



## Examples of Initiatives

### **Risk Assessment and Management throughout the Entire Product Life Cycle**

With regard to the chemicals (products) that it uses and sells, Sumitomo Chemical conducts risk assessments that span the entire product life cycle and all that could be affected, including internal operators, neighboring residents, the surrounding environment, customers, and consumers. The Company supports the Ministry of the Environment's Eco-First Program and completed appropriate whole life-cycle risk assessments for its products manufactured or sold in annual amounts of one ton or more by fiscal 2020 to promote the voluntary initiatives (GPS/JIPS) adopted by chemical industry associations. The results of these assessments are compiled into a safety summary and made publicly available online, including on the Japan Chemical Industry Association (JCIA)'s portal website ([https://www.jcia-bigdr.jp/jcia-bigdr/en/material/icca\\_material\\_list](https://www.jcia-bigdr.jp/jcia-bigdr/en/material/icca_material_list)). From fiscal 2021, we will continue to conduct appropriate risk assessments of products that are newly included in the scope through, for example, product development (reinspection of risks of already assessed substances based on the latest insights).

In conducting chemical risk assessments, it is necessary to collect information regarding the hazards associated with each product and the levels of human and environmental exposure when products are handled. Based on the information needed for these risk assessments, we work to ensure that customers and employees handle chemical substances safely. To this end, we have created a collaborative framework centering on the Responsible Care Department and encompassing the frontlines of production and our internal research laboratories, which possess specialized technologies in risk assessment and safety engineering. To estimate exposure levels, the Company draws on projection models and expert insights in Japan and overseas and has developed its own simulation program. We also use the latest technology to efficiently conduct highly precise risk assessments. In line with our internal rules, during the development of new products, we collect data regarding risks and hazards for all handled substances before entering the production stage and survey and respond to all relevant laws and regulations. We will continue to conduct risk assessments based on the most up-to-date information available.

### **Risk Management for Product Safety**

As for risk assessments of product safety, it is necessary to assess the risks of chemical substances in products as well as the risks associated with product applications and uses. Taking into consideration not only their use by our direct customers but also the use and disposal of such products by their end-users, we conduct risk assessments of applications and uses using failure mode and effects analysis (FMEA)\* and other methods in addition to chemical substance risk assessments. Sumitomo Chemical conducts rigorous risk assessments of new products and reassesses items already on the market. In fiscal 2022, we performed 56 risk assessments. Going forward, we will continue to conduct rigorous risk assessments of new products and regularly conduct reassessments of products already on the market. In addition, we continue supporting Group companies in conducting similar product risk assessments and countermeasures.

\* FMEA: A systematic method of analysis for detecting potential malfunctions and defects with the objective of their prevention

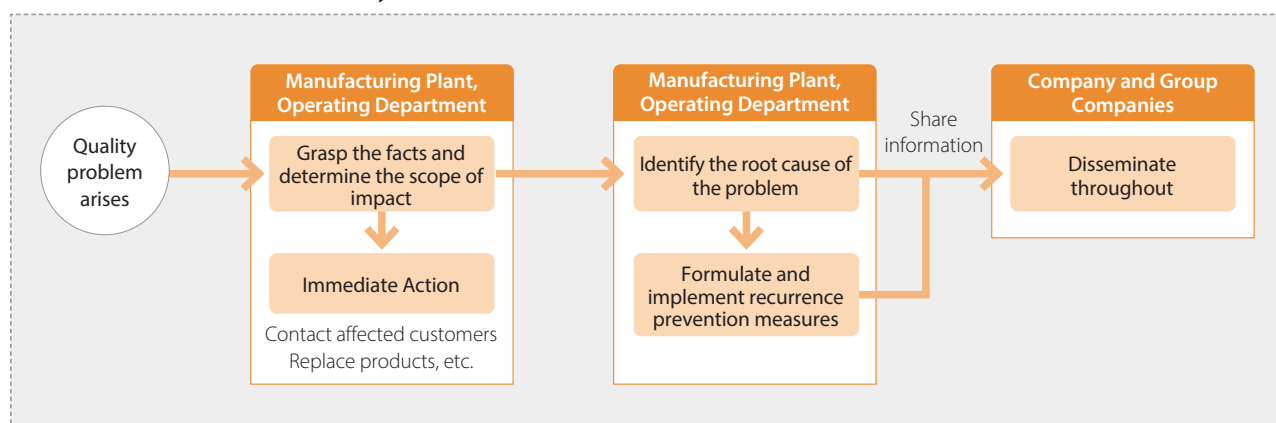


### Providing Products and Services of Stable Quality

In order to continue to supply its customers with satisfying products and services that can be used with peace of mind, the Sumitomo Chemical Group has established quality assurance systems based on quality management systems (such as ISO 9001\*1) and manufacturing and quality management guidelines (GMP\*2) appropriate for each product and service. In addition to maintaining thorough day-to-day product quality control, we are committed to further improving product quality.

When a problem related to the quality of our products or services occurs, we grasp the facts and determine the scope of impact in line with internal rules. We then take immediate action, such as contacting affected customers and replacing products. We subsequently work to identify the root cause of the problem, formulate and implement recurrence prevention measures, and implement those measures. Moreover, from the perspective of preventing recurrence of similar quality problems, depending on the severity of the problem, we disseminate information related to the root cause and recurrence prevention measures within the Company and to Group companies. We are committed to ensuring the prevention of problems in the first place.

#### Flowchart of How We Handle Quality Problems



In fiscal 2022, there was one major quality problem in the Sumitomo Chemical Group. We are investigating the cause of this problem and taking thoroughgoing measures to prevent a recurrence. We are sharing the knowledge gained and rolling out countermeasures across the Group. Going forward, we will also work to strengthen quality assurance for the entire Group by sharing information and activities related to quality and product safety. Furthermore, in order to continue supplying products and services of stable quality worldwide while addressing growing supply chain diversification accompanying its business expansion and the increasingly sophisticated needs of customers, the Group is enhancing its global quality assurance system through measures that include strengthening the management of overseas suppliers and contractors.

\*1 ISO 9001: The international standards on quality management systems issued by the International Organization for Standardization (ISO).

\*2 Good Manufacturing Practice (GMP): Guidelines relating to the manufacturing and quality management of pharmaceutical products, etc.

### The Information Sharing System and Ensuring thorough Compliance

The governments of Europe, the Americas, China, and the Asia Pacific region hold considerable sway over trends in global laws and regulations. To ensure thorough compliance, we post product stewardship specialists at our regional headquarters in these areas and are constructing a system to swiftly collect information related to regulatory trends. Especially in Europe, China, South Korea, Taiwan, Southeast Asia, and India, where there is active movement regarding legal revision/improvement, we are appropriately complying with the chemical regulations of each country in cooperation with our group companies.

As a response to the REACH Regulation in Europe, which is a world leader in terms of laws and regulations, we are moving forward with appropriate legal registration, managing our supply chain, and properly transferring information. In addition, our local Group company Sumitomo Chemical Europe is drawing up letters about its registration status in response to its customers' requests as well as a declaration of conformity, which states the status of compliance and certificate acquisition with regard to various regulations.

In fiscal 2022, there were no reports of violations of regulations for Sumitomo Chemical products and services at any stage of their life cycles.



### Effective Use of SuCESS

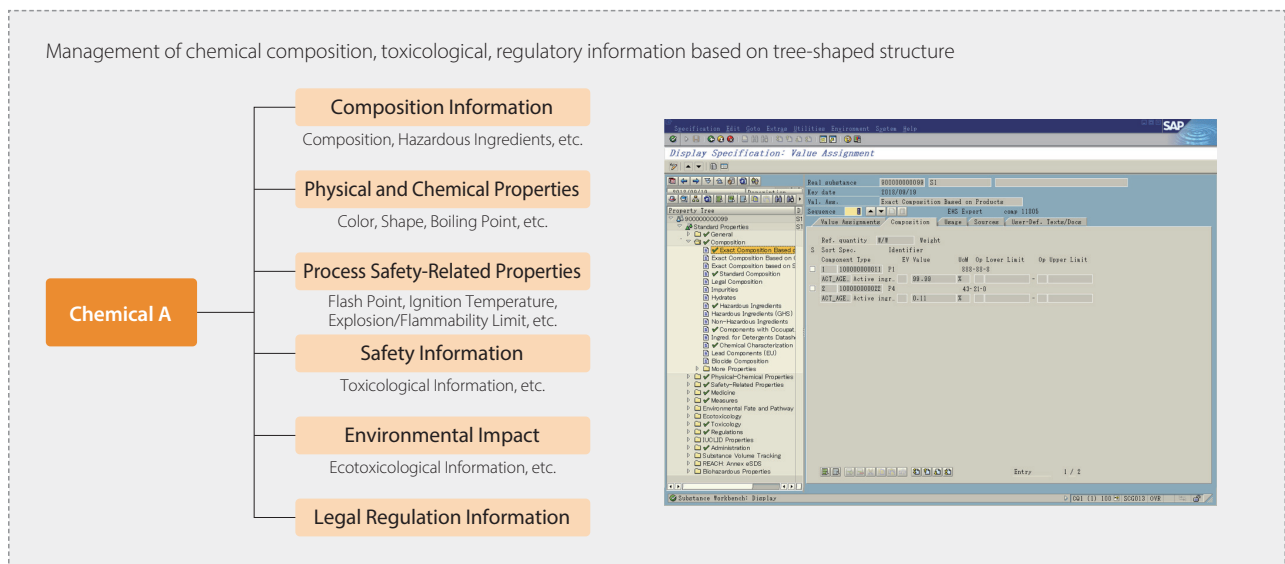
In order to appropriately manage and effectively use information on chemicals handled by the Company, such as their composition, toxicological information (risks and hazards), and regulatory requirements, Sumitomo Chemical has developed the Comprehensive Chemical Management System (SuCESS).<sup>\*1</sup> This system is used in order to respond to inquiries from customers concerning substances contained in our products and precisely comply with laws and regulations in Japan and around the world, such as the REACH Regulation in Europe. We also use this system to create SDSs<sup>\*2</sup> in around 40 languages to comply with GHS<sup>\*3</sup> and accurately and efficiently communicate hazard information throughout the supply chain. This system is also being proactively rolled out to Group companies. We had installed the system at 15 Group companies in Japan and overseas as of fiscal 2022. In addition, we are using SuCESS to calculate the manufactured volumes reported to the government under the chemical substances control law via a substance volume tracking (SVT) system as well as to calculate exported volumes.

\*1 Sumitomo Chemical Comprehensive Environmental, Health & Safety Management System (SuCESS)

\*2 Safety Data Sheets (SDS): SDSs include information on the safe handling of chemical products (properties, handling methods, safety measures, etc.) and should be created in compliance with the Japanese Industrial Standards (JIS) and the standards set by the International Organization for Standardization (ISO).

\*3 Globally Harmonized System of Classification and Labeling of Chemicals (GHS): In 2003, the United Nations established these global rules for how to convey information about the classification and degree of hazards for chemical substances.

### SUCCESS Comprehensive Chemical Management System



### Providing Toxicological Information

To ensure its products are handled safely, Sumitomo Chemical uses SDSs and labels to provide customers with toxicological and regulatory information about the chemical substances they contain and the hazard data consolidated in SuCESS. Furthermore, especially regarding products requiring warnings about their handling, we create yellow cards that are a simplified version of their SDSs. This provides logistics operators with the information they need to ensure they can respond appropriately to an emergency situation during transportation.



### Sharing Information on Chemicals in Products

Countries and regions around the world are moving forward with regulations on chemicals in products, as represented by the European Union's RoHS Directive\*<sup>1</sup> and REACH Regulation.\*<sup>2</sup> Because the content and required action for these regulations differs by country, region, and product field, we need to properly manage the chemicals present in not only final products but also raw materials and parts, and we need to accurately share this information on the chemicals present across the supply chain.

As a founding member of the Joint Article Management Promotion-consortium (JAMP), Sumitomo Chemical encourages acquiring and sharing information using chemSHERPA, which is an information-sharing scheme promoted by JAMP, and provides information in response to customer demands.

\*1 RoHS Directive: An EU law related to restricting the use of specific hazardous substances, such as those in electric and electronic equipment

\*2 REACH Regulation: A regulation related to the registration, evaluation, authorization, and restriction of chemicals within the EU

### Laboratory Animal Welfare

In the process of developing useful chemical substances, a large variety of safety assessments are required. With this in mind, Sumitomo Chemical is actively developing new assessment methods, including structure-activity relationship approaches, and minimizing the use of laboratory animals for safety assessments. However, assessments of impact on humans, animals, and the environment cannot be completed without conducting experiments using laboratory animals. Sumitomo Chemical therefore advocates the humane treatment of laboratory animals and applies the 3Rs\*<sup>3</sup> of replacement, reduction, and refinement to conduct animal studies appropriately with due consideration for animal welfare.

Furthermore, we are working hard to confirm whether subcontractors of animal experiments and suppliers of animals used in experiments similarly conduct animal studies with appropriate consideration for animal welfare.

\*3 The 3Rs: From the Law for the Humane Treatment and Management of Animals

Replacement: To the greatest extent possible, replace methods that involve animals with those that do not.

Reduction: To the greatest extent possible, reduce the number of animals used.

Refinement: To the greatest extent possible, refine methods to minimize the suffering of animals.

### Responses to Latest Emergency Issues, Including Reducing Marine Plastic and Microplastics

Microplastics, plastic additives, and marine plastic pollution have become a global problem in recent years. Recognizing the importance of this issue, Sumitomo Chemical quickly agreed to the measures of the Japan Plastics Industry Federation and bolstered its internal education system. We also participate in the International Council of Chemical Associations (ICCA) and Japan Chemical Industry Association's task force. We are working to keep abreast of the latest issues and are also proposing our comments to the aforementioned organizations.

## Looking Ahead

Sumitomo Chemical promotes appropriate risk-based chemical management and continually conducts safety risk assessments of all products, including newly introduced items.

In response to strong social demand for the proper management of chemicals, the pace of establishment and revision of laws and regulations relating to chemical management is expected to pick up in even more countries and regions in the near future. Closely collaborating with Group companies in Japan and overseas, Sumitomo Chemical consistently undertakes thorough compliance initiatives that involve carefully studying information on the regulatory trends as well as enhancing the functions of its comprehensive chemical management system (SuCCESS).

In addition, we will optimize our quality assurance system to respond to globalization and increasingly complex business formats and supply chains as we continue to work to enhance the Group-wide quality assurance level so that customers can use Group products and services with peace of mind.