technology Grand Prize. The copper clad laminates with low thermal expansion, is related to the development of high-functional products.

We were able to make technological progress by using a group of materials that are close to the origin among Japan's high-performance chemical materials. We are also very happy to have contributed to the development of the information communication society and industrial development through our substrates for logic semiconductors. We will continue to contribute to the further development of the advanced information and telecommunications society through our daily technological development and accumulation.



Masahisa Oze
Laminated Materials Development Department, Department Manager
Resonac Corporation Electronics Business Headquarters, R&D Center

RC Grand Prix Award

Sumitomo Chemical Company Limited, Responsible Care Department

We would like to express our sincere appreciation for receiving the RC Grand Prix Award. We are very honored that our Scope 3 and product carbon

footprint (CFP) initiatives have been highly regarded. It is important to grasp and reduce GHG emissions throughout the entire supply chain and product life cycle in order to realize a carbon neutral society. We will continue to work together with various stakeholders toward the same goal.



Dr. Mayumi Hayashi
Sumitomo Chemical Company Limited, Responsible Care Department, Manager

Introduction to the Chemical Products PL Consulting Center

Background of Establishment

When the Product Liability (PL) Act was promulgated in 1994, the Chemical Products PL Consulting Center was established as an independent organization within JCIA because of the need to create an out-of-court dispute settlement system that draws on specialized knowledge of each product field.



<https://www2.nikkakyo.org/plcenter>

Activities

The Center consults on a wide range of issues related to chemical products sought from not only consumers but also businesses and Consumer Affairs Centers nationwide from a professional perspective. In FY2022, the Center responded to a total of 234 consultations.

The content and responses to all consultations received by the Center are compiled into a monthly report, the Activity Note, which is reported to the relevant departments and made public

on our website. In addition, Special Notes, Topics, and other related information are also posted monthly in the Activity Note to disseminate chemistry-related information. The annual activity report is also released on the website.

The Center also emphasizes on providing information that can help prevent chemical product accidents as well as providing information to consumers through lectures and publishing and distributing educational booklets. In addition to offering on-demand lectures for general consumers and businesses, the Center conducts lectures that meet the needs of clients as much as possible.

As for educational booklets, we edit the contents of the monthly Activity Note to create reader-friendly booklets that are easy to pick up and read. Currently, seven booklets are available, and in FY2022, we newly published *Be Careful of Accidents in Your Life III* and *IV*. These activity reports and educational booklets can be viewed on the Center's website. The updates on the website is also announced by news mail.

(Register your email address at pl@jcia-net.or.jp)



Phone consultation to the Chemical Products PL Consulting Center

Weekdays: 9:30–16:00
Number of consultations:
234 cases (results for FY2022)



Newsletter distribution

New information is provided through news email.
Register your email address at pl@jcia-net.or.jp



FY2022 activity report meeting

Activity Report meetings

Venues: Tokyo and Osaka

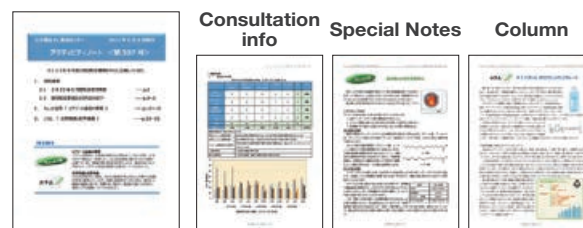


On-demand lecture dispatching

- For consumers
- For businesses

Provision of educational materials

Activity Note (Monthly report)



All consultations received by the Center and the answers to them are stated here. It also includes Special Notes and Column introducing topics related to chemistry.

Publishing booklets

Be Careful of Accidents in Your Life III and *IV* (issued March 2023)



Reorganized the contents of the Activity Note for enhanced readability.

On-demand lectures in FY2022

Date of implementation	Subject	Client	Form
September 8, 2022	Activities of the Chemical Products PL Consulting Center	Kao Corporation Consumer Communication Center	Consumer seminar
September 14 and 30, 2022	Product Labeling is an Important Request from Manufacturers for Proper Use of Detergents, Cleaners, Hair Coloring Products, and Plastic Products	Consumers' Center of the Tokyo Metropolitan Government	Consumer seminar
October 21, 2022	Cosmetics	Consumers' Center of the Tokyo Metropolitan Government	Counselor training
November 15, 2022	How to Use Chemical Products Around You—Paying Attention to Product Labeling	Yokohama City Environmental Planning Bureau, Environmental Conservation Department	Consumer seminar
December 2, 2022	Danger of Mixing Products	Consumers' Center of the Tokyo Metropolitan Government	Tokyo Metropolitan Government consumer educator training



Information Distribution Services by JCIA

JCIA distributes the following email magazines to members. If you would like to receive an email magazine, please contact the relevant office.

Ankan-Net (Safe Environment Network)

In addition to information on revisions to laws and regulations concerning environmental preservation, process safety and disaster prevention, occupational health and safety, distribution safety, and chemical safety, as well as notices and notifications from administrative authorities and calls for public comments, JCIA also provides information on various related lectures and seminars in a timely manner.

Contact: Environment and Safety Department

RC net

This mail magazine is for member companies of the Responsible Care (RC) Committee. It provides information on RC-related events, such as RC activity report meetings; sponsored events, including informal member get-togethers, and member seminars; and calls for event sign-ups.

Contact: Responsible Care Department

Chemical Standardization Information Net

The Chemical Standardization Information Net provides information on seminars of related organizations and domestic and international trends in the field of chemical standardization. The email magazine is issued twice a month, and the current number of subscribers is approximately 100.

Contact: Technical Affairs Department

Chemical Management Net

We provide the latest information on trends in Japanese and overseas laws and regulations related to chemical management and on seminars sponsored by JCIA.

Contact: Chemicals Management Department

PR Net

We distribute information on JCIA sponsored events, such as seminars and Chemistry Experiment Shows, and subsequent event reports. The email magazine is issued once or twice a month, and the current number of subscribers is approximately 330.

Contact: Public Relations Department



Access and inquiries



7F Sumitomo Fudosan Rokko Building,
1-4-1 Shinkawa, Chuo-ku, Tokyo 104-0033

Access Information

Kayabacho St. (Tokyo Metro Hibiya Line, Tozai Line)
Approximately 3 minutes on foot from Exit 1 or Exit 3

Hatchobori St. (JR Keiyo Line)

Contact

General Affairs Department

TEL 03-3297-2550
FAX 03-3297-2610

International Affairs Department

TEL 03-3297-2576
FAX 03-3297-2612

Labor Department

TEL 03-3297-2563
FAX 03-3297-2606

Environment and Safety Department

TEL 03-3297-2568
FAX 03-3297-2606

Responsible Care Department

TEL 03-3297-2583
FAX 03-3297-2615

Dream Chemistry 21 Committee

TEL 03-3297-2555
FAX 03-3297-2615

Public Relations Department

TEL 03-3297-2555
FAX 03-3297-2615

Department of Business/Economic Information

TEL 03-3297-2559
FAX 03-3297-2606

Technical Affairs Department

TEL 03-3297-2578
FAX 03-3297-2606

Chemicals Management Department

TEL 03-3297-2567
FAX 03-3297-2612

Chemical Products PL Consulting Center

TEL 03-3297-2602
FAX 03-3297-2604

Glossary

Term/abbreviation	Official name	Explanation
ACC	American Chemistry Council	
AEC	ASEAN Economic Community	The ASEAN Economic Community is one of the three pillars of the ASEAN Community, together with the ASEAN Political Security Community (APSC) and the ASEAN Socio Cultural Community (ASCC). The 10 member states of ASEAN (Indonesia, Cambodia, Singapore, Thailand, the Philippines, Brunei, Vietnam, Malaysia, Myanmar, and Laos) to become a single economic bloc.
AMEICC	ASEAN Economic Ministers and METI Economic and Industrial Cooperation Committee	AEM-METI (ASEAN-Japan) Economic and Industrial Cooperation Committee. A sub-organization of the ASEAN-Japan Economic Ministers' Meeting.
APEC	Asia-Pacific Economic Cooperation	Asia-Pacific Economic Cooperation Council (a framework for economic cooperation involving 21 countries and regions in the Asia-Pacific region).
APRCC	Asia Pacific Responsible Care Conference	Asia Pacific Responsible Care Conference. An international conference held for the purpose of disseminating and sharing information on RC activities in each country for the sustainable development of the chemical industry in the Asia-Pacific region. Conference organized by APRO.
ARCP	ASEAN Regulatory Cooperation Project	Regulatory cooperation project for ASEAN.
APRO	Asia Pacific Responsible Care Organization	Asia Pacific Responsible Care Organization (established in 2003 as an APRCC-supported organization). Currently chaired by Japan.
ASEAN	Association of South-East Asian Nations	Association of South-East Asian Nations. It is a regional cooperation organization for economic, social, political, security, and cultural affairs among 10 Southeast Asian countries. Its headquarters is located in Jakarta, Indonesia.
BAU	Business as usual	Natural case for which no special countermeasures were taken.
BIGDr.Worker	The Base of Information Gathering, sharing & Dissemination for risk management of chemical products.Worker	Evaluation software tool that JCIA developed to support chemical risk evaluations. It is possible to easily calculate the exposure concentration in the work environment and make evaluations.
CCU	Carbon Capture and Utilization	A technology that captures CO ₂ and uses it as a resource to make industrially useful substances such as olefins.
Cefic	European Chemical Industry Council	
CFP	Carbon Footprint of Products	Product carbon footprint. A method of quantitatively grasping the amount of greenhouse gas emissions throughout the entire life cycle of a product or service, from resource extraction, procurement of raw materials, manufacturing, processing, and distribution, to disposal and recycling.
chemSHERPA	Chemical information Sharing and Exchange under Reporting Partnership in supply chain	Information transmission scheme of chemicals in products
cLCA	carbon- Life Cycle Analysis	Carbon footprint and life cycle assessment. The CO ₂ emissions during the life cycle (material sampling, manufacturing, distribution, use, and disposal) of final product using chemical products and that of final product using comparative products are compared, and that difference is considered as emissions that increase when those chemical products were not used and calculated as net contribution to avoided emissions.
CLP	Classification, Labelling and Packaging of substances and mixtures	A regulation on the classification, labeling and packaging of substances and mixtures in the EU based on the GHS.
CN	Carbon Neutrality	Carbon Neutral. When the volume of CO ₂ emissions accompanying people's daily activities and CO ₂ absorption are in balance. The aim is to achieve effective zero emissions of CO ₂ , the cause of global warming.
COP	Conference of the Parties	"COP" itself means "Conference of the Parties." Usually, COP refers to the Conference of the Parties to the United Nations Framework Convention on Climate Change.
CPCIF	China Petroleum and Chemical Industry Federation	
E&CC LG	Energy and Climate Change Leadership Group	Energy and Climate Change Leadership Group, An organization within ICCA.
EPA	Economic Partnership Agreement	
GADSL	Global Automotive Declarable Substance List	List of substances already restricted or planned to be restricted worldwide by countries and published by the GASG with the possibility of being contained in automotive products.
GASG	Global Automotive Stakeholders Group	Organization constructed and established by representatives of automotive, automotive parts, and chemicals manufacturers in Japan, Europe, and United States for the purpose of continuously exchanging and sharing information through the supply chain of the global automotive industry in order to achieve reductions in the environmental load through the life cycle of automotive.
GHG	Greenhouse Gas	
GHS	Globally Harmonized System of classification and labelling of chemicals	Globally harmonized system concerning classification and labeling of chemicals. System for classifying chemicals by type and degree of hazard according to globally unified rules with labeling to make the information understandable at a glance and provide a safety data sheet. Issued from UN in 2003.
ICCA	International Council of Chemical Associations	
ICCM	International Conference on Chemicals Management	International conference on the management of chemical substances.

Term/abbreviation	Official name	Explanation
JaCVAM	Japanese Center for the Validation of Alternative Methods	Japanese Center for the Validation of Alternative Methods. An organization established at the National Institute of Health Sciences, Center for Biological Safety and Research, with the objective of contributing to the introduction of new alternative methods for animal testing as administrative testing methods that contribute to the promotion of the 3Rs (reduction, refinement, and replacement) regarding animal testing, while ensuring public safety in the safety assessment of work-related substances such as chemical substances, to the extent possible.
JaIME	Japan Initiative for Marine Environment	Japan Initiative for Marine Environment.
JIPS	Japan Initiative of Product Stewardship	Risk evaluation considering the supply chain and voluntary approaches by the industrial field on the basis of risk management.
KOCIC	Korea Chemical Industry Council	
LCA	Life Cycle Assessment	Method for objectively and quantitatively evaluating the environmental impact of all stages, from acquisition of materials for the product through production, use, disposal, transportation, etc.
LCI	Life Cycle Inventory	Indicates resource and energy input and emissions for products and services at all stages by looking at the whole life cycle from material purchasing to production, distribution, use, disposal, and recycling.
LRI	Long-range Research Initiative	Voluntary long-term research (activities that support studies on the impact of chemical substances on human health and environment over a long period of time based on funds invested by LRI member companies). The initiative is driven by the cooperation of three chemical associations from Japan, the U.S., and European countries (JCIA, ACC, and Cefic).
NAMs	New Approach Methods	A term used to describe a broad range of new methods, such as in silico approaches, in chemico and in vitro test methods, and exposure information in hazard assessment. High-throughput screening includes high-content methods as well as various omics technologies.
NF ₃	Nitrogen trifluoride	Nitrogen trifluoride is a type of greenhouse gas.
NITE	National Institute of Technology and Evaluation	
OECD	Organization for Economic Co-operation and Development	
RC	Responsible Care	Activities wherein each company handling chemical substances voluntarily secures the environment, safety, and health in all processes of development of chemical substances, manufacturing, distribution, use, final consumption, disposal, and recycling and then discloses the outcome of activities and communicates with society.
RCEP	Regional Comprehensive Economic Partnership	A regional free trade agreement consisting of 15 countries (Indonesia, Singapore, Thailand, Philippines, Malaysia, Brunei, Vietnam, Myanmar, Laos, Cambodia, Japan, China, Korea, Australia, and New Zealand), primarily Association of Southeast Asian Nations (ASEAN) members. Signed November 2020.
RCLG	Responsible Care Leadership Group	An organization within ICCA.
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals	Regulation on registration, evaluation, authorization and restriction of chemicals.
SAICM	Strategic Approach to International Chemicals Management	Compiled by the 2006 International Conference on Chemicals Management, this is a strategic approach toward international chemical management with 2020 as the target year.
SDGs	Sustainable Development Goals	Seventeen goals until 2030 concerning poverty, starvation, energy, climate change, industry and innovation as agendas of 2030 for sustainable development were adopted by the UN in September 2015. Successor of Millennium Development Goals.
SDS	Safety Data Sheet	Safety data sheet for chemical substances, containing information describing the safety of chemical substances. Formerly called MSDS in Japan.
SF ₆	Sulfur hexafluoride	Sulfur hexafluoride is a type of greenhouse gas.
TF	Task Force	Special team established to tackle particular urgent issues.
VOC	Volatile Organic Compounds	This is a general name for volatile organic compounds that evaporate into the air. It includes various substances such as toluene, xylene, and ethyl acetate.
WS	Workshop	Workshop. A participatory, interactive group learning experience in which participants do not only listen to the instructor's talk in a one-way manner, but rather participate in the discussion or experience it themselves.
WG	Working Group	Working group organized for promoting investigations and planning of particular problems.
Carbon Pricing	Carbon Pricing	General term for efforts to encourage reductions in emissions by attaching a price to carbon emitted by companies, households, etc. and placing a burden proportional to the volume emitted.
Japan-EU Economic Partnership Agreement	Japan-EU Economic Partnership Agreement	EPA between Japan and EU that came into effect February 1, 2019.
Japan-UK Comprehensive Economic Partnership Agreement	Japan-UK Comprehensive Economic Partnership Agreement	EPA newly concluded between Japan and UK because the Japan-EU Economic Partnership Agreement is no longer applicable as the UK left the EU. Came into effect January 1, 2021.
Trade Agreement between Japan and the United States of America	Trade Agreement between Japan and the United States of America	Agreement between Japan and U.S.A. to reduce/eliminate restrictive measures, such as customs and import quotas that came into effect January 1, 2020.
Product Stewardship	Product Stewardship	Activities to ensure the health and safety of people and minimize the impact on the environment through the whole product life cycle.

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October 23 is
Chemistry Day

Nikka-chan
JCIA's official character

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