

## For a Green and Clean World, Promise of the Future, Responsible Care

KRCC is an organization established for Responsible Care (RC), by institutions involved in petrochemicals, fine chemicals, fertilizers, and chlor-alkali, as well as the American Chamber of Commerce in Korea, the European Union Chamber of Commerce in Korea, and other chemical institutions.

RC incorporates activities to improve the environment, safety, and health in the chemical industry.

### Environment



Active and preemptive responses

### Safety



Sustainable development

### Health



Affluent and abundant human life

# Responsible Care

Commitment of the  
Chemical Industry to  
Sustainable Development

# 50

Issue No





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To pass on abundance  
for humankind  
A better world for  
future generations

The KRCC will strengthen  
its activities and roles for  
sustainable development with  
one mind and one heart

Responsible Care  
means international  
voluntary activities  
for the chemical industry

promote improvement  
of the environment  
and the safety and health  
of the people

**Responsible**  
Responsible Care Issue  
**Vol.50** **Care**

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Responsible Care® is a voluntary program in the chemical industry that continuously promotes the protection of the environment through safety and health improvement activities by pledging participants' commitment. It implements the program through management policies to protect the environment, safety, and human health throughout the entire lifecycle of chemicals, from the development of chemical products to their manufacture, sale, distribution, use, and disposal.



## Hosted Chemical Safety Policy Forum for Public-Private Communication and Agreement

The private sector, industry, and government openly operate the Chemical Safety Forum, which started in the first half of 2021 under the purpose of "Let's create a society safe from chemicals." They are actively pushing forward the Chemical Substance Registration and Evaluation Act (CSREA) and the Chemical Substances Control Act (CSCA).

### CSREA and CSCA Revision Trends

In the '2023 Chemical Safety Policy Forum Interim Report', held at FKI Hall on June 21, about 150 stakeholders attended virtually and in person and shared the progress of 4 topics discussed in 2023 through open dialogue. This paper will summarize and introduce the 'Improvement of the Hazardous Chemical Substances Designation Management System (Topic 2)' and the 'Improvement of Effectiveness in Production, Transmission, and Use of Chemical Substance Hazard Information (Topic 3)', which revealed the CSREA and CSCA Revision plans.

#### 1. Reorganization of the System to Designate and Manage Hazardous Chemicals According to Hazards

The system for designating and managing hazardous chemical substances has been continued from the Hazardous Chemical Substances Control Act.

In 2013, when the government enacted CSREA, it designated substances registered by companies as toxic substances through hazard screening. It has since performed risk assessments, designating hazardous chemicals as restricted, permitted, and banned substances.

With the implementation of CSREA, not only new chemical substances but also existing chemical substances are subject to hazard review, rapidly increasing the number of toxic substances. There is no disagreement over selecting harmful chemicals and managing them so that they can be used safely. However, regulatory burdens on the industry have increased rapidly as the obligations to comply with business licenses, handling standards, and handling facilities were automatically imposed (with the introduction of CSCA, even though hazardous chemicals designated as toxic substances vary in hazard degrees). Through this forum, a private-public-industry consensus was reached on classifying, designating, and managing, according to hazards, the existing toxic substances from the '2022 Toxic Substance Designation Management System Reorganization Study' into human acute hazardous substances, human chronic hazardous substances, and ecologically hazardous substances. Accordingly, 3 subtopics are being prepared for revision in CSREA and CSCA.

#### (1) Revision of the Definitions of Toxic Substances and Hazardous Chemicals and Management Plans for Prohibited, Restricted, and Permitted Substances

Toxic substances are designated as substances with acute toxicity, specific



target organ toxicity, repeated exposure toxicity, carcinogenicity/mutagenicity/reproductive toxicity, and aquatic environment hazard through hazard screening by the National Institute of Environmental Research. Each hazard will be divided into acutely hazardous to the human body, chronically hazardous to the human body, and ecologically hazardous substances according to the characteristics of toxicity and exposure route to establish reasonable management standards.

- **Substances that are acutely hazardous to the human body:** Chemicals that can cause harmful effects to the human body/property within a short time, either once or within 24 hours. Action is required to prevent workers from entering the workplace and to take priority in response to accidental oil leakage.
- **Chronic human hazardous substances** are chemicals that may cause cancer, mutagenicity, fertility abnormalities, or specific target organ toxicity in humans or animals due to repeated exposure. It is necessary to monitor them and minimize the effects of long-term, repeated exposure rather than short-term exposure.
- **Ecological hazardous substances:** Substances that cause harmful effects to aquatic organisms and ecosystems living in water through short- or long-term exposure, requiring measures to prevent leakage of oil into the aquatic environment.

In addition, there are a total of 306 laws and subordinate statutes, as well as 193 additional domestic laws that quote hazardous chemical terms in the main text. CSREA defines banned/restricted/permitted/toxic substances as hazardous chemicals, and CSCA even includes accident preparation substances. Two different definitions are used in other statutes and bylaws, causing confusion that will inevitably worsen if the current definition continues. In addition, if restricted and permitted substances are for the purpose of risk management, toxic substances and accident preparation substances are for hazard-based classification. Therefore, it is proposed that hazardous chemicals in the revised bill be used only for human acute/chronic/eco-hazardous substances and accident preparation substances.

## **(2) Hazardous Chemical Handling Standards, Handling Facility Standards, and Inspection Cycle**

Toxic substances will be divided into 3 categories according to their hazards to reform the designation system and revise the handling standards according to hazards. The criteria for Handling Hazardous Chemicals in [Appendix 1] of the CSREA Enforcement Rules include general regulations that anyone is obliged to comply with for handling facility maintenance, chemical accident prevention, emergency

measures, saving and storage, loading and unloading, container packaging, and transportation. Human-acute hazardous substances and substances with physical hazards require submission of the existing safety management plan to maintain the current CSCA implementation. Since chronic substances hazardous to the human body have a low risk of immediate danger, oil and leakage control and environmental discharge must be managed intensively to reduce human exposure. Thus, solids and liquids with low vapor pressure must be classified as low-diffusion materials, with plans to implement the following: (1) Workplace handling standards for workers, oil and leakage control, and management of handling facilities to minimize exposure to workers and local residents; (2) Managing handling facilities and emission survey to minimize exposure for nearby residents; (2) Environment-related chemical substance emission survey and emission reduction plan, Media Management Act (e.g. Link with Air Quality Conservation Act, Water Environment Conservation Act, Soil Environment Conservation Act, etc.); (4) Managing consumer products according to the Chemical Product Safety Act related to products and consumers.

To reasonably manage substances chronically hazardous to the human body, solid substances such as metals and metal chemicals are considered to have low physical risks and are less likely to spread in commercial conditions at room temperature. The following measures are proposed to classify liquids separately and inspect the handling facilities: (1) Periodic inspection every 3 years for those subject to writing chemical accident prevention and management plan group 2; (2) Regular inspection every 4 years for workplaces exempted from preparation; (3) Differentiated management for inspection-exempted businesses that handle very small quantities among the exempted workplaces.

Ecologically hazardous substances are managed as dangerous substances in accordance with the UN RTDG, US, Japanese, and European SEVESO guidelines. Since notices in nearby areas and external emergency response plans must be established, the plan is to submit a chemical accident prevention and management plan according to the prescribed quantity. In addition, it is difficult to recover all substances even if immediate measures are taken when ecologically hazardous substances are leaked out of the workplace. Thus, it has been proposed to install handling facilities such as emergency shut-off facilities and water collection facilities to block damage from accidents. Also, amendments to handling facilities, accident prevention facilities, damage reduction facilities, etc. have been disclosed at the statutory level. However, sub-statutory and notice revisions are prepared for

hazardous chemical handling facilities and management standards, so it is crucial for stakeholders from the industry and civil society to take an interest in and participate in follow-up measures thereafter.

### (3) Hazardous Chemical Business License

A revised bill has been proposed for accident preparation materials, human acute/chronic/ecological hazards, and hazardous chemical business licenses. Groups 1 and 2 of the Chemical Accident Prevention and Management Plan 2 are subject to business permission if they exceed lower-Tier (LT) quantities. If they exceed the LLT, they will be changed to a business report, and if they are lower, they will be amended to an exemption from reporting.

## 2. Improving the Practicality of Production, Transmission, and Use of the Hazard Information of Small Amounts of Chemicals

CSREA was enacted in 2015 in response to a humidifier disinfectant accident where a small amount of chemical substance caused a huge social impact. In accordance with the “No Data, No Market” principle, all new chemical matters were required to be registered, but in 2019, the act was amended to register only when manufacturing or importing 100kg or more per year. When the new administration took office in 2022, the industry requested to raise the registration standard for new chemical substances to 1 ton in accordance with the direction of rationalizing regulations, beginning discussions on system improvement at the end of last year. Accordingly, new chemical substances manufactured or imported in quantities of 1 ton or more are registered, and an amount less than this must be reported. The reporting system has been designed by benchmarking the European CLP regulation. Until now, hazard information was required to be submitted even for reporting new chemical substances, but it is true that hazard information has been insufficiently submitted. As a result, chemical hazard information was lacking in the supply chain, with even the minimum information for safe use not shared. The absence of hazard information does not mean the absence of hazards. Thus, if there is no information on the fact that there is no hazard, the user should predict the risk and establish self-management measures considering the hazard and exposure level when using the chemical. To improve this system, including these contents, we intend to establish the principle of thorough management while clearly clarifying substances without harmful information among small amounts of chemicals, in

addition to registering and reporting them.

To manage small amounts of chemicals, ‘substances without hazard information’ will be defined as ‘substances with no or insufficient information on chemical hazards prescribed by the Ordinance of the Ministry of Environment, such as acute toxicity and carcinogenicity.’ In addition, the ‘hazard’ of a chemical substance was classified into acute toxicity (acute dermal toxicity, acute oral toxicity, acute inhalation toxicity, skin corrosion/irritation, specific target organ toxicity (single exposure)) as well as chronic hazards (germ cell mutagenicity, carcinogenicity, reproductive toxicity, specific target organ toxicity, (repeated exposure)). An amendment was proposed to define substances with less than two of the acute hazards and less than one of the chronic hazards available as substances without hazard information.

The Chemical Safety Policy Forum is a new attempt and culture in which the government and civil authorities rationalize the Chemical Act 3 through communication and consultation. Civil society, industry, and government have been cooperating and working hard for a long time to understand each other’s positions and come up with a reasonable plan, unraveling the tangled threads of the past. Accordingly, the ‘Civil Society Opposing Deregulation’ and the ‘Industry Advocating Deregulation’ are now refining one voice of ‘rationalizing regulations’ in a communication forum called the Chemical Safety Policy Forum. Through a forum for communication and sharing, a system that more stakeholders can sympathize with is created, and furthermore, the Substance Registration and Evaluation Act (CSREA) and the Chemical Substances Control Act (CSCA) are evolving as such. 🌱



Check the Material Safety Data Sheet (MSDS)



Carry out chemical substance education



Wear a gas mask and gloves



Post the MSDS in a visible place



Ventilate during work



Consult a doctor in cases of bodily abnormalities

# Main Contents of RCLG in the First Half of 2023

## 1 Meeting Outline

- o Schedule: April 4-5, 2023, in-person and virtual
- o Host: ACC (American Chemical Council, ICCA Secretariat)
- o Participants: RC Leadership Group Chairperson and Representatives from Member States
- o Agenda



# Day 1

Time	Agenda	Note
22:00pm	Opening of the meeting Chairman's Opening Remarks Welcome by Host/Welcome new members Vice-Chair's Opening Remarks Welcome from Host Participant Introductions	RCLG Chair: Jeff Kovacs, ExxonMobil RCLG Vice Chair: Hidehiko Yashima, Mitsubishi Host: Tara Henriksen, ACC
23:30pm	Review Agenda, Previous Meeting Minutes and Key Documents	Jeff Kovacs, ExxonMobil Cherie Weible, ACC
01:00am	ICCA Self-Assessment Tool Working Group	Steven de Regter, BASF
02:00am	KPI Enhancement Project	Steven de Regter, BASF Phil Scott, CIA Tara Henriksen, ACC Cherie Weible, ACC
03:00am	Lunch	
04:00am	Sustainability - Review results of ICCA Sustainability Survey	Karin Krchnak, ACC
4:20am	RCLG Regional Focus: Latin America	To Be Determined
4:40am	Pannel: ACC Members active in Latin America	To Be Determined
05:00am	Adjourn	

# Day 2

시간	Agenda	Note
10:00pm	Colombia Pilot Project	Ana Ocampo, RC Colombia
11:00pm	Workshop: Circularity	To Be Determined
00:30am	Communications / Responsible Care International Marketing Strategy	Andrew Fasoli, ACC Kelly Montes de Oca, ACC
01:30am	ICCM-5 Planning and Support	Raleigh Davis, ACC
02:00am	Plastics Treaty Negotiations	Stewart Harris, ACC
02:20am	RCLG Budget Overview	Cherie Weible, ACC
02:40am	Review meeting outcomes/summary of action items	J.Kovacs, ExxonMobil
03:00am	Adjourn	

## 2 Main Content

### ■ ICCA Self-Assessment Tool Working Group

- (Background) Develop a self-assessment tool that allows Cefic to evaluate a company's management program and track its progress to drive continuous improvement.
  - RCLG will aim to engage more SMEs in RC initiatives and similarly utilize the program in other countries and organizations by leveraging Cefic's feedback and tools and adapting them for use worldwide.
- (Status) Review a generalized self-evaluation system based on Cefic evaluation data from 3 years ago to introduce a common evaluation system worldwide.
- (Future plans) Recruit candidates from all member companies for testing (2023.4), beta version testing (2023.5), online training for beta tester participants (2023.6), open testing (2023.6), release the web tool's final version (2023.9), present ICCA at ICCM5 (Q2023.3), worldwide campaign (2024)



### ■ KPI(Key Performance Indicator) Enhancement Project

- (Purpose) (1) Continuously improve the program through industry performance trend analysis, (2) Modify and improve the KPI data collection process.
  - The RCLG Secretariat is evaluating the chemical industry by comparing it with UN SAICM targets based on the analysis of KPI collection results from ICCA member organizations from 2007 to 2017. Currently, member organizations report the KPIs of worker safety, health, environmental performance, transport accidents, and resource usage every year.
- (Status) ICCA is seeking approval from the board of directors to submit blind data, excluding other companies from government data, including companies that cannot use government data and implement RCs.
- (Future plan) Plan to develop a confidentiality agreement to protect all data submitted by member companies.

### ■ Sustainability Initiatives

- (Background) As described in the ICCA position paper, RCs should contribute not only to sustainability but also broadly to building a foundation that includes sustainable development initiatives and goals.
  - Needs further discussion on how the RCLG can help develop member companies' sustainability support.
- (Plan)
  - Promote the role of chemistry in providing solutions to social sustainability.
  - Promote cooperation on stakeholder expectations and sustainability.
  - Leverage the initiatives of ACC members to build industry reputation and support positive advocacy.

## ■ Progress of the E&CC (Climate Change) Leadership Group

### ○ (Plan)

- To collect information on priorities for greenhouse gas reduction, request that RCLG members conduct a survey and establish strategies for strengthening E&CC capabilities.
- Provide a chemical substance list and revision date for life cycle assessment publications.

## ■ Colombia Pilot Project

- Develop a digital manual for using the RC logo.
- Create technical guidelines to support hazardous materials, safety, transport assessment, and tool assessment processes.
- Identify 12 indicators highly relevant to the chemical industry and develop and provide a 24-hour circular economy education program.
- Share learning content and educational materials developed in the Pilot Project.

## ■ Communications Update

- Upload a 3- to 4-minute video introducing RC to the homepage.
- Data provided by country associations can be used on the ICCA website.
- The RC international marketing strategy will be discussed at the RCLG meeting in June.



## ■ Circular Economy Guide

### ○ (Goal) Practical support for the transition to a circular economy

### ○ (Plan)

- Encourage businesses to recognize the circular economy as an opportunity.
- Pre-examine the concerns of SMEs with little experience in the circular economy.
- Achieve policy goals aligned with zero plastic waste and zero carbon emission targets.

## ■ 2023 RCLG budget (proposal)

(Unit: Euro)

Item	Budget
< RCLG >	
Consulting service	30,000
KPI reporting tool	17,000
ICCA self-assessment tool	120,000
KPI tool development	100,000
< CB TF >	
Support Capacity Building (including RC video)	150,000
RC Expansion Project (Africa)	10,000
RC pilot project (Colombia)	70,000
<b>Total</b>	<b>497,000</b>

## ■ Future plans

- (RCLG) The RCLG meeting in the second half of 2023 will be held on October 17 (Tue) and 18 (Wed) in Mumbai (India).
- (INC-2) Intergovernmental Negotiation Committee scheduled to be held in Paris (France) from May 29 (Mon) to June 2 (Fri) 🌱





# 2023 열려라! 즐거운 화학세상



열려라! 즐거운 화학세상은 화학의 원리를 쉽고 재미있게 이해할 수 있도록 다양한 체험을 제공하는 한국RC협의회 프로그램입니다. 일상 속 재미있는 화학을 만나보고 싶은 친구들은 지금 바로 신청하세요!

## 프로그램 소개

### • 일시·장소

여수 8월 19일(토), 홍국실내체육관

서산 9월 2일(토), 대산읍 커뮤니티센터 체육관

### • 대상

2개 지역 초등학교 4~6학년 200명 (총 400명)

## 활동 소개



소재의 기본은 석유화학  
석유화학 LAB



우리 몸 속에 숨겨진 화학  
생명과학 LAB



미래를 바꿀 새로운 기술  
첨단소재 LAB



지구를 위한 그린 패션  
섬유패션 LAB

시간	프로그램
~13:00	참가자 접수
13:00~13:20	오리엔테이션 및 안전교육
13:30~17:00	프로그램 체험
17:00~18:00	사이언스 매직쇼

## 신청방법

### • 신청기한

2023년 7월 10일(월)~8월 25일(금)

### • 신청방법

온라인 참가 신청서 작성 후 제출

### • 신청페이지

<https://forms.gle/kdgAGXMxEh62E4wXA>

### • 문의

02-3148-0715(동아사이언스)



신청서 바로가기 →



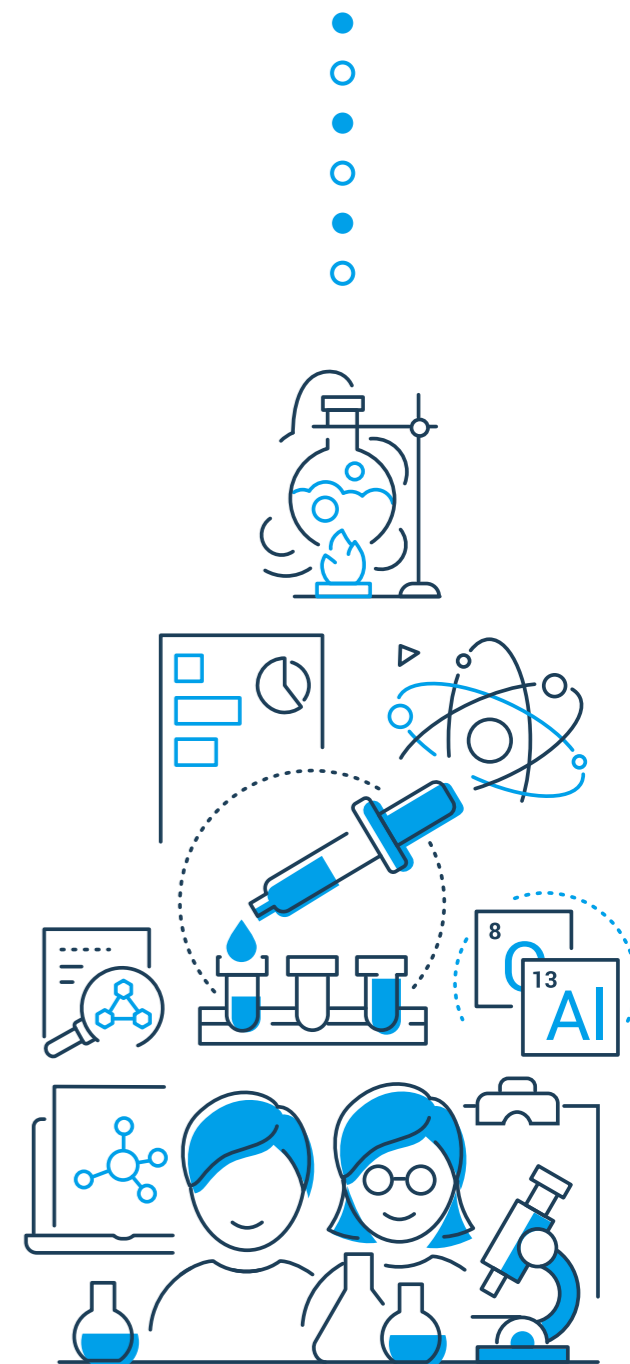
## ISSUE

### Held the Offline Event of 2023 Open! Happy Chemistry World

The 'Open! Happy Chemistry World,' held online in 2021 and 2022, will be held offline this year. It is a chemistry experience program that provides various opportunities for elementary school students (4-6thgrades) to understand the principles of chemistry in an easy and fun way. About 21,000 elementary school students participated from 2003 to 2019, with local teacher groups and volunteers from member companies teaching children about the principles of chemistry in daily life, making the program an opportunity for community exchange.

### Reorganized as an offline event in 2023

2023 Open! The Korea RC Council and member companies have been holding Happy Chemistry World, a community social contribution activity, since 2003. It was held virtually until 2021, but with the easing of COVID-19 regulations, it will be reverted to an offline event this year. This year's Open! Happy Chemistry World also targets 4th to 6th graders in elementary school and will also select about 250 people from each region for the event. Open! Happy Chemistry World aims to provide experience in chemical experiments and vitalize science and engineering. This year, it plans to present various chemical contents, such as physical experiments, thermoplastic keyring making, and nutrient detection reaction experiments.



### Held the 1st Board of Directors and 24th Regular General Meeting in 2023

The Korea RC Council held the '2023 1st Board of Directors and 24th regular general meeting' in writing. The main agenda items are ① the 2022 business and settlement report, ② the 2023 business plan and budget (draft), ③ executive improvement, and ④ new member company registrations (Seoheung), which were deliberated and decided as per the original plan.



### Participated in the RCLG's first half meeting in 2023

The 2023 1st Half-Year International Council of Chemical Associations (ICCA) RC Leadership Group Meeting was held as an online video conference from Tuesday, April 4 to Wednesday, April 5. At this meeting, about 50 representatives from 30 member countries attended and shared the RC self-assessment tool development, ICCA mentoring and expert network building, and RC implementation status by country.



### Reinforcing Environment, Safety, and Health Information Delivery and Network Building

The Korea RC Council will promote the offline annual workshop for executives and employees, which is held every year to share information and vitalize the network among member companies. In addition, the Environmental Safety Response Team will share issues on environmental and safety policies that are reinforced every year, discuss joint responses by the chemical industry, and promptly deliver information on environmental, safety, and health-related laws and amendments to improve member companies' safety, thereby supporting member companies' responses in a timely manner.



### Reorganization of the RC Self-Assessment Tool

Using Europe's (Cefic) self-assessment tool as a model, RCLG will promote the development of a global self-assessment tool to help chemical companies around the world improve their RC performance. To this end, RCLG formed a working group and conducted a survey on self-assessment tools. In Korea, review opinions were submitted to the executive committee for 6 chapters\* and 101 questions. Based on this, the Korea RC Council plans to develop a model applicable to Korea.

\*Corporate leadership culture, human and environmental protection, chemical substance management system, business partner impact, stakeholder engagement, and sustainability contribution



### Hosted the 2023 Open! Happy Chemistry World

2023 Open! The Korea RC Council and member companies have been holding Happy Chemistry World since 2003, which is a community social contribution activity. It was held virtually until 2021, but with the relaxation of COVID-19 regulations, it will be reverted to an offline event this year. This year's Open! Happy Chemistry World also targets 4th to 6th graders in elementary school and will also select about 250 people from each region for the event. Open! Happy Chemistry World aims to provide experience in chemical experiments and vitalize science and engineering. This year, it plans to present various chemical contents, such as physical experiments, thermoplastic keyring making, and nutrient detection reaction experiments.



## MEMBER COMPANY NEWS

### Kumho Petrochemical

1

Kumho Petrochemical (CEO Baek Jong-hoon) generated the performance of raising the evaluation grade of CDP, a global sustainability evaluation agency, by 4 stages in one year in March. CDP (Carbon Disclosure Project) is a non-profit environmental organization based in London, UK, that is entrusted by financial investment institutions around the world to analyze the environmental information of major companies, grade them, and disclose them. The CDP index is used as a representative sustainability evaluation index along with the Dow Jones Sustainability Index (DJSI) and the Morgan Stanley Capital International Index (MSCI).



Kumho Petrochemical's CDP rating has increased by four steps, from a D grade in 2021 to a B grade in 2022, including minus (-) grades. This is an achievement made in a short time of one year amid stagnant or declining ratings across the industry as the evaluation standards have been strengthened. Kumho Petrochemical plans to achieve additional rating upgrades in the future. To this end, it plans to manage not only direct and indirect emissions (scope 1-2) but also other indirect emissions (scope 3) more thoroughly through verification by a third party.

### Lotte Chemical

2

On June 24th, Lotte Chemical (CEO Gyo-hyun Kim) held a seminar to strengthen the capacity of small and medium-sized business partners to respond to global chemical substance regulations at Jamsil Lotte World Tower. About 100 companies participated in this seminar to exchange up-to-date information on Korea's Chemical Substance Registration and Evaluation Act and the Chemical Product Safety Act (Act on Safety Management of Household Chemical Products and Biocides). Recognizing the difficulty in grasping the latest status of chemical substance regulations in countries such as the US and Europe due to the absence of professional experts and costs, the seminar shared the trend of changes in related laws overseas. It also conducted the first session on executing product stewardship from an ESG perspective due to the instability and strengthening of the global supply chain. On the other hand, Lotte Chemical started the seminar for the first time in the second half of last year and plans to expand it to twice a year starting this year.



### BASF Korea Co., Ltd.

3

Global chemical company BASF has started production of Sovermol®, a polyol product made from bio-based renewable raw materials, in Mangalore, India, for the first time in the Asia Pacific. Sovermol® is produced from renewable raw materials and does not contain volatile organic compounds (VOCs).



It is also used in the production of sustainable coatings and adhesives in diverse industries, helping customers reduce their carbon footprint and conserve resources. By producing Sovermol®, BASF plans to meet the rapidly growing demand for green products in the Asia Pacific region, such as new energy vehicles (NEVs), wind power plants, flooring materials, and industrial protective coatings. Sovermol® is produced in an existing facility at BASF's Mangalore site, which has been entirely redesigned for the new production and is now in operation. Meanwhile, the Mangalore site, which began operations in 1996, is BASF's largest production facility in South Asia, producing polymer dispersions, fine chemical catalysts, and coatings for the paper, agriculture, and automotive industries.

### Isu Chemical Co., Ltd.

4

Isu Chemical held a shareholders' meeting and board of directors meeting on the 24th and appointed Bong-Jin Joo, managing director, as the new CEO. By doing so, Isu Chemical will pursue a two-track management strategy that



considers growth and stability. To pursue the growth potential of the green bio sector and promote the overseas expansion of smart farms, Isu Chemical selected CEO Bong-Jin Joo, who has extensive experience in sales and business planning at home and abroad. The petrochemical sector is led by CEO Dong-min Kim, who is expected to pursue technological advances while ensuring steady performance and stability. CEO Bong-jin Joo, who joined the company in 1995, served as the head of the Sales and Business Planning Departments and was recognized for his management capabilities. Since then, he has been evaluated as the best person to pioneer a new business path, such as overseas market development, domestic and overseas sales experience, and new business planning ability. On the other hand, CEO Dong-min Kim, who joined Isu Chemical as an engineer in 1996, built various capabilities and served as an executive in charge of technology and head of a safety production department.



Kolon Industries Co., Ltd.

5

Kolon Industries (President Young-beom Kim) acquired an ISCC PLUS (International Sustainability Carbon Certification) for the first time in the domestic industry in March for three petroleum resin products based on eco-friendly raw materials. ISCC PLUS certification is an internationally recognized index that proves the sustainability of carbon-reduced products and is given when eco-friendly raw materials and ingredients are used in the product production process. It is characterized by tracking and managing sustainability standards throughout the supply chain, from raw ingredients to materials and finished products. The three products certified by Kolon Industries are ▲C5 petroleum resin, ▲C9 petroleum resin, and ▲hydrogenated petroleum resin. Kolon Industries said, "We have been able to supply sustainable petroleum resin by replacing existing fossil fuel-based naphtha with eco-friendly raw materials. We will contribute to the achievement of 2040 Net Zero and establish a circular economy value chain."



LG Chem

7

LG Chem (CEO Hak-cheol Shin) has set out to expand its plastic business based on bio-raw materials. In April, LG Chem signed a joint R&D agreement with Gevo, an eco-friendly fuel company in North America, and announced that it would commercialize bio-propylene by 2026. The technology to make ethylene using bioethanol fermented from corn and sugarcane has already been commercialized, but this is the first time to commercialize ETO (Ethanol to Olefin) technology for bio-propylene production. If bio-propylene is developed, LG Chem can supply 100% bio-based products to customers who make flooring materials, diapers, and automobile interior and exterior materials. Also, a carbon reduction effect of over 90% compared to existing products is expected. Kuk-rae Noh, head of LG Chem's petrochemical business division, said, "We will continue to expand sustainable, eco-friendly businesses in the future by strengthening our business portfolio centered on bio-materials". Gevo is an eco-friendly energy company that has the source technology necessary for producing sustainable aviation fuel (SAF) and bioplastics with various vegetable-based raw materials.



Hanwha Solution

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Hanwha Solutions (CEOs: Gu-young Lee, Dong-gwan Kim, and Yi-hyeon Nam) entered an 'MOU with seven PVC processing companies in April to cooperate in the bio-PVC business for carbon reduction', initiating the commercialization of bio-PVC in the domestic PVC industry. Attending the signing ceremony were the CEO of Hanwha Solutions, Lee-hyeon Nam; CEO of Dongshin Polymer, Young-dae Park; CEO of Duri Chemical, Baek-gyu Choi; CEO of HDC Hyundai EP, Joong-gyu Jung; Vice Chairman of Wonpoong, Seung-min Seo; CEO of Jeil Wallpaper, Sik-soon Park; CEO of TSC, Woong-seon Hwang; and CEO of Power Lab, Young-min Kim. Through this agreement, Hanwha Solutions and each processing company will start producing products such as flooring, wallpaper, pipes, tarpaulins, and wraps to which bio-PVC is applied for the first time in Korea. Hanwha Solutions plans to produce bio-PVC at its plants in Ulsan and Yeosu this month and supply it to each company. To this end, the company acquired last year's 'ISCC (International Sustainability & Carbon Certification) Plus, the sustainability certification of the European Union for producing and processing bio-PVC-based products, and supported the certification of each processing company, spurring up the speed to make a full-scale market expansion.



SK Geocentric Co., Ltd.

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SK Geocentric (CEO Kyung-soo Na) signed a contract to establish a joint venture with a global company owning a core recycling technology. The signing ceremony, held in early May, was held online via video conference with officials from both companies, including SK Geocentric CEO Na and Loop Industries CEO Daniel Solomita, in attendance. SK Geocentric and Loop plan to establish a JV by the end of this year by investing in shares at a ratio of 51:49. The JV will build a depolymerization recycling plant with an annual capacity of 70,000 tons within the Ulsan ARC Advanced Recycling Cluster, which SK Geocentric is building with the goal of completion in 2025. SK Geocentric CEO Na said, "With this contract to establish a joint venture, we are one step closer to our goal of becoming the world's best recycling material company as well as solidifying the construction of a recycling plant. We will actively strive to contribute to solving the global waste plastic problem through continuous cooperation with Loop."





### Regular Members

- |  |                                    |
|--|------------------------------------|
| Aekyung Petrochemical Co., Ltd.              | Korea Ineos Styrolution Co., Ltd.  |
| Air Liquid Korea Co., Ltd.                   | Korea Trinseo, LLC                 |
| Akema Co., Ltd.                              | KPX Chemical Co., Ltd.             |
| BASF Korea Co., Ltd.                         | Kumho P&B Chemical Co., Ltd.       |
| Daehan Oil & Chemical Co., Ltd.              | Kumho Petrochemical Co., Ltd.      |
| DIG Airgas Co., Ltd.                         | Lances Korea, LLC.                 |
| DL Chemical                                  | LG Chem Co., Ltd.                  |
| Dongseo Petrochemical Co., Ltd.              | Lotte Chemical Co., Ltd.           |
| Dongwoo Fine Chem Co., Ltd.                  | Lotte EOS Chemical Co., Ltd.       |
| DuPont Korea Co., Ltd.                       | Lotte MC Co., Ltd.                 |
| Eastman Fiber Korea Co., Ltd.                | Lotte Precision Chemical Co., Ltd. |
| Evonik Korea Co., Ltd.                       | LXMMA                              |
| GS Caltex Co., Ltd.                          | Merck Co., Ltd.                    |
| Hanwha Solutions Co., Ltd.                   | OCI Co., Ltd.                      |
| Hanwha TotalEnergies Petrochemical Co., Ltd. | Poly Mirae Co., Ltd.               |
| Hyosung Chemical Co., Ltd.                   | Samnam Petrochemical Co., Ltd.     |
| Infinium Korea                               | Seoheung Co., Ltd.                 |
| Isu Chemical Co., Ltd.                       | SH Energy Chemical Co., Ltd.       |
| KCI Co., Ltd.                                | SK Geocentric Co., Ltd.            |
| KOBESTRO KOREA Co., Ltd.                     | SK Materials Co., Ltd.             |
| Kolon Industries Co., Ltd.                   | SKC Co., Ltd.                      |
| Korea Alcohol Industry Co., Ltd.             | Taekwang Industrial Co., Ltd.      |
| Korea ASK Chemicals Co., Ltd.                | Yeocheon NCC Co., Ltd.             |
| Korea Dow Chemical Co., Ltd.                 | Yongsan Chemicals Co., Ltd.        |

### Associate Members

- Korea Chemicals Management Association.
- Korea Chlor-Alkali Industry Association.
- Korea Fertilizer Association.
- Korea Petrochemical Association.
- Korea Petroleum Association.
- Korea Precision Chemical Industry Promotion Association.
- Korea Research Institute of Chemical Convergence.



### CONTACT

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## CALENDAR

# 2023


KRCC's Major Events in the Second Half of 2023

KRCC's major events of 2023




**2023 Safety Culture Improvement Seminar for Executives**

Date. October 2023  
Venue. undecided



**Responsible Care Leadership Group (RCLG) Meeting, 2H of 2023**

Date(plan). October 18-19, 2023  
Venue(plan). Both virtual/in-person meetings



**2023 Open! Happy Chemistry World**

**Purpose.** Promote the chemistry industry and contribute to society

**Date.** August 19, 2023 (Yeosu), September 2 (Seosan)

**Targets.** 4-6th graders in elementary school

**Content.** Chemistry-focused science experiments and experiential activities to awaken the principles of science



### How to join to KRCC Membership

Please scan the QR code to see the application process for membership of the Korea Responsible Care Council.



### RESERVATION