SUMITOMO CHEMICAL

Sustainability Data Book 2017

Change and Innovation

Create New Value

CONTENTS

Editorial Policy

From 2017, Sumitomo Chemical will integrate its *Annual Report* and *CSR Report* into the *Sumitomo Chemical Report*, which will serve as one of its principal communication tools. The report will provide comprehensive coverage of both financial and non-financial aspects of the Sumitomo Chemical Group's operations, including its corporate governance system; environmental and social initiatives; strategies and measures; and reports on business performance.

What was formerly the *CSR Report* has been retitled the *Sustainability Data Book*. Covering principally the environmental and social perspectives, the data book complements the *Sumitomo Chemical Report*, presenting information deemed important to both the Sumitomo Chemical Group and its stakeholders. Regarding quantitative information, assurance is provided on the indicators labeled with a star mark (★) by KPMG AZSA Sustainability Co., Ltd.

(Regarding other disclosed information, please check page 76, "Calculation Standards for Environmental and Social Data," wherein a summary of data collection and calculation methods is presented.)

Sumitomo Chemical hopes that its reports can act as a tool for communication with all its stakeholders that enriches their understanding of the Company and its Group companies. Going forward, we will continue working to improve corporate value and achieve sustained growth by helping build a sustainable society through businesses.

Sumitomo Chemical's Three Reports

The Sumitomo Chemical Report

We aim to explain the Company's value creation story in an easy-to-understand way.

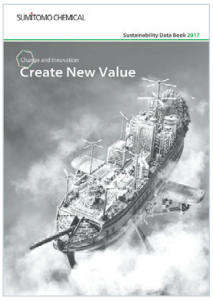
http://www.sumitomo-chem.co.jp/english/ir/library/annual_report/

Investors' Handbook

We explain details of the Company's businesses and products.

http://www.sumitomo-chem.co.jp/english/ir/library/investors_handbook/

Sustainability Data Book



We present information about the Company from an environmental and social perspective.

http://www.sumitomo-chem.co.jp/english/csr/report/

Report Profile

• Boundary of This Report

Sumitomo Chemical Company, Limited and its consolidated subsidiaries

In this report, "Sumitomo Chemical" and "Sumitomo Chemical Group" are distinguished as follows.
Sumitomo Chemical: Sumitomo Chemical Co., Ltd.
Sumitomo Chemical Group: Sumitomo Chemical and Group companies

• Environmental Data (pages 11–12, 18–26, and 35–53)

Sumitomo Chemical's manufacturing facilities and the production plants of major Group companies (19 companies in Japan and 20 companies overseas)

Sumitomo Chemical: Sumitomo Chemical non-consolidated manufacturing facilities

Group Companies in Japan: the production plants of 15 companies share the same targets (Sumitomo Joint Electric Power Co., Ltd.; Nippon A&L Inc.; Nihon Medi-Physics Co., Ltd.; Sumika Color Co., Ltd.; Sumika Agrotech Co., Ltd.; Sumika Assembly Techno Co., Ltd.; Ceratec Co., Ltd.; Nihon Methacryl Monomer Co., Ltd.; SC Environmental Science Co., Ltd.; Sumitomo Chemical Garden Products Inc.; Asahi Chemical Co., Ltd.; Sumika-Kakoushi Co.,Ltd.; Sumika Agro Manufacturing Co., Ltd.; Sumika Plastech Co., Ltd.; SanTerra Co., Ltd.). In addition to the 15 companies above, the production plants of 4 information disclosure companies are included in the calculations of material flow on page 23 (Sumitomo Dainippon Pharma Co., Ltd.; Taoka Chemical Co., Ltd.; Koei Chemical Co., Ltd.; SN Kasei Co., Ltd.) for a total of 19 companies.

Overseas Group companies: Production plants of 20 overseas Group companies (Dongwoo Fine-Chem Co., Ltd.; The Polyolefin Company (Singapore) Pte. Ltd.; Sumika Technology Co., Ltd.; Sumika Electronic Materials (Wuxi) Co., Ltd.; Sumitomo Chemical Asia Pte Ltd; Sumika Huabei Electronic Materials (Beijing) Co., Ltd.; Sumitomo Chemical India Private Limited; Zhuhai Sumika Polymer Compounds Co., Ltd.; Sumika Polymer Compounds (Thailand) Co., Ltd.; Sumitomo Chemical Advanced Technologies LLC; Dalian Sumika Jingang Chemicals Co., Ltd.; Sumipex (Thailand) Co., Ltd.; Bara Chemical Co., Ltd.; SSLM Co., Ltd.; Sumika Electronic Materials (Xi'an) Co., Ltd.; Sumika Electronic Materials (Hefei) Co., Ltd.; Sumipex Techsheet Co., Ltd.; Dalian Sumika Chemphy Chemical Co., Ltd.; Sumika Electronic Materials (Shanghai) Co., Ltd.; Sumika Polymer Compounds Dalian Co., Ltd.)

Notes: More detailed information about the scope of data is listed on each page.
Regarding affiliated companies and plants newly included in the scope of environmental data reporting, results data are tabulated from the fiscal year when the survey was conducted as the Sumitomo Chemical Group.

• Period covered by this report: April 1, 2016 – March 31, 2017 (FY 2016) (with specific exceptions outside this time frame)
• Date of publication: October 2017 (The previous issue was published in October 2016. Next issue: Scheduled for publication in October 2018)
• Frequency of publication: Once annually
• Guidelines referred to when preparing this report:
- The Global Reporting Initiative's (GRI) "G4 Sustainability Reporting Guidelines"*1
- The Japanese Ministry of the Environment's "Environmental Reporting Guidelines" (2012 edition) and "Environmental Accounting Guidelines" (2005 edition)
- The ISO 26000 international standard on Social Responsibility (SR)

*1 This report contains standard disclosure items in accordance with the GRI's Sustainability Reporting Guidelines.

CSR Management

The Sumitomo Chemical Group sets specific goals and carries out CSR activities under its Basic CSR Policy to maintain society's trust and fulfill its corporate social responsibility.

Sumitomo Chemical Group's Contributions to the SDGs

SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

Dialogue with Stakeholders

Signatory to the UN Global Compact

CONTENTS

CSR Management

Message from the CSR Officer

The Sumitomo Chemical Group was born from the twin missions of overcoming environmental problems and boosting agricultural production. Since its founding, the Group has maintained this spirit of solving social problems through business in its DNA.

With the aim of building a sustainable society, the international community is undergoing extensive changes, including the implementation of the Sustainable Development Goals (SDGs)* and the entry into force of the Paris Agreement. Amid this circumstance, companies are expected to tap into their ingenuity and innovation to contribute to society through their businesses. Sustainability is becoming an important keyword for today's corporate management.

Our code of conduct is based on the Sumitomo Spirit, which says that our top priority should be maintaining society's trust. The Group has clearly stated in its FY2017 Yearly CSR Action Policy that it will make active use of the SDGs so that going forward, all Group employees may engage in their daily work with a sense of purpose. Looking ahead, the Group will continue to play an outsize role in the development of a sustainable society to continue maintaining the trust of the international community.

* The SDGs began in 2016 with the agreement of all the nations in the UN. The aim of the SDGs is to create a sustainable world, with 17 goals established to resolve global challenges, including those related to poverty, food, health, education, gender equality, energy, the environment, and climate change.

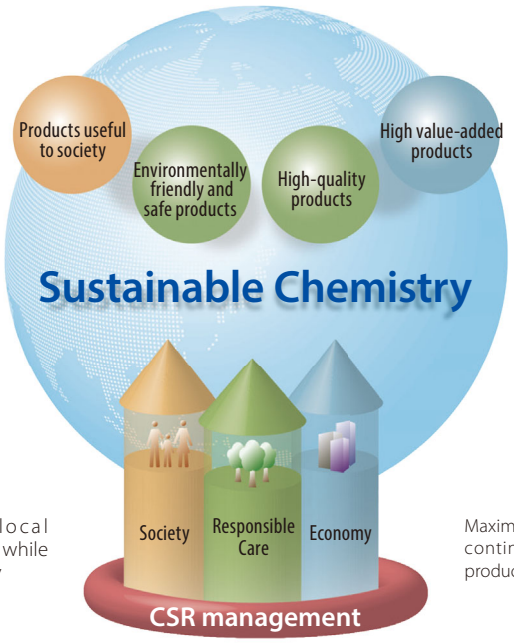
Hiroshi Niinuma
Managing Executive Officer

Basic Stance

Sumitomo Chemical established its Basic CSR Policy in November 2004 based on the Sumitomo Spirit and the Sumitomo Chemical Charter for Business Conduct. Moreover, in April 2015, this policy was revised as the Sumitomo Chemical Group's basic policy.

Under the Basic CSR Policy, the Group not only pursues economic opportunities, it proactively engages in activities related to preservation of the environment, safety, product quality and social activities. Such activities will play a significant role in the sustainable development of society while supporting the Group's development.

The Sumitomo Chemical Group's CSR



Society
Benefiting customers, local communities, and the world while abiding by the rules of society

Economy
Maximizing corporate value by continually providing better products

Responsible Care
(Safety, environment, product quality)
Eliminating accidents and disasters, protecting the environment by most effectively using natural resources and energy, producing safe products, and protecting the health of customers and employees

CSR Management

Basic CSR Policy

By continuously creating and providing new value for our stakeholders, the Sumitomo Chemical Group will build corporate worth, contribute to solving the problems facing society and our environment while enriching people's lives.

In order to accomplish this, the Sumitomo Chemical Group will proactively work for profitable business operations, the preservation of the environment, safety, product quality and positive social activities. We will pursue and promote our CSR activities with consideration for the interests of all our stakeholders, including our stockholders, employees, business partners, and the local residents of all regions in which we conduct business. Through our endeavors in these areas, we hope to play a significant role in helping to build a sustainable society, while continuing to grow our business in order to achieve our goal of becoming a truly global chemical company in the 21st century.

Corporate Philosophy
http://www.sumitomo-chem.co.jp/english/company/principles/

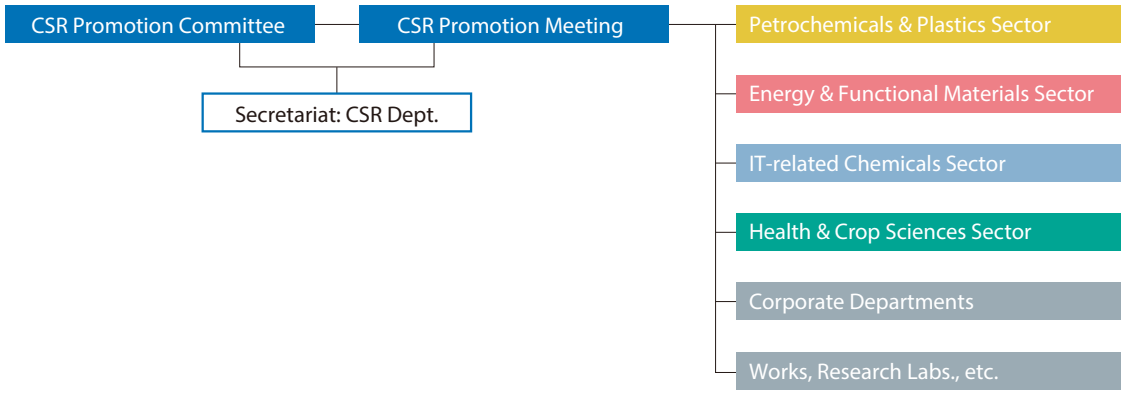
CSR Promotion System

Based on its Basic CSR Policy, the Sumitomo Chemical Group established the CSR Promotion Committee in fiscal 2012 to comprehensively promote CSR activities from a long-term perspective. The Committee is chaired by the President and composed of executive officers from the Company's corporate and business sectors. It decides CSR activity policies for the fiscal year, raises awareness of said policies, and conducts evaluations and analyses of CSR activity results for the Group as a whole.

In fiscal 2016, the Committee established the FY2017 Yearly CSR Action Policy as the Yearly Group Policy with the understanding that sustainability is an important social responsibility for corporate management. In addition, each committee member presented CSR action plans developed for each department based on the yearly policy, and the Committee subsequently approved the plans.

The yearly policy and the action plans of each committee member were shared through management channels and other means. Each workplace and Group company in Japan and overseas develops specific action plans aimed at promoting CSR activities.

CSR Promotion System



To further encourage CSR activities across the entire Group, we began sharing the yearly policy and CSR activities with Group companies overseas from fiscal 2013 at the Regional CSR Meetings in each region and the Global CSR Meetings for CSR managers from the regional headquarters established in each of the world's four regions.

In addition, we began communicating the Annual Group Policy and all committee members' action plans with Group companies in Japan from fiscal 2016 at the CSR Meeting for Group Companies in Japan.

FY2017 Yearly CSR Action Policy

This policy emphasizes, "Each must stay aware of how you contribute to society through your work" in light of the Group's approach to CSR, which includes measures taken to contribute to the development of society through business activities.

We clarify the connection between business and society and link it with our actions through our work to help realize the SDGs, an approach that creates a common language with stakeholders.

We are carrying out the Fiscal 2017 Our Sustainable Tree project, in which employees participate, under the theme of the SDGs as a specific measure aimed at achieving our yearly policy.

The Sumitomo Chemical Group's Global Project, a CSR Promotion Activity

The Sumitomo Chemical Group Global Project was started in 2014, in order to encourage Group employees both inside and outside Japan to individually think about and act to resolve issues in society, and also to develop a sense of unity within the Group.

Since fiscal 2015, Sumitomo Chemical has provided a dedicated Group website where individuals and groups can submit information from their PCs or smartphones on the measures they have taken regarding resolving issues in society.

In fiscal 2016, Sumitomo Chemical implemented a dedicated website, called "Our Sustainable Tree: Things We Can Do to Build a Sustainable Society," as a place where people can consider how they can contribute to resolving issues in society through their work and in their daily lives, and submit information about their efforts in light of the 17 SDGs, which took effect in January 2016. During the 100 days in which submissions were accepted, over 6,000 submissions were received from Group companies, both inside and outside Japan, of which 1,270 consisted of contributions employees made through their work.

In fiscal 2017, Sumitomo Chemical has implemented the second Sustainable Tree program, "Work Together towards the SDGs!" where employees can submit descriptions of the efforts they have made in their jobs and workplaces relating to the 17 SDGs.

Going forward, the Sumitomo Chemical Group will continue listening to the voice of society, taking on the challenge of finding improvements and innovative solutions that individuals can personally use to help create a sustainable society.

Top Message: Contributing to the Sustainable Development of Society
http://www.sumitomo-chem.co.jp/english/csr/top_message.html

Communication with Stakeholders

Under its Basic CSR Policy, the Sumitomo Chemical Group pursues and promotes CSR activities taking into consideration the interests of all stakeholders. The Group will continue to fulfill its responsibilities to all its stakeholders and work to enhance communication with everyone through a variety of efforts, which include not just business activities but also initiatives that contribute to society and regional dialogues.

CSR Management

Communication Opportunities with Each Stakeholder

Stakeholders	Sumitomo Chemical Group's Responsibility	Methods
Shareholders and Investors	We promote scheduled, effective and strategic communication with shareholders and investors in regard to our management policies, business strategies, and earnings trends. Through this communication, we fulfill our responsibility to disclose information to shareholders with the aim of maintaining and improving the market's trust in Sumitomo Chemical. By promoting an accurate understanding of our operations, we support appropriate share price formation and improvement in corporate value.	• Conducting general meetings of shareholders • Holding management strategy briefings and business strategy briefings • Holding conference calls • Holding briefings for individual investors • Holding one-on-one interviews with analysts • Disclosing information via the Sumitomo Chemical Report, investors' handbooks, and other publications • Providing information on the Company's website
Customers	We are working to supply high-quality products and services that satisfy customers' needs and ensure safety in their use, thereby building long-lasting relations of trust with customers.	• Engaging in communication through operating activities and supporting quality assurance • Providing information through various media including the Company's website • Offering customer support through consultation services
Business Partners	We are committed to building progressive and mutual relations with business partners based on the Basic Procurement Principles. In addition, we conduct fair and transparent transactions, promote responsible procurement activities, and encourage all our business partners to engage in CSR activities.	• Engaging in communication through purchasing activities • Monitoring and feedback that draws on the CSR Deployment Guidebook and check sheets • Providing contact points for inquiries
Employees	We are working to create human resources development systems and a workplace environment in which individual employees can make the most of their abilities, while respecting the well-being and diversity of employees. Also, the Company and its labor union will maintain a favorable relationship that has been built based on mutual understanding and trust.	• Conducting central and regional labor-management meetings • Convening the Labor-Management Committee for Diversity and Work-Life Balance • Providing various training programs • Communicating via in-house magazines and internal network
Local Communities and Society	In the belief that its business must be based on mutual prosperity with society, We are building and maintaining good relationships with local communities by conducting activities to meet local needs while aiming to enhance communications, and ensure the safety of the region and preservation of the environment.	• Publishing the Report on the Environment and Safety at all worksites • Publishing local PR magazines • Hosting local dialogues • Holding science workshop classes • Engaging in local cleanup activities
The International Community	We observe international regulations in an effort to resolve various issues confronting society, including food, climate change, educational disparity and gender inequality. We also believe it is important to collaborate with various international organizations, NGOs, and other companies.	• Promoting the activities of the UN Global Compact • Participating in a task force of the International Council of Chemical Associations (ICCA) • Engaging in a variety of activities through economic and industrial organizations • Conducting programs in collaboration with NGOs and NPOs

Dialogue with Employees | Employee Surveys

As in 2010 and 2013, we conducted an employee survey in August 2016. The survey was conducted with the intention of improving and enhancing various measures, developing a vibrant corporate culture and continuing to be a company that society can trust. This survey had an answer rate of 96%, confirming that employees have a lot of interest in the subject. The number of respondents weighing in on "the active promotion of diversity" and "the Company's stance on childcare and nursing, and the maintenance of systems and environments" grows with each survey, indicating that measures and policies are becoming increasingly ingrained. The results of the survey are shared with labor through the Labor-Management Committee for Diversity and Work-Life Balance and conveyed to employees through the in-house magazine. Going forward, we will use these kinds of opportunities for communication to reflect employees' opinions in various measures as we strive to further improve them.

Dialogue with Local Communities | Responsible Care Dialogue Meetings

At our Chiba Works, we hold Responsible Care dialogue meetings every two years with the 20 companies in the Keiyo industrial complex to which we invite local residents and municipal government officials. The latest meeting was held in February 2017, and it turned out to be quite a large gathering, with a total of 161 participants, 49 of whom were local residents and 22 of whom were government officials.

The dialogue meeting comprised three parts: a factory tour, a dialogue session, and a social event for the exchange of opinions. The theme of the dialogue session was "initiatives for disaster prevention and the environment," which is of great concern for local residents. After the keynote speech from the municipal government officials, we held a panel discussion with corporate representatives, local resident representatives, and government officials.

This dialogue meeting with locals was very fruitful, and we fielded a number of positive comments from the survey of participants, such as, "this was a good meeting," and "I felt at ease after hearing the company's initiatives," and "I hope you continue holding these meetings." Going forward, we will maintain high-quality communication with all local residents.

Dialogue with the International Community | UN Global Compact Activities

The Sumitomo Chemical Group became the first Japanese chemical company to become a participant in the UN Global Compact*1 (UN GC) in January 2005 and has been a participant of the UN GC LEAD*2 since its launch in November 2011. As a leading company, we comply with the Global Compact's Ten Principles and are further ramping up activities by networking with the UN and other organizations. Sumitomo Chemical reports on the progress of measures to comply with the Global Compact's Ten Principles in its integrated report and this publication as its COP (Communication on Progress). Moreover, the Company is working to ensure highly transparent information disclosure that meets the Global Compact Advanced Level reporting criteria.

Global Compact LEAD PARTICIPANT

The UN Global Compact's Ten Principles

UN GLOBAL COMPACT WE SUPPORT

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.
Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.
Principle 4: the elimination of all forms of forced and compulsory labour.
Principle 5: the effective abolition of child labour.
Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges.
Principle 8: undertake initiatives to promote greater environmental responsibility.
Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruptio

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

The Ten Principles of the UN Global Compact (from the official website of the UN Global Compact)
URL：https://www.unglobalcompact.org/what-is-gc/mission/principles

In fiscal 2016, we participated in the Private Sector Forum held at the UN headquarters in September. We also contributed an article to SDG Industry Matrix, which shines a spotlight on companies' SDG initiatives. Furthermore, we participated in the UN Global Compact Leaders Summit 2016 and The Breakthrough Innovation Challenge, which is a program that aims to build sustainable business models for companies.

In addition, the Group endorsed the "Women's Empowerment Principles" (WEPs), which were formulated through collaboration between UN GC and UN Women. In fiscal 2016, we actively participated in the Global Compact Network Japan's WEPs Subcommittee, which started the same year, as a leading company. We participated as a pilot company testing out the self evaluation tool WEPs Gender Gap Analysis Tool, which was developed in part by UN GC and UN Women with the aim of enabling self evaluations and gap analyses related to gender equality in companies. We also offered our input on the tool and actively exchanged opinions and shared information with participating companies through workshops for the Environmental Management Subcommittee, as well as other SDGs subcommittee.

*1 Launched in 2000, the UN Global Compact is a United Nations initiative in which businesses demonstrate responsible and creative leadership and voluntarily participate in efforts to establish a worldwide framework that enables them to achieve sustainable growth.

*2 A framework to bring the vision espoused under the UN GC to fruition. Launched with the participation of 54 companies (including three Japanese companies) that have made great contributions to the UN GC.

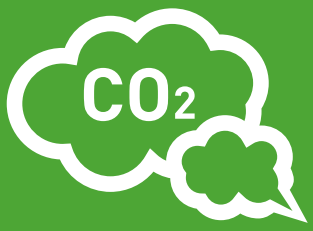
Responsible Care Activities

Responsible Care (RC) activities refer to the voluntary initiatives undertaken by business operators in the chemical industry, with the goals of ensuring safety, the environment, and health throughout the lifecycle of chemical products, from development through to the manufacture, sales, use, and disposal after final consumption, maintaining and improving the quality of those products. These activities also strive to gain the further trust of society through continuous dialogue.

Based on the core principle of "Making safety our first priority" the Sumitomo Chemical Group engages in RC activities from a variety of perspectives.

Contributing to the SDGs through Responsible Care Activities

Improvement of Carbon Intensity Index (p. 20)

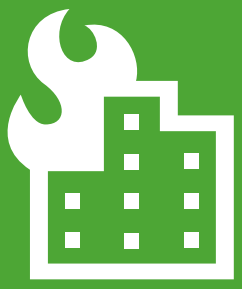


Domestic: 2.2%
Overseas: 5.5%

Water Usage (pp. 23, 25)

Domestic: 975 million tonnes
Overseas: 7 million tonnes

Lost-Workday Incident Rate (p. 31)



Sumitomo Chemical Group
0.14

CONTENTS

Responsible Care Activity Goals and Results

Goal achieved or steadily progressing: ○; Goal not achieved: △

Items	Fiscal 2016 Goals	Fiscal 2016 Results	Evaluation	Fiscal 2017 Goals	Page
Responsible Care (RC) Audits	● Expand RC audit scope	● Studied outside technical data falsification cases and enhanced auditing methods to expand the scope of RC audits	○	● Expand RC audit scope	pp. 13-17
	● Investigate accidents from the viewpoint of a third party	● Tested holding hearings at Group companies	○	● Investigate accidents from the viewpoint of a third party	
	● Promote RC Global Management	● Staff at Group companies in Japan and overseas participated in internal audits, which helped train RC staff	○	● Promote RC Global Management	
Environmental Protection	**Promotion of Environmental Management**				pp. 18-26
	● Sumitomo Chemical and Group companies in Japan and overseas: No severe environmental accidents	● Sumitomo Chemical and Group companies in Japan and overseas: No severe environmental accidents	○	● Sumitomo Chemical and Group companies in Japan and overseas: No severe environmental accidents	
	● Properly respond to more stringent laws and regulations and proactively address trends in new environmental regulations	● Grasped environmental regulatory trends in a timely manner and responded	○	● Properly respond to more stringent laws and regulations and proactively address trends in new environmental regulations	
	● Promote labor saving in and streamlining of environmental protection management	● Completed the standardization and systematization of environmental management	○	● Promote labor saving in and streamlining of environmental protection management	
	Addressing Global Climate Change				
	● Improve unit CO_2 emissions from energy use • Sumitomo Chemical: Improve unit CO_2 emissions from energy use 15% by 2020 compared to 2005 levels	● Improved unit CO_2 emissions from energy use • Sumitomo Chemical: Reduced by 16.1% relative to fiscal 2005	○	● Improve unit CO_2 emissions from energy use • Sumitomo Chemical: Improve unit CO_2 emissions from energy use 15% by 2020 compared to 2005 levels	
	• Sumitomo Chemical and Group companies in Japan: Improve unit CO_2 emissions from energy use over 1% per year on average	• Sumitomo Chemical and Group companies in Japan: Reduced by 2.2% relative to fiscal 2015	○	• Sumitomo Chemical and Group companies in Japan: Improve unit CO_2 emissions from energy use over 1% per year on average	
	• Group companies overseas: Improve unit CO_2 emissions from energy use over 1% per year on average	• Group companies overseas: Reduced by 5.5% relative to fiscal 2015	○	• Group companies overseas: Improve unit CO_2 emissions from energy use over 1% per year on average	
	● Improve unit energy consumption • Sumitomo Chemical: Improve unit energy consumption 15% by 2020 compared to 2005 levels	● Improved unit energy consumption • Sumitomo Chemical: Improved by 18.3% relative to fiscal 2005	○	● Improve unit energy consumption • Sumitomo Chemical: Improve unit energy consumption 15% by 2020 compared to 2005 levels	
	• Sumitomo Chemical and Group companies in Japan: Improve unit energy consumption over 1% per year on average	• Sumitomo Chemical and Group companies in Japan: Improved by 1.6% relative to fiscal 2015	○	• Sumitomo Chemical and Group companies in Japan: Improve unit energy consumption over 1% per year on average	
	• Group companies overseas: Improve unit energy consumption over 1% per year on average	• Group companies overseas: Improved by 5.5% relative to fiscal 2015	○	• Group companies overseas: Improve unit energy consumption over 1% per year on average	
	● Improve unit energy consumption in the logistics division • Sumitomo Chemical*1: Aim to improve by an annual average of 1% or more relative to the fiscal 2006 standard, and improve unit energy consumption	● Improved unit energy consumption in the logistics division • Sumitomo Chemical: Improved by an annual average of 0.2% relative to the fiscal 2006 standard	△	● Improve unit energy consumption in the logistics division • Sumitomo Chemical: Aim to improve by an annual average of 1% or more relative to the fiscal 2006 standard, and improve unit energy consumption	
	Waste Reduction Initiatives				
	● Reduce the amount of industrial waste sent to landfills • Sumitomo Chemical: Maintain 80% reduction in waste volume compared to fiscal 2000 levels	● Reduced the amount of industrial waste sent to landfills • Sumitomo Chemical: Reduced by 94.3% relative to the fiscal 2000 levels	○	● Reduce the amount of industrial waste sent to landfills • Sumitomo Chemical: Maintain 80% reduction in waste volume compared to fiscal 2000 levels	
	• Sumitomo Chemical and Group companies in Japan: Maintain waste volume at below fiscal 2015 levels	• Sumitomo Chemical and Group companies in Japan: Reduced by 8.7% relative to the fiscal 2015 levels	○	• Sumitomo Chemical and Group companies in Japan: Maintain waste volume at below fiscal 2015 levels to fiscal 2020	
	● Properly treat PCB waste • (High concentrations of PCB*2) Work toward appropriate storage and recovery of waste containing high concentrations of PCBs and complete PCB waste treatment at an early stage	● Properly treated PCB waste • (High concentrations of PCB) Largely completed the treatment of waste containing high concentrations of PCBs (excluding certain factories and equipment); continued to promote the storage and recovery of untreated waste	○	● Properly treat PCB waste • (High concentrations of PCB) Work toward appropriate storage and recovery of waste containing high concentrations of PCBs and complete PCB waste treatment at an early stage	
	• (Minute amounts of PCB*3) Work toward appropriate storage and recovery of waste containing minute amounts of PCBs and complete PCB waste treatment by March 2025	• (Minute amounts of PCB) Implemented the treatment of waste containing minute amounts of PCBs at certain factories; continued to promote the storage and recovery of untreated waste	○	• (Minute amounts of PCB) Work toward appropriate storage and recovery of waste containing minute amounts of PCBs and complete PCB waste treatment by March 2025	

Note: Further details are provided in the supplementary data (pp. 35–53).

*1 Within the scope of specified shippers according to the definition stipulated under the Act on the Rational Use of Energy

*2 High concentrations of PCB: Polychlorinated biphenyl (PCB) intentionally used as insulation oil in such items as electric appliances

*3 Minute amounts of PCB: PCB unintentionally mixed in as insulation oil in such items as electric appliances (over 0.5mg/kg)

Responsible Care Activity Goals and Results

Goal achieved or steadily progressing: ○; Goal not achieved: △

Items	Fiscal 2016 Goals	Fiscal 2016 Results	Evaluation	Fiscal 2017 Goals	Page
Environmental Protection	**Protecting the Atmosphere, Water, and Soil**				pp. 18-26
	● Protection of air and water pollution • Sumitomo Chemical: Meet voluntary management criteria*4	● Protection of air and water pollution • Causes of incidents where pollution exceeded voluntary limits have been investigated and countermeasures implemented	○	● Protection of air and water pollution • Sumitomo Chemical: Meet voluntary management criteria	
	● Effective use of water resources • Sumitomo Chemical: Promote effective and efficient use of water resources	● Effective use of water resources • Sumitomo Chemical: Unit water usage fell by 13.8% relative to fiscal 2015	○	● Effective use of water resources • Sumitomo Chemical: Promote effective and efficient use of water resources	
	• Group companies overseas: Improve unit water consumption by at least 1% on average per year	• Group companies overseas: Unit water usage improved by 2.1% relative to fiscal 2015	○	• Group companies overseas: Improve unit water consumption by at least 1% on average per year	
	● Response to PRTR • Sumitomo Chemical: Maintain 60% lower total emissions of air and water pollutants by 60% relative to fiscal 2008	● Response to PRTR • Sumitomo Chemical: Reduced emissions by 87.2% relative to fiscal 2008	○	● Response to PRTR • Sumitomo Chemical: Maintain 60% lower total emissions of air and water pollutants relative to fiscal 2008	
	• Sumitomo Chemical and Group companies in Japan: Maintain total emissions of air and water pollutants at below fiscal 2015 levels to fiscal 2020	• Sumitomo Chemical and Group companies in Japan: Reduced emissions by 6.1% relative to fiscal 2015	○	• Sumitomo Chemical and Group companies in Japan: Maintain total emissions of air and water pollutants at below fiscal 2015 levels to fiscal 2020	
	● Reduce VOC emissions • Sumitomo Chemical: Maintain VOC emissions reductions at 30% relative to fiscal 2000	● Reduced VOC emissions • Sumitomo Chemical: Reduced emissions by 50% relative to fiscal 2000	○	● Reduce VOC emissions • Sumitomo Chemical: Maintain VOC emissions reductions at 30% relative to fiscal 2000	
	● Prevention of soil and groundwater pollution • Sumitomo Chemical and Group companies in Japan: Keep hazardous materials strictly within Company premises*5	● Prevention of soil and groundwater pollution • Sumitomo Chemical and Group companies in Japan: Kept hazardous materials strictly within Company premises	○	● Prevention of soil and groundwater pollution • Sumitomo Chemical and Group companies in Japan: Keep hazardous materials strictly within Company premises	
	● Prevention of ozone layer depletion • Sumitomo Chemical and Group companies in Japan: Eliminate the use of refrigeration units that use CFCs as coolants by fiscal 2025	● Prevention of ozone layer depletion • Sumitomo Chemical and Group companies in Japan: Systematically replaced refrigeration units that use CFCs and HCFCs as coolants	○	● Prevention of ozone layer depletion • Sumitomo Chemical and Group companies in Japan: Eliminate the use of refrigeration units that use CFCs as coolants by fiscal 2025	
	• Sumitomo Chemical and Group companies in Japan: Eliminate the use of refrigeration units that use HCFCs as coolants by fiscal 2045			• Sumitomo Chemical and Group companies in Japan: Eliminate the use of refrigeration units that use HCFCs as coolants by fiscal 2045	
	● Conservation of Biodiversity • Sumitomo Chemical: Ensure compliance with "Sumitomo Chemical's Commitment to the Conservation of Biodiversity"	● Conservation of Biodiversity • Sumitomo Chemical: Ensured compliance with "Sumitomo Chemical's Commitment to the Conservation of Biodiversity" and promoted detailed initiatives	○	● Conservation of Biodiversity • Sumitomo Chemical: Ensure compliance with "Sumitomo Chemical's Commitment to the Conservation of Biodiversity"	
Product Responsibility/ Product Stewardship	● Continue to act precisely in accordance with domestic and overseas laws and regulations	● Acted precisely in accordance with relevant laws and regulations	○	● Continue to act precisely in accordance with domestic and overseas laws and regulations	pp. 27-29
	● Continue to promote risk-based chemicals management and information disclosure	● Systematically put in place risk assessment methods	○	● Continue to promote risk-based chemical management and information disclosure	
	● Continue to promote utilization of the comprehensive chemical management system (SuCCESS) and develop concrete plans for expansion to Group companies	● Introduced SuCCESS at nine Group companies	○	● Continue to promote utilization of the comprehensive chemical management system (SuCCESS) and develop concrete plans for expansion to Group companies	
	● Promotion of product safety risk assessments focused on high-risk products*6	● Performed 88 risk assessments, including for high-risk products	○	● Promotion of product safety risk assessments focused on high-risk products	
	● Logistics quality-related incidents: No Rank A or Rank B incidents, two or fewer Rank C Incidents	● Logistics quality-related incidents: No incidents (Rank A, B, C)	○	● Logistics quality-related incidents: No Rank A or Rank B incidents, two or fewer Rank C Incidents	
Occupational Safety and Health/ Industrial Safety and Disaster Prevention	● Lost-workday injuries among Sumitomo Chemical employees: 0	● Lost-workday injuries among Sumitomo Chemical employees: 2	△	● Lost-workday injuries among Sumitomo Chemical employees: 0	pp. 30-34
	● Frequency rate of lost-workday injuries*9 for the Group*7: less than 0.1	● Frequency rate of lost-workday injuries for the Group: 0.14	△	● Lost-workday injuries for partner companies*8: 0	
	● Severe accidents*10 for the Group: 0	● Severe accidents for the Group: 1	△	● Frequency rate of lost-workday injuries for the Group: less than 0.1	
	● Severe industrial accidents*11 for the Group: 0	● Severe industrial accidents for the Group: 0	○	● Severe accidents for the Group: 0	
	● Workplace injuries in logistics: 0	● Workplace injuries in logistics: 2	△	● Severe industrial accidents for the Group: 0 ● Workplace injuries in logistics: 0	

*4 Voluntary management targets that are stricter than the criteria of relevant laws and regulations, including agreements reached with local authorities.
*5 Keep hazardous materials strictly within Company premises: Controlled on the premises.
*6 High-risk products: Products likely to have relatively high risks in terms of the nature of the chemical substances in the product and their application.
*7 For the purposes of occupational safety and health/industrial safety and disaster prevention, the Group is defined as Sumitomo Chemical (including its partner companies and others) and consolidated subsidiaries in Japan and overseas.
*8 A partner company injury is defined as one suffered within a Sumitomo Chemical worksite by an employee of a company affiliated with a logistics or construction subcontractor.
*9 The Responsible Care Department determines if accidents that occur at overseas consolidated subsidiaries are considered to be lost-workday injuries or non lost-workday injuries based on how the accidents are handled in Japan.
*10 Severe accidents are defined as those that result in a fatality or those that result in medium to severe lost-workday injuries, including blindness and loss of a limb.
*11 Severe industrial accidents are defined as industrial accidents resulting in any of the below conditions.
• The local residents suffer injuries requiring at least regular hospital visits or treatment.
• Employees at the facility suffer injuries that at least require a lost workday.
• The damage to the facilities totals more than ¥10 million.

Responsible Care Management

Basic Stance

Responsible Care (RC) activities refer to the voluntary initiatives undertaken by business operators in the chemical industry, with the goals of ensuring safety, the environment, and health throughout the lifecycle of chemical products, from development through to the manufacture, sales, use, and disposal after final consumption, maintaining and improving the quality of those products. These activities also strive to gain the further trust of society through continuous dialogue.

The Sumitomo Chemical Group has positioned Responsible Care activities as one of its most important management pillars. Based on the core principle of "Making safety our first priority," the Group has set goals for each of the following fields: occupational safety and health; industrial safety and disaster prevention; environmental protection and climate change; product responsibility and product stewardship; Responsible Care audits; and logistics. The entire Group is working in unison to achieve the goals it has set.

Corporate Policy on Safety, the Environment and Product Quality

Sumitomo Chemical has set forth safety, the environment, and product quality as top priorities for all phases of its business activities in its Corporate Policy on Safety, the Environment and Product Quality. This policy has been communicated to all employees of Sumitomo Chemical and its Group companies to ensure that each and every employee is fully aware of it.

In conformity with the Sumitomo Spirit, the Company fulfills its responsibility to develop, manufacture, and supply a variety of products that satisfy the fundamental necessities of human life and contribute to the growth of society. Under the concept of "Making safety our first priority," which is fundamental to all the Company's operations, Sumitomo Chemical has based the management of its activities on the principles of (i) maintaining zero-accident and zero-injury operations, (ii) ensuring customer satisfaction, and (iii) promoting mutual prosperity with society.

Paying due respect to these principles, our Company is determined to conduct all activities, including production, R&D, marketing & sales, and logistics, in accordance with the following policy related to safety, the environment, and product quality.

1. Maintain zero-accident and zero-injury operations and the safety of neighboring communities and our employees.
2. Ascertain the safety of raw materials, intermediates, and products and prevent our employees, distributors, customers, and consumers from being exposed to any possible hazard.
3. Supply high-quality products and services that satisfy customers' needs and ensure safety in their use.
4. Assess and reduce our environmental impact at all operational stages, from product development to disposal, and undertake all practical environmental protection measures.

All sections and employees of our Company shall be made fully aware of the significance of this policy and shall constantly strive to improve operational performance, while at the same time abiding by all relevant laws, regulations, and standards.

Revised: November 1, 2005 (Established: April 1, 1994)

Policy on Responsible Care Activities

Sumitomo Chemical has summarized its key Responsible Care initiatives in its Policy on Responsible Care Activities, which is incorporated into the specific activity targets and plans formulated annually by each Sumitomo Chemical workplace and Group company.

In accordance with the Sumitomo Chemical Charter for Business Conduct and the Corporate Policy on Safety, the Environment and Product Quality, the Sumitomo Chemical Group as a whole will strive to promote Responsible Care Activities, thereby earning the trust of society, promoting business activities, and contributing to the sustainable development of society.

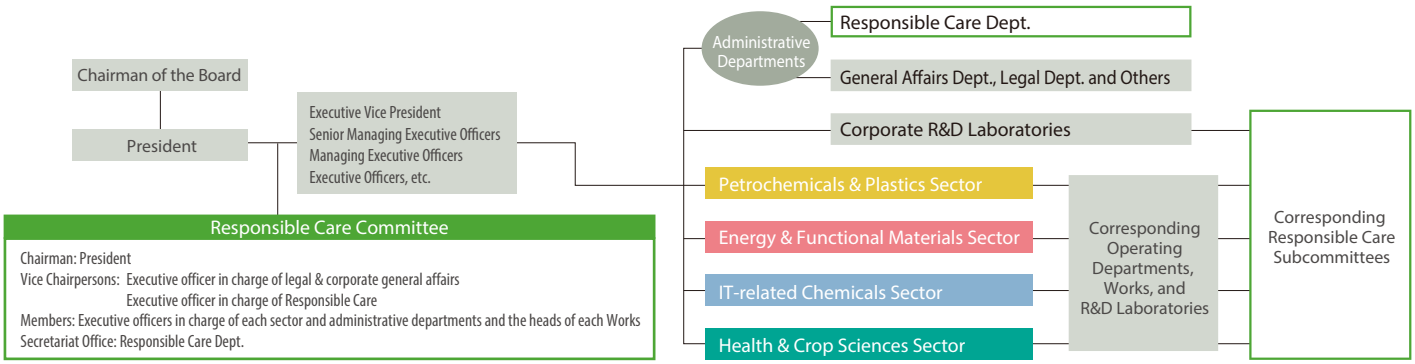
1. We will achieve zero-accident, zero-disaster targets to ensure safe and stable operations.
2. We will conduct risk management throughout the life cycle of our products, from the stages of development to manufacturing, logistics, use, and disposal and strive to ensure the safety of our employees, those involved in logistics, customers, and general consumers as well as the local community while also preserving the environment.
3. We will strive to develop safe and environmentally friendly products and manufacturing processes.
4. We will promote energy and resource conservation and waste reduction, thereby easing the environmental burden.
5. We will comply with all domestic and international laws, regulations and ordinances related to safety, the environment, and product quality, and further enhance our related voluntary initiatives.
6. We will implement the requisite education and training related to safety, the environment, and product quality.
7. We will disclose information on Responsible Care Activities and engage in dialogue with society to ensure we meet society's expectations, respond to its interests, and remain accountable to the same.
8. We will continuously improve Responsible Care Activities based on Responsible Care auditing and third party verification.
9. We will support the Responsible Care Activities of Group companies, contractors and other business partners and help them carry out initiatives to enhance the same both at home and abroad.

Revised: July 15, 2013 (Established: January 1995)

Organization of Responsible Care Activities

Sumitomo Chemical's RC activities are classified into the fields of occupational safety and health, industrial safety and disaster prevention, environmental protection and climate change, product responsibility and product stewardship, Responsible Care audits, and logistics. As the highest body for deliberating and approving RC activities, the Responsible Care Committee is chaired by the president and comprises executive officers supervising the administrative departments and the four business sectors of the Company, and the General Manager of each Works. The Committee puts in place annual policies on activities, medium-term plans, and specific measures as they relate to Responsible Care. The Committee also analyzes and assesses the results of Responsible Care activities.

Organization of Responsible Care Activities



Implementing Sumitomo Chemical's Medium-Term Plan for Responsible Care Activities

	Medium-Term Plan (for fiscal 2016 to 2018)
Occupational Safety and Health	Improve the Group's culture of safety by strictly following safety requirements
Industrial Safety and Disaster Prevention	Bolster safety assurance capabilities by improving process risk assessment and promoting safety measures
Environmental Protection	Properly respond to more stringent laws and regulations and proactively address trends in new environmental regulations
Addressing Climate Change	Work to improve unit CO_2 emissions and energy consumption Establish an internal certification system for products that help address climate change and promote the development and adoption of said products
Product Responsibility and Product Stewardship	Further promote voluntary product quality control by actively using the comprehensive chemical management system (SuCCESS) and encourage the use of product safety risk assessments, including at Group companies
RC Audits	Reduce risks by expanding the scope of RC audits
Logistics	Reduce the number of logistics safety and quality-related incidents

Note: More details on the key activities for each field can be found on the following sections.

Promoting Responsible Care Activities as a Unified Group

Sumitomo Chemical shares policies and targets regarding RC across the entire Group. We promote activities as a unified group and aim to achieve outstanding performances in each area. To this end, in 2010 we therefore formulated the Group Responsible Care Standards, wherein specific requirements are set out. We abide by these standards and revise them when appropriate. In addition, we created the Responsible Care Management Manual to ensure a deeper understanding of the standards at Group companies. Since 2015, we have stationed Responsible Care specialists at regional headquarters around the world, including in Europe, the United States, and China. This has enabled us to develop RC activities rooted in each area. The Group is working to ensure, maintain, and improve safety, environmental protections, and quality assurance. Through these efforts, the Sumitomo Chemical Group is promoting activities to ensure that it continually enjoys the trust and understanding of society with regard to its business activities.

Furthermore, we established the Sumitomo Chemical Group's Safety Ground Rules in 2016 as a measure to further secure safety at all Group locations. We have since been working to promote awareness of the rules among all Group employees while further raising the

level of Group-wide safety activities and eliminating work-related accidents. Also, we are continually developing the human resources that are responsible for safety across the Group through training and practice at each production site as well as global meetings attended by the Responsible Care managers of Group companies in Japan and overseas.

In addition, to support the RC activities of Group companies, within the Responsible Care Department we formed a global management team that promotes a wide range of initiatives. The team holds regular face-to-face meetings. When an accident or disaster occurs at a Group company, the team promptly shares case studies with the rest of the Group and publishes a newsletter that covers information to prevent from occurring of similar disasters as well as articles on RC activity-related topics. The team also promotes various kinds of RC activities through RC awards for excellent RC activities of Group companies.

Industry Efforts around the Globe

Given the collective aim of creating a sustainable society, it has become more important for chemical companies to collaborate internationally in light of mounting global challenges, including preserving biodiversity, creating a recycling society, and addressing the problem of climate change, as represented by the 2° C goal agreed upon by the world in the Paris Agreement. Sumitomo Chemical actively works together with the International Council of Chemical Associations (ICCA)*1 and the World Business Council for Sustainable Development (WBCSD)*2 to tackle these issues head on and provide effective advice to the world.

Sumitomo Chemical participates in the activities of the ICCA and is active in a number of Global Working Groups, including one on energy and climate change and one on chemical policy and health. We work together to create reports compiling study results, conduct surveys, and promote the greater acceptance of product quality control methods. Specifically, we helped gather the opinions of ICCA members regarding climate change policies and reported the results at an event at COP21, which was held in Paris in December 2015.

In addition, we participate in the Chemical Policy and Health taskforce and help conduct surveys of systems around the world for relaying information on the chemical substances products contain and promote product stewardship in participating countries, especially those in Asia.

Moreover, we are collaborating to consider building a system that aims to promote sustainability through participation in the Chemical Sector Group's Discussion in the WBCSD.

*1 ICCA: This organization was established to harmonize the strategies of chemical industry associations and councils around the world through dialogue and cooperation. As the principal representative of the chemical industry, ICCA presents opinions to international organizations about key topics shared by its members and various activities of the chemical industry.

*2 WBCSD: This organization was established to advocate for business sector views on sustainable development. The group weighs in at international conferences, such as the World Economic Forum, the B20 Summit, and the Conference of the Parties of the UNFCCC.

Progress in Fulfilling Eco-First Commitments

Sumitomo Chemical has participated in the Eco-First Program of Japan's Ministry of the Environment since November 2008. As a leading company in the chemical industry, Sumitomo Chemical is committed to fulfilling its Eco-First commitments to the Japanese Minister of the Environment while ensuring legal compliance and enhancing RC activities.

Results ● Very favorable / ○ Generally favorable

Management of Chemical Substances and the Promotion of Risk Communication

Reviewing safety information on chemicals and conducting risk assessments

- Completed hazard assessments for all substances included in the initial plan, performed risk assessments for 403 products, and publicly released 22 safety summaries (http://icca.cefic.org/)

LRI*1 Initiatives

●

- Promoted research by actively participating in the LRI program implemented by the Japan Chemical Industry Association as a member of the steering committee, planning and management task force, and research promotion panel*2

Enhancing information disclosure and risk communication

- Published the *Sumitomo Chemical Report* (an integrated report), the Sustainability Data Book, the Report on the Environment and Safety (at all plants), local PR newsletters, etc., made information publicly available on the official website, made school visits, accepted student interns, and engaged in dialogue with local residents

Realizing Safe and Secure Water Treatment by Developing and Applying Management Technology that Helps Reduce Environmental Impact

Considering Appropriate Water Treatment Methods and Standardizing Methods for Assessing Various Process Waste Water Expelled from Works

- In light of current operating conditions, we considered the necessary standardization and optimization of each Works' methods for assessing and treating effluent from new manufacturing processes

●

Using Microbiota Analysis, Microbial Immobilization and Other Proprietary Technology to Increase the Sophistication of Activated Sludge Treatment

- Regarding the treatment of process waste water in some facilities, we have switched from the previous incineration method to a system employing a microbial immobilization treatment that allows activated sludge treatment and began operations on an industrial scale. In addition, we use the latest genetic analysis methods to assess the biota comprising the activated sludge, which is processed at each Works independently.

Helping Create a Sustainable Society

Starting Sumika Sustainable Solutions

- We launched initiatives to internally designate products and technologies that contribute to global warming countermeasures and environmental impact reduction. A total of 34 products and technologies have been designated, with combined sales of ¥293.4 billion in fiscal 2016 (consolidated). They are projected to contribute to a collective 53 million tonne CO_2 equivalent reduction in greenhouse gases throughout their life cycles in fiscal 2020.*3

●

Improving Energy Efficiency

- As a result of working to improve energy efficiency, the Company-wide unit energy consumption in fiscal 2016 improved 2.7% year on year, and unit CO_2 emissions from energy improved around 16% compared with fiscal 2005.

Holding Dialogues with Internal and External Stakeholders

- Explained to internal and external stakeholders the importance of the Company helping to create a sustainable society and the Company's related measures, thereby deepening mutual understanding through dialogue.

---

*1 Long-range Research Initiative. Long-term support for research into the effects of chemical substances on human health and the environment

*2 Commissioned expert research into the development of new risk methods, assessments, and related activities; held a meeting to report on the results of the research

*3 This value represents the amount contributed to the reduction of greenhouse gases over the life cycles of certified products expected to be sold in fiscal 2020, based on the guidelines of the Japan Chemical Industry Association and the ICCA.

Note: Sumitomo Chemical updated its Eco-First commitments in April 2016 and implemented measures to fulfill the revised version since fiscal 2016. (For the full text of the Eco-First commitments, see p.37)

The Role of Responsible Care (RC) Audits

The RC audit is a management system to verify that the RC activities such as ensuring safety and the environment, and maintaining and improving the quality of chemical products are properly implemented. It also promotes process enhancement if areas for improvements are found in those activities.

To promote the Sumitomo Chemical Group's RC global management, RC audit activities fulfill the functions of improving management and building, maintaining, and improving the internal control system through the following four-step approaches.

Step 1: Sharing Sumitomo's Business Principles and Philosophy

Step 2: Promoting an understanding of and sharing in the Corporate Policy on Safety, the Environment and Product Quality; Policy on Responsible Care Activities; RC management systems; and Group Responsible Care Standards

Step 3: Establishing and developing RC management systems at each Group company

Step 4: Carrying out modifications to the direction and adjusting levels of RC activities by undergoing RC audits

Through face-to-face communication through each of the aforementioned steps, we have successfully provided assistance so that the RC management system is set in place by taking the scale, type of business, and attributes of each Group company into consideration.

Relationships with Group companies that have been nurtured through these RC audits are utilized in various initiatives including individual support and the lively exchange of opinions aimed at resolving a wide range of issues at the Group companies.

Responsible Care Auditing Framework

Sumitomo Chemical has an independent RC audit team. The RC auditors, who have a wealth of knowledge, experience, and technical expertise, take the lead in directly visiting internal Works as well as Group companies and conducting audits. In addition, RC audits of internal Works and research labs are conducted from a management perspective by Sumitomo Chemical's executive officers in charge of RC.

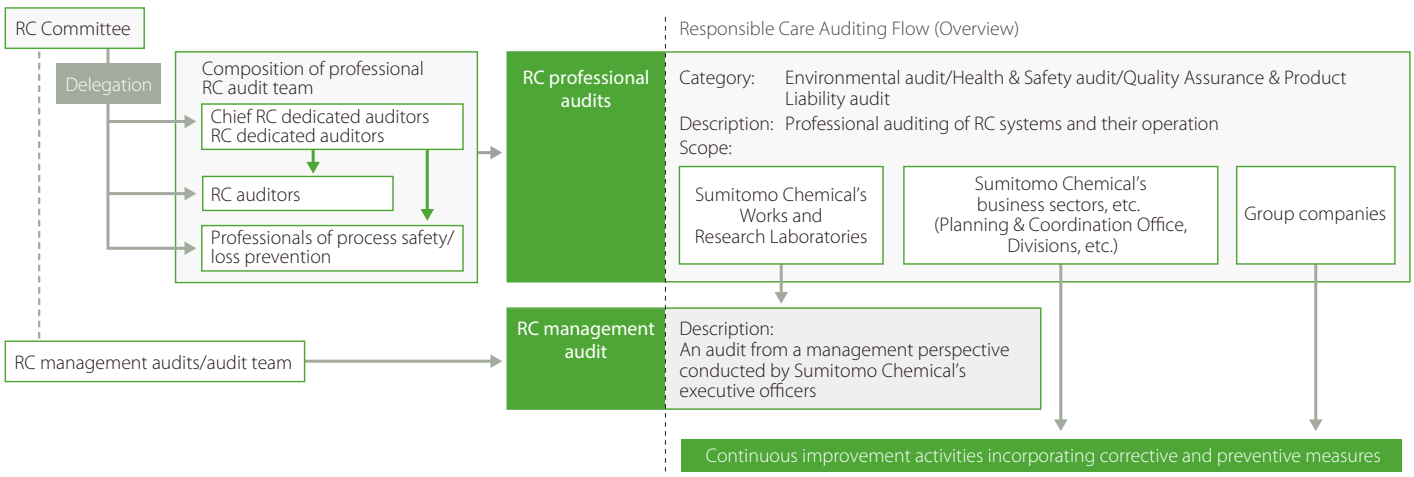
Features of Sumitomo Chemical's RC audits:

- Support is provided in the form of advice and proposals to ensure improvement at Group companies.
- Throughout RC audits, human resource development programs are incorporated to train Manufacturing Section Heads of Sumitomo Chemical and RC staff of Group companies.
- Local consultants are engaged to ensure the thoroughgoing and comprehensive check of compliance at overseas Group companies.

The scope and cycle

In principle, RC audits are conducted every one or two years at Sumitomo Chemical's Works and business sectors, and every three years at Group companies.

Responsible Care Auditing Framework



Looking Ahead

We will play a central role in global RC management and aim to contribute to business creation and effective management.

Environmental Protection

Basic Stance

Everyone in the Sumitomo Chemical Group works together to realize environmental management, which helps the Company and society develop in a sustainable manner with due considerations to the environment. Our aim has always been to realize environmental management through our business operations. Thus, we constantly think about how to use the power of chemistry to help resolve global issues, including those related to energy and the environment.

Under the medium-term plan for climate change and environmental protection, which commenced in fiscal 2016, we are working to strengthen key initiatives concerning our production activities with the aim of further enhancing environmental management.

Priority Initiatives of the Medium-Term Plan for Addressing Climate Change and Protecting the Environment (Fiscal 2016–Fiscal 2018)

(1) Addressing Climate Change

- Achieve the world's highest energy efficiency standards
- Develop processes and products that help build a low-carbon society
- Effectively implement the management of energy, CO_2, and fluorocarbons
- Respond to government policies on energy and global warming in Japan and overseas

(2) Protecting the Environment

- Properly respond to more stringent laws and regulations and proactively address trends in new environmental regulations
- Promote voluntary activities related to environmental protection
- Provide individual support to Group companies for responding to environmental regulations
- Provide guidance and support to formulate consolidated Group targets and to achieve said targets

Overview of Activities (Key Initiatives and Major Results in Fiscal 2016)

Promote an optimum mix of appropriate legal and regulatory compliance measures and voluntary activities

We respond to revisions of laws and regulations in a systematic and timely manner. We revise environmental risks in various fields and take measures to reduce risks while weighing the costs and benefits.

Standardize environmental protection management methods and reduce environmental treatment expenses

Sumitomo Chemical completed the introduction of a data management system that uses a cloud system in order to ensure the accurate and prompt collection of a wide range of performance data related to energy and the environment for each Works of the Company and all Group companies in Japan. Going forward, we will roll the system out to Group companies overseas. Meanwhile, we are continuing to carry out the trial evaluation of a waste management system designed to strengthen compliance and increase efficiency by providing the visualization of waste management data from major plants. The entire Group regularly works to efficiently reduce its environmental processing costs for gas emissions, water emissions, and waste materials.

Strive to achieve the new common energy and environmental protection targets

In fiscal 2016, we recalculated the base value of net sales for each Sumitomo Chemical Group company and selected major consolidated subsidiaries possessing manufacturing plants for inclusion in the scope of calculation. We used fiscal 2015 (in Japan: fiscal-year basis; overseas: calendar-year basis) as the base fiscal year. There are five targets: 1. Improve unit energy consumption; 2. Improve unit CO_2 emissions from energy use; 3. Maintain overall emission levels into the air and water; 4. Maintain industrial waste landfill levels; 5. Improve unit water consumption. Group companies in Japan work together on items 1 through 4 as common goals. Group companies overseas work together on items 1, 2, and 5 as common goals. Going forward, we will assemble the results of every fiscal year then follow up on the results of each company and continue striving to improve the performance of the entire Group.

Environmental Protection

Launching Sumika Sustainable Solutions

Sumitomo Chemical has been developing processes that have low impact on the environment and products with improved performance in terms of environmental friendliness, safety, and quality. Beginning in November 2016, however, we completely overhauled the content of measures implemented under the banner of Sumika Sustainable Solutions. We designate products and technologies based on nine requirements, including global warming countermeasures and environmental impact reduction, in order to manifest our active contributions to the creation of a sustainable society through our businesses. Through designation, we have ensured that our products and technologies are aligned with the SDGs.

A total of 34 products and technologies have been designated thus far, and these items drew ¥293.4 billion in net sales in fiscal 2016. Those products are expected to contribute to a reduction of greenhouse gases*1 totaling around 53 million tonnes over the course of their life cycles.

*1 This value represents the amount contributed to the reduction of greenhouse gases over the life cycles of certified products expected to be sold in fiscal 2020, based on the guidelines of the Japan Chemical Industry Association and the ICCA.

Addressing Global Climate Change

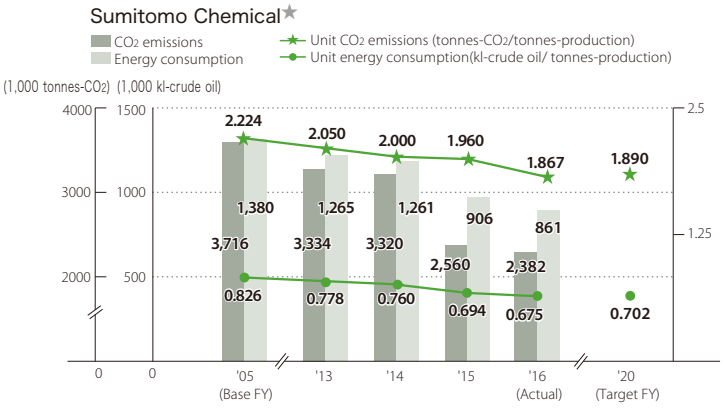
In November 2016, the Paris Agreement entered into force, obliging over 190 nations and organizations to reduce greenhouse gas emissions and strive to keep the rise in the average global temperature below 2° C compared to preindustrial levels. It is very important to both realize a sustainable society through economic development and deal with climate change, including extreme weather events that severely impact our lives on a global scale, by mitigating the effects of such change and adapting to new realities.

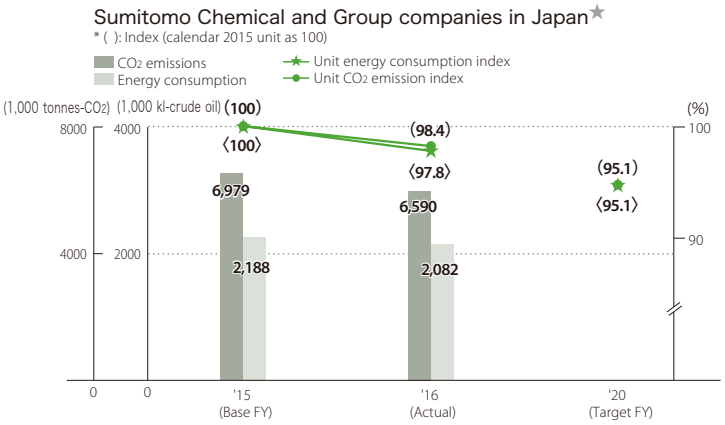
To reduce greenhouse gas emissions at our domestic Works, we are replacing old equipment, rationalizing production processes, installing energy-saving equipment, introducing LED lighting, and improving activities so that employees can save more energy. We have also begun working with experts mainly to cut the energy usage of equipment that is highly specialized and difficult to upgrade, such as the equipment in clean rooms.

The energy managers of each Works share the status and other useful information pertaining to these activities at periodical meetings and are working to reduce greenhouse gas emissions across the Company.

Thanks in part to these efforts we reduced energy consumption 45 thousand kl (crude oil basis), and CO_2 emissions from energy sources 178 thousand tonnes year on year in fiscal 2016.

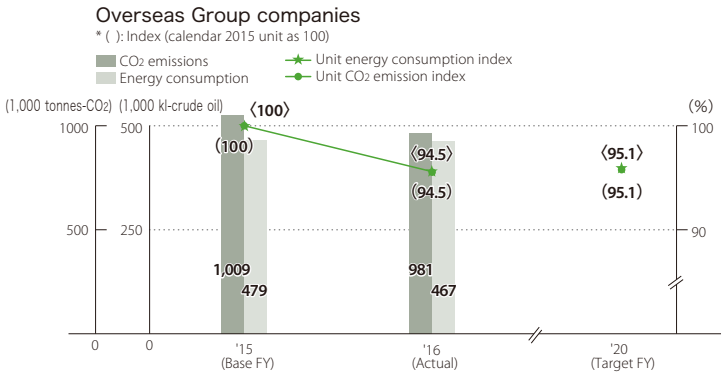
Trends in Energy Consumption, Unit Energy Consumption, CO_2 Emissions from Energy Use, and Unit CO_2 Emissions





Note: CO_2 emissions and energy consumption for fiscal 2015 and 2016 include the CO_2 emissions and energy consumption related to the production of electricity and steam that Sumitomo Joint Electric Power Co., Ltd. sold to Sumitomo Chemical, Group companies in Japan and companies outside the Group.

★: Assured by an independent assurance provider



Data by Scope

Sumitomo Chemical's emissions by scope in fiscal 2016 are shown below. For scope 3 data, indirect greenhouse gas emissions from business activities throughout the supply chain are calculated separately by category and then added together.

Status of CO_2 Emissions by Scope (Sumitomo Chemical)

Category classification	Emissions (1,000 t-CO_2/year)
Scope 1 (direct emissions) ★	1,294
Scope 2 (indirect emissions from energy use) ★	1,183
Scope 3 (other indirect emissions, upstream and downstream)	3,641

Note: Scope 1 includes CO_2 and N_2O (CO_2 equivalent) emissions from non-energy sources

Status of Scope 3 GHG Emissions (Sumitomo Chemical)

Category	Emissions (t-CO_2/year)
1. Purchased goods and services★	1,480,000
2. Capital goods	107,000
3. Fuel- and energy-related activities not included in Scope 1 and 2★	207,000
4. Upstream transportation and distribution★	55,500
5. Waste generated in operations★	19,400
6. Business travel	3,680
7. Employee commuting	7,140
8. Upstream leased assets	660
11. Use of sold products★	34,200
Other (downstream)	1,726,000

Note: From fiscal 2016, the scope of calculation for category 1 (purchased goods and services) changed from around 80% of purchased raw materials to around 90%. Calculated using the previous manner, emissions would total 1,210,000 t-CO_2.
Other (downstream) is the total of Category 9 (downstream transportation and delivery), Category 12 (waste disposal of sold products), and Category 15 (investment).

The BioCarbon Fund

Sumitomo Chemical finances afforestation projects in developing countries and poverty-stricken countries through the World Bank's BioCarbon Fund.*1 These projects are geared to contribute to the restoration of abandoned land, the conservation of water resources, biodiversity conservation, and the reduction of greenhouse gases.

Since participating for the first time in 2005, Sumitomo Chemical has been involved in multiple afforestation projects, which have led to a combined total of 175,000 tonnes in reductions in CO_2 emissions.

*1 BioCarbon Fund: This fund was established by the World Bank to finance projects to plant trees and preserve forests with the objective of acquiring CO_2 credits (emissions rights issued based on the volume of CO_2 reduced or absorbed as a result of projects designed to reduce greenhouse gases).

★: Assured by an independent assurance provider

Participation in COP22

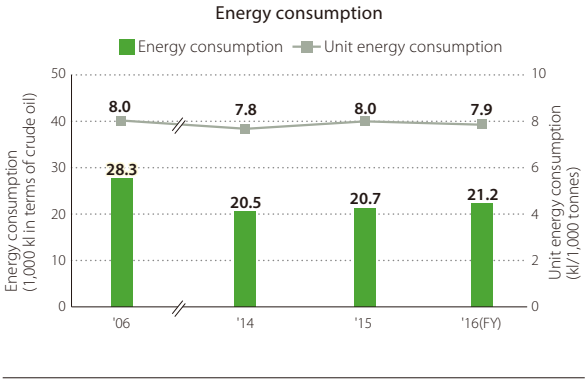
Understanding that climate change must be addressed, people are paying more attention to the development of products and technologies that can facilitate adaption to the changes. The Company's malaria prevention mosquito net Olyset™ Net was introduced as a tool for helping prevent a rise in malarial infections due to climate change at COP22, which was held in Morocco in November 2016, and Japan's Ministry of the Environment's Climate Change Adaption Platform, and other venues.
(http://www.adaptation-platform.nies.go.jp/lets/sumitomokagaku.html (Japanese only))

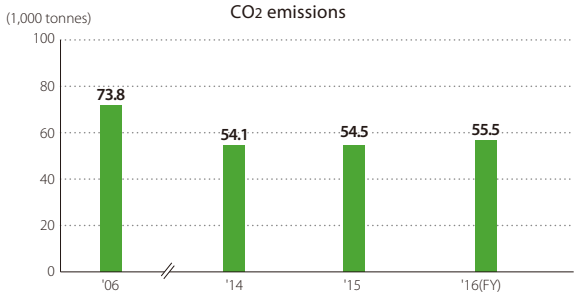
A speaker at COP22's Japan Pavilion during a session entitled, "Adapting to Climate Change: Can the Private Sector Lead the Way?"

Logistics Initiatives

Sumitomo Chemical continues to promote modal shift, or transportation by more efficient and environmentally friendly modes, such as rail and ship instead of trucks. In fiscal 2016, unit energy consumption fell by 1.0% compared with fiscal 2015. We continue to aim to improve unit energy consumption by 1% or more.

Reduction of Environmental Impact in Logistics Operations (Sumitomo Chemical) ★





★: Assured by an independent assurance provider

Environmental Performance

Sumitomo Chemical collates and totals environmental data for the Company and Group companies in Japan, including data on energy and resource consumption, production quantities, and environmental impact (e.g., release of pollutants into the air and water).

Primary Environmental Performance (Fiscal 2016)

Figures in black: Sumitomo Chemical and Group companies in Japan
Figures in green: Sumitomo Chemical

INPUT Energy and Resources

Water★

	(Millions of tonnes)	
Industrial water	66.1	60.6
Drinking water, etc.	0.8	0.4
Seawater	888.4	165.1
Groundwater	16.7	14.3
Other water	2.7	2.7
Total	974.7	243.1

Energy★

Calculated as kl of crude oil

	(Thousands of kl)	
Fuel, heat, and electricity*1	1,081*2	861

Exhaustible resources

	(Thousands of tonnes)	
Hydrocarbon compounds	1,779	1,525
Metals (excluding rare metals)*3	116	111
Rare metals*4	0.17	0.05

PCB/CFCs under Secure Storage

No. of electrical devices containing high concentrations of PCBs*5	61 units	26 units
PCB volume*5	1.0 kl	0.1 kl
No. of refrigeration units using specified CFCs as a coolant	45 units	13 units
No. of refrigeration units using HCFCs as a coolant	235 units	133 units

OUTPUT Product Manufacturing and Environmental Impact

Products★

	(Thousands of tonnes)	
(Calculated on the basis of ethylene production)*6	1,517	1,276

Water Pollutant Emissions★

		(Tonnes)	
COD	Coastal waters/waterways	977	900
	Sewer systems	185	85
Phosphorus	Coastal waters/waterways	34	31
	Sewer systems	5	4
Nitrogen	Coastal waters/waterways	1,478	1,381
	Sewer systems	36	28
Substances subject to the PRTR Act*7		52	51

Waste Materials★

	(Thousands of tonnes)	
Waste generated*8	255	48
Landfill*8	21	1.4
(Breakdown)		
On-site landfill	0	0
External landfill	21*8	1.4

Atmospheric Emissions★

	(Thousands of tonnes of CO_2)	
Greenhouse gases (seven gases)*1		
Emissions from energy use (CO_2)	2,979*2	2,382
CO_2 emissions from other than energy use	61	50
N_2O	125	45
HFC PFC*9 Methane Sulfur hexafluoride NF_3	–	–

	(Tonnes)	
Others		
NOx	4,736	1,806
SOx	4,920	1,121
Soot and dust	166	41
Substances subject to the PRTR Act*7	454	262

*1 Up to fiscal 2011, the energy (kl in terms of crude oil) and greenhouse gases (all seven gases) indices were calculated using the computation method applied since the Company began collating environmental performance data (the types of energy targeted for calculation, greenhouse gas emission sources, and CO_2 emission coefficient differ partially from the Greenhouse Gas Emissions Accounting, Reporting, and Disclosure System based on the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures). In fiscal 2012, calculations were realigned to agree with the computation methods of the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures.

*2 In accordance with note 1, and in line with the change in computation method in fiscal 2012, figures for the amount of energy consumed and the amount of CO_2 emissions from energy use by Sumitomo Joint Electric Power Co., Ltd., a company that engages in power business activities, include the amount of energy consumed internally and the associated CO_2 emissions, but do not include the amount of energy consumed and the associated CO_2 emissions from the production of power and steam sold to external parties. If the amount of energy consumed and the associated CO_2 emissions from the production of power and steam sold to external parties by Sumitomo Joint Electric Power Co., Ltd. are included, the energy (kl in terms of crude oil) and CO_2 emissions from energy use indices for Sumitomo Chemical and Group companies in Japan would be 1,750 thousand kl and 5,323 thousand tonnes-CO_2 respectively.

*3 Calculations include the following 12 metals: iron, gold, silver, copper, zinc, aluminum, lead, platinum, titanium, palladium, gallium, and lithium.

*4 Calculations include the following seven rare metals: nickel, chromium, tungsten, cobalt, molybdenum, manganese, and vanadium. The supply structure for each of these rare metals is extremely fragile. These rare metals are subject to national stockpiling.

*5 Fluorescent lamps and mercury lamp ballast as well as contaminated substances (wastepaper, etc.), including PCB waste, are not included in unit and volume data.

*6 Certain assumptions were made in calculations due to the difficulty of obtaining weight-based figures for some products. In addition, the amount of power and steam calculated on the basis of ethylene production sold to parties outside the Sumitomo Chemical Group by Sumitomo Joint Electric Power Co., Ltd., a company that engages in power business activities, has been excluded. The figure for products of Sumitomo Chemical and Group companies in Japan (calculated on the basis of ethylene production) come to 2,121 thousand tonnes when the aforementioned is included.

*7 Calculated based on the amount released into water/the air of each substance subject to the Order for Enforcement of the PRTR Act (promulgated on November 21, 2008).

*8 The amount of coal ash generated at Sumitomo Joint Electric Power, which is included in "Waste emissions" and "Landfill" (Sumitomo Chemical and Group companies in Japan) is calculated on a dry weight basis.

*9 Outside the scope of reporting under the Act on Promotion of Global Warming Countermeasures

★: Assured by an independent assurance provider

Environmental Protection

Protecting the Atmosphere, Water, and Soil

Sumitomo Chemical and Group companies in Japan work to identify major environmental risks in each field in line with the latest laws and regulations, including the Air Pollution Control Act, Water Pollution Control Act, and Soil Contamination Countermeasures Act. We take measures to systematically reduce risks related to highly important and urgent matters.

Protecting the Atmosphere

● Reining in PM2.5* Emissions

We conduct detailed surveys of boilers, gas turbines, heating furnaces, dry furnaces, cracking furnaces, waste incinerators, and other such equipment, testing for emissions of VOCs and other gaseous atmospheric pollutants, soot, SOx, NOx, and hydrogen chloride, which are also the source of secondary particles and PM2.5. We strive to further reduce emissions for each source.

* Particulate matter of up to 2.5 μm in diameter

● Enhancing Fluorocarbon Management

We are executing a plan with a definitive deadline to completely phase out refrigeration equipment that uses CFCs and HCFCs as refrigerants. With regard to refrigeration equipment that uses HFCs as well, we have begun considering systematically switching over to equipment that uses HFCs with a low global warming potential or to non-CFC equipment.

We aim to dutifully adhere to this plan, which, in line with the Act for Rationalized Use and Proper Management of Fluorocarbons, includes devising ways of minimizing leaks when industrial refrigeration and air conditioning equipment is in use as well as taking thorough, swift action once problems related to equipment installation are uncovered.

● Emissions of Mercury into the Atmosphere from Waste Incinerators

We measured concentrations of mercury (both gas and particles) emitted into the atmosphere by our waste incinerators, which we own as assets, and completed a study of the impact of these emissions. The results have confirmed that mercury is being effectively removed by emission gas removal equipment, including bag filters and scrapers installed at incinerators, and that the concentration of mercury released into the atmosphere from any of our incinerators does not exceed the emission guidelines set under the Air Pollution Control Act.

Protecting Aquatic Environments

● Regulations for Reducing Total Water Emissions

We are continually working to reduce the impact of water emissions from our plants on Tokyo Bay and other closed coastal waters where regulations are in place for reducing the total water emissions of COD, nitrogen, and phosphorus. To help achieve the goals of the eighth basic policy on reducing total water emissions, which has a target fiscal year of 2020 and covers all prefectures in Japan, we will continue to work to treat water emitted by our Works.

● Promoting Safer and More Reliable Water Treatment

We have developed water treatment management technology that helps reduce our impact on the environment and are employing this technology to realize safe and reliable water treatment at all our plants.

Protecting the Soil Environment

Based on soil management conditions at Sumitomo Chemical business sites, we have established targets to prevent harmful substances (oil, heavy metals) from spreading beyond the boundaries of these sites. To this end, we have continued surveys and evaluations of soil contamination as well as remediation work on Group-owned land. We have also monitored groundwater close to our boundaries on a regular basis to confirm that levels of hazardous materials, including heavy metals and oils, are below those stipulated by environmental standards.

Thorough Waste Management and the Reduction of Landfill Waste ★

Sumitomo Chemical and Group companies in Japan work in unison to make industrial waste treatment more transparent and to properly manage it. We have worked to help achieve the goals of the Japan Business Federation's voluntary environmental action plan, a major industry initiative. Among these goals was to reduce the amount of industrial waste sent to landfills to 70% below the fiscal 2000 level by fiscal 2020. In addition, we set in-house reduction targets and work to reduce the amount of waste generated and promote recycling.

★: Assured by an independent assurance provider

In fiscal 2016, landfill waste was 1.4 thousand tonnes on a non-consolidated basis and 21 thousand tonnes for Sumitomo Chemical and Group companies in Japan, representing reductions well beyond the targets of the above-mentioned action plans.

We will formulate new targets for fiscal 2017 onwards and continue to properly manage waste and reduce landfill waste.

Processing PCB Waste

As for both high- and low-concentration PCB-containing waste, the entire Group is stepping up its equipment surveys, seeking to identify PCB-containing devices currently in use, including condensers, transformers, and stabilizers. In addition, we are disposing of waste in line with the regulations stipulated in the Act on Special Measures against PCB Wastes.

Promoting the Effective Use of Water

The Sumitomo Chemical Group recognizes that the importance of water as a limited natural resource is a global issue. We strive to reduce the amount of water we use by examining more effective ways to use water by application, while continuing to maintain and improve the quality of water released from our business sites into public water resources such as the ocean and waterways.

Water Usage (Sumitomo Chemical, Overseas Group Companies)

(Millions of tonnes)

	FY2015	FY2016 (Actual)
Sumitomo Chemical★	282	243
Overseas Group companies	6.99	7.09

Note: From the fiscal 2015, the figures are retro actively adjusted as for the Group companies listed in page 2.

★: Assured by an independent assurance provider

Biodiversity Preservation Initiatives

Taking biodiversity into consideration is one of Sumitomo Chemical's most important pillars as it strives toward building a sustainable society. We actively participate in a private-sector biodiversity partnership while giving considerable thought to what we should be mindful of as a chemical company. We are also expanding individual activities at Group companies.

Example Activities

- Promoting "Sumika Sustainable Solutions"
- Improving energy efficiency, recycling resources, promoting the 3Rs, encouraging CSR procurement
- Undertaking environmental impact assessments at the planning stage for new plant construction and implementing countermeasures
- Implementing environmental protection projects jointly with NGOs
- Complying with internal safety management regulations pertaining to the use of genetically modified organisms
- Undertaking proper management of chemical substances

Sumitomo Chemical's Commitment to the Conservation of Biodiversity

1. We position the conservation of biodiversity as one of our most important management issues and strive to help protect the global environment.
2. We work to continuously reduce environmental impact in our production operations and our development and supply of products and services and in cooperation with third parties in the supply chain and thereby contribute to the conservation of biodiversity.
3. By regularly implementing education programs, we ensure that employees fully recognize and understand the importance of biodiversity and promote our commitment to its conservation.
4. We continuously engage in corporate social responsibility activities that contribute to environmental protection and lead to greater trust and confidence from society.
5. We disclose the results of these efforts and maintain effective communication with the general public.

Looking Ahead

To effectively use the earth's limited resources and shift to a sustainable society, we must fulfill our ever expanding role in the field of environmental conservation.

The Sumitomo Chemical Group aims to further reduce environmental risks through measures intended to address environmental conservation issues. These measures are centered on ongoing strict risk management, adherence to domestic and overseas regulations, careful monitoring of environmental trends, and promoting proactive and effective voluntary activities.

Product Responsibility / Product Stewardship

Basic Stance

Product Stewardship at Sumitomo Chemical

Under its Corporate Policy on Safety, the Environment and Product Quality, Sumitomo Chemical promotes product stewardship*1 and works to provide products and services that satisfy customers and can be used with peace of mind.

To achieve the 2020 target*2 proposed at the World Summit on Sustainable Development (WSSD) in 2002, it is now time for chemical management to be risk-based in regard to laws and regulations as well as company efforts to promote product stewardship on a global basis.

To achieve the 2020 target, Sumitomo Chemical lends its full support to voluntary initiatives to enhance product stewardship, including the Global Product Strategy (GPS)/Japan Initiative of Product Stewardship (JIPS)*3 put forward by chemical industry associations, including the International Council of Chemical Associations (ICCA) and the Japan Chemical Industry Association. As a promoter of these initiatives, we actively participate in capacity-building activities, conduct risk assessments of our products, and perform risk-based management.

*1 Product stewardship: The assessment of risks and protecting people's health and the environment from those risks throughout the product life cycle, which encompasses the entire supply chain from the development of chemical products to manufacture as well as sale, use/consumption, and disposal.

*2 2020 target: Ensure that chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment.

*3 GPS/JIPS: Initiatives that call on companies to conduct risk assessments of their products and to engage in appropriate chemical management based on risk in order to minimize risks throughout the supply chain. Under GPS/JIPS, toxicological information on chemical products is disclosed to the general public, including customers.

Ensuring Thorough Compliance

Sumitomo Chemical Group conscientiously adheres to various laws and regulations related to the manufacture, import, export, and sale of goods. We are working to ensure thorough compliance throughout our entire globally expanding group of companies.

Quality Assurance

To supply products and services of stable quality to our customers, the Group maintains its commitment to further improving product quality and is continually enhancing its global quality assurance system, which is tailored to each product.

Overview of Initiatives

Risk Assessment and Management throughout the Entire Product Life Cycle

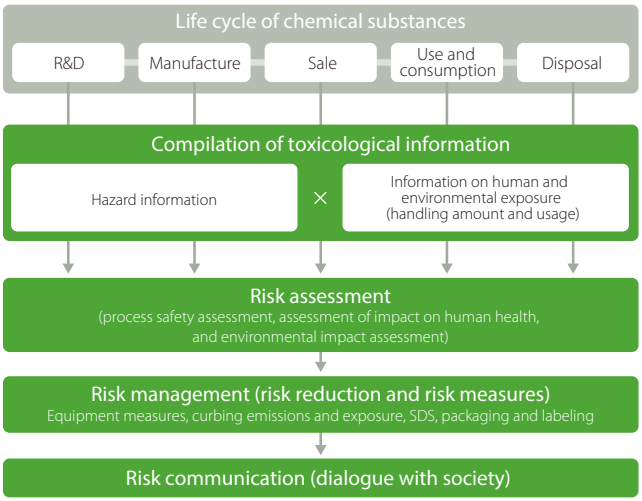
Sumitomo Chemical supports the Ministry of the Environment's Eco-First program, having pledged to systematically conduct appropriate risk assessments for its products manufactured or sold in annual amounts of one tonne or more by fiscal 2020 in line with the voluntary initiatives (GPS/JIPS) adopted by chemical industry associations. The results of the assessment are compiled into a safety summary and made publicly available online, including on ICCA's portal website http://icca.cefic.org/.

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. 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.

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 as well, we conduct risk assessments of applications and uses using failure mode and effects analysis (FMEA) and other methods in addition to the above-mentioned chemical substance risk assessments. The Company rigorously assesses products slated for launch prior to marketing them and reassesses items already being sold. In fiscal 2016, we performed 88 risk assessments, including for high-risk products.*4 In the seven-year period from fiscal 2010 to 2016, we assessed a total of 403 products and checked the implementation status of risk reduction measures. We strive to ensure product safety risks are properly managed throughout the entire Group.

*4 High-risk products: Products likely to have relatively high risks due to the nature of the chemical substances the product contains and the product's application.

Risk-Based Chemical Management throughout the Entire Life Cycle



The Information Sharing System and Ensuring Thorough Compliance

The governments of Europe, the United States, and China 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. And as for South Korea and Taiwan, both of which have recently seen rapid and major changes in the legislative environment, together with group companies, we are collecting information through local chemical associations around the world.

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 transferring data. In addition, our local Group company Sumitomo Chemical Europe is drawing up letters about its registration status in response to its customers' wishes as well as a declaration of conformity, which states the status of compliance and certificate acquisition with regard to various regulations.

In fiscal 2016, there were no reports of violations of regulations or self-imposed restrictions for Sumitomo Chemical products and services at any stage of their life cycles. There were no reports of violations of regulations or self-imposed restrictions regarding information or labeling for products or services.

Effective Use of SuCCESS

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 (SuCCESS).*5 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. We also use this system to create SDS*6 in around 40 languages to comply with GHS*7 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 nine Group companies in Japan and overseas as of fiscal 2016.

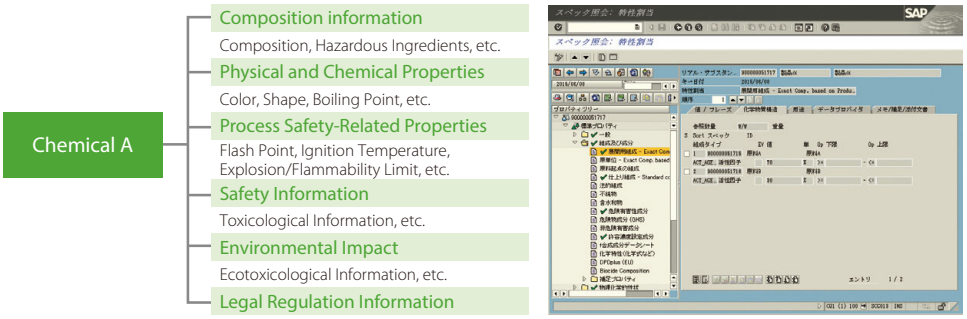
*5 Sumitomo Chemical Comprehensive Environmental, Health & Safety Management System (SuCCESS)

*6 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).

*7 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

Management of chemical composition, toxicological, regulatory information based on tree-shaped structure



Careful Consideration for Animal Studies

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 on humans, animals, and the environment cannot be completed without conducting experiments using laboratory animals. Sumitomo Chemical advocates the humane treatment of laboratory animals and applies the 3Rs of replacement, reduction, and refinement to conduct animal studies appropriately with due consideration for animal welfare.

Providing Stable Quality Products and Services

The Sumitomo Chemical Group is proud to provide its customers with products and services from a variety of fields centered on chemicals. In order to continue to supply its customers stable quality for all our products and services, we have established quality assurance systems based on quality management systems and manufacturing and quality management guidelines, such as ISO 9001*8 and GMP,*9 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.

Unfortunately in fiscal 2016, one major quality problem with our products occurred at Sumitomo Chemical and two at consolidated Group companies. Working to determine the causes of each of these problems, we are promoting strict preventive measures.

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 management of overseas suppliers and contractors. We are also improving quality assurance at all Group companies through developing countermeasures to quality issues by sharing relevant information about incidents occurring within the Group and sharing information on the state of product quality and safety at Group companies.

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

*9 Good Manufacturing Practice (GMP): Guidelines relating to manufacturing and quality management of pharmaceuticals.

Looking Ahead

In line with its Eco-First commitments, Sumitomo Chemical promotes appropriate risk-based chemical management and is working to achieve its goal of completing risk assessments of all Group products and confirming the effectiveness of related strategies and measures by fiscal 2020.

In response to strong social demand for the proper management of chemicals, the establishment and revision of laws and regulations relating to chemical management are 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).

To improve customer satisfaction, the entire Group will continue to work to sustain its product and service quality improvements and to achieve an optimal product quality assurance system amid changing business conditions.

Occupational Safety and Health / Industrial Safety and Disaster Prevention

Basic Stance on Occupational Safety and Health

Sumitomo Chemical's core principle is "Making safety our first priority." The Company uses the following three guidelines and five fundamental and personal principles in achieving this goal.

(1) Line management is fundamental to Safety and Health.

(2) Each person is responsible for Safety and Health.

(3) Sumitomo Chemical is united with partner companies on Safety and Health.

Five fundamental and personal safety principles that each employee is expected to follow.

- I will give safety and health the top priority in every aspect of business.
- I will identify and resolve safety and health issues at the source.
- I will comply with rules and instructions.
- I will act with safety in mind 24 hours a day, not just during working hours.
- I will cooperate with all involved parties, including partner companies to ensure safety and health.

Initiatives to Prevent Labor Accidents

In fiscal 2016, there were two lost-workday injuries among Sumitomo Chemical employees, up two injuries year on year, and ten Sumitomo Chemical employee injuries that did not result in lost workdays, up one injury year on year. Sumitomo Chemical thoroughly investigates the causes of each accident and works to prevent accidents by taking such measures as ensuring strict adherence to safety rules, providing hazard prediction training, also known as Kiken Yochi Training (KYT), and sharing accident information.

Ensuring Thorough Compliance with the Sumitomo Chemical Group's Basic Safety Rules (Ground Rules)

In light of trends in the causes of accidents, the Group has established the following ground rules and is working to ingrain safe behavior.

1. Think Before You Act!
2. Help each other to be more aware of unsafe actions
3. Do not place hands in or around areas of working machinery / equipment

Improving Hazard Prediction Abilities

We are working to improve employees' hazard prevention ability—their ability to perceive and avoid danger—through, for example, behavior based safety training and workplace discussions using illustrations.

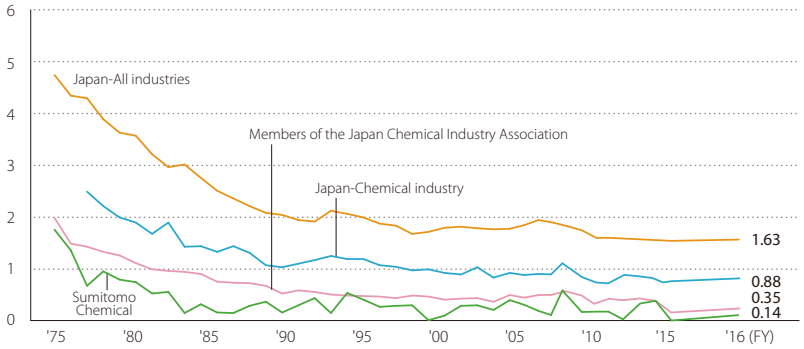
Sharing and Using Accident Data

The Group shares information about all accidents mainly for use in safety education and comprehensive on-site investigations. When an accident occurs, we conduct a thorough examination of the causes and organize studies on how to prevent recurrences through on-site inspections with the top management of the affected workplace and safety managers.

Opinion Exchanges

Ever year we organize several domestic and global RC meetings for information sharing and opinion exchanges by region, by business sector, and by purpose.

Frequency Rate of Lost-Workday Injuries (Sumitomo Chemical)★



Lost-Workday Injuries (Sumitomo Chemical Group *1)

	FY2013	FY2014	FY2015	FY2016
Number of lost-workday injuries	12	10	15	9
Frequency rate of lost-workday injuries	0.19	0.16	0.24	0.14

*1 Employees of Sumitomo Chemical, its partner companies, and its Group companies in Japan and overseas

Note: Data for previous fiscal years has been retroactively adjusted to enhance accuracy.

Awards for Safety

Safety awards are given to workplaces that achieve zero lost-workday injuries. The President's Award for workplace safety is presented to workplaces with both a solid safety track record and good practices for safety and health, which could be an example to other workplaces. The president's award was given to eight workplaces in fiscal 2016.

Safety Promotion through In-house Magazine, Slogan and Poster

In our in-house magazine, we have introduced examples of accidents that tend to happen at work and their preventive measures in a series of articles on enhancing safety since fiscal 2013. We also collect ideas each year for a slogan and a poster for safety and health, and make a poster using the best ideas and display it at each workplace to raise safety awareness.

Looking Ahead

Based on the core principle of "Making safety our first priority" all of the Sumitomo Chemical Group's employees will continue working hard to proactively and effectively carry out safety activities.

★: Assured by an independent assurance provider

Basic Stance on Industrial Safety and Disaster Prevention Management

The foremost mission of industrial safety and disaster prevention management is to prevent unforeseen industrial accidents, including fires, explosions, and the leakage of hazardous substances. At the same time, every effort must be made to minimize damage in the event of a natural disaster such as a major earthquake. Through these means, the Company is committed to securing the safety and peace of mind of employees and local communities. With this in mind, Sumitomo Chemical takes voluntary steps to put in place a safety management structure, undertakes stringent risk assessments of manufacturing plants and R&D projects, and works to continuously strengthen safety measures based on its evaluation of risks.

Fiscal 2016 Industrial Safety and Disaster Prevention Results

The Sumitomo Chemical Group achieved the target of "no severe industrial accidents"*1 in fiscal 2016 just as it did in fiscal 2014 and 2015.

However, there were six industrial accidents, which are minor accidents whose scale does not reach that of a severe industrial accident, in fiscal 2016. We will work to enhance safety management and quickly share the causes of the industrial accidents and the lessons learned across the entire Sumitomo Chemical Group.

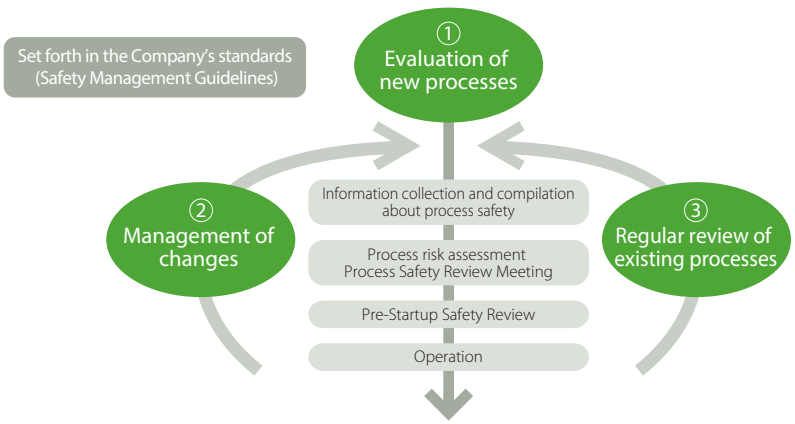
*1 "Severe industrial accidents" refers to any of the following workplace incidents:

- Accidents that cause injuries to local residents requiring outpatient/hospital treatment
- Accidents that result in lost-workday injuries to workers on the site
- Accidents that result in equipment and facility damage exceeding ¥10 million

Process Safety Management

Sumitomo Chemical performs process safety assessments at each stage from new chemical process R&D to plant design, construction, operation, maintenance, and even demolition. The items and procedures essential to safety assessment are specifically outlined in the Safety Management Guidelines that provide the standard for the Company.

Process Hazard Management (three routes)



(1) Evaluation of new processes

The Process Safety Review Meeting (levels 1 to 5) convenes at every step, from R&D through to industrial-scale production. These meetings are held to review that process safety assessment results and whether safety countermeasures are appropriate. This mechanism ensures that processes do not proceed to the next step unless adequate safety has been confirmed.

(2) Management of changes

When certain changes are made to, for example, improve plant facilities or modify operating conditions, the Company conducts all necessary safety assessments before such changes are made to ensure process safety levels are maintained after each change has been completed. As this system is utilized within the Company, it is well-known among Group companies and continues to ensure a process safety throughout the organization.

(3) Regular review of existing processes

Even when there is no change in the process, Sumitomo Chemical conducts regular reviews to catch up with the latest information on industrial safety technologies and to check whether there will be a significant impact from the long-term use of a plant.

Furthermore, Sumitomo Chemical does not just identify potential risks in regular operations, it also shines a light on irregular operations, such as emergency shutdowns of plant operations and subsequent restarts. Since 2012, we have been working to strengthen our capabilities to comprehensively identify process risks.

These efforts are not focused on achieving short-term goals. We incorporate lessons learned through our activities and achievements into the "Safety Management Guidelines" (revised in March 2017) to strengthen our capabilities of process safety assessment.

Earthquake Countermeasures

Sumitomo Chemical drew up a basic plan on earthquake countermeasures in 2004 taking the initiative to improve the earthquake resistance features of equipment and structures that were especially susceptible to the risk of damage.

Furthermore, in accordance with recent directives by government authorities to improve the seismic adequacy of existing facilities, we made a plan to obtain required earthquake-resistant features of critical high-pressure gas equipment and are carrying out reinforcements and reconstruction in line with the plan. Before carrying out this work, we took measures to reduce risk and ensure safety, such as reducing the volume of gas held in equipment in order to decrease its weight and meet the earthquake resistance criteria.

Industrial Safety and Disaster Prevention Education

Sumitomo Chemical has a variety of industrial safety and disaster prevention educational programs that reflect the operational roles of employees throughout the Company. The programs are aimed at bolstering the ability of employees to acquire knowledge and skills in order to ensure process safety.

In addition, we provide education to Group companies in Japan suited to each company's needs.

For example: Risk assessment method (HAZOP: Hazrd and Operability Studies) education.

Examples of Industrial Safety and Disaster Prevention Education

Name	Type	Purpose
In-House Safety Management System Education	e-learning	Fostering a deep understanding of the basic rules of safety management (the "Safety Management Guidelines")
Disaster Prevention Theory	Group Training	Promoting the acquisition of basic knowledge regarding safety and disaster prevention (for fires, explosions, reaction hazards, static electricity, etc.)
Fire and Explosion Training	Group Training and Self Study	Promoting the acquisition of knowledge to prevent accidents and perceive hidden dangers in the workplace through hands-on training related to fires and explosions
Company-wide Safety Education	Group Training	Training that covers the latest topics each fiscal year (The training in fiscal 2016 aimed to promote the acquisition of basic knowledge regarding static electricity safety and to raise awareness of the revised content of the "Safety Management Guidelines.")

Initiatives for Ensuring Safety in Logistics Operations

The Sumitomo Chemical Logistics Partnership Council was formed by Sumitomo Chemical and the logistics subcontractors (84 companies at 114 locations) for the Sumitomo Chemical Group companies in Japan. The Council maintains committees for Works in each area as well as for logistical centers (transport and storage) and marine transport-related operations nationwide. The Council is expanding the Logistics Department's Responsible Care activities. With regard to the transport of hazardous substances in tanker trucks and other vehicles, the Council annually holds a nationwide competition for tanker truck drivers as well as training workshops for instructing drivers on the basics of unloading trucks and on what to do when problems arise. In fiscal 2016, while we were able to achieve zero lost-workday injuries, there were two non lost-workday injuries. We will take various measures to improve the situation toward our goal of absolutely zero accidents.

Workplace Injuries in Logistics (in Japan)

(Number of cases)

	FY2012	FY2013	FY2014	FY2015	FY2016
Lost-workday injury	1	1	1	3	0
Non lost-workday injury	0	0	0	1	2

Note: Accidents caused by logistics subcontractors on the premises of Sumitomo Chemical workplaces and accidents caused by major logistics subcontractors outside the premises of Sumitomo Chemical workplaces.

Industrial Safety Action Plan

Industry organizations came together with the Japan Petrochemical Industry Association and drew up an industrial safety action plan in July 2013 in a bid to step up efforts aimed at promoting industrial safety. Here we introduce the Company's initiatives based on the action plan.

(1) Commitment by top management to industrial safety

- Sumitomo Chemical has identified efforts to ensure full and strict compliance and maintain safe and stable operations as one of the Group's priority management issues under its Corporate Business Plan.
- The president issues a safety week message to all employees and Group companies in Japan and overseas to coincide with National Safety Week, which begins on July 1 each year.
- We have held the President's Awards for workplace safety on a continuous basis since fiscal 2012.

(2) Setting industrial safety targets

- Each year, Sumitomo Chemical sets targets for a variety of key parameters, including the elimination of all accidents resulting in lost workdays as well as all severe industrial accidents. The Company engages in a broad spectrum of activities aimed at achieving these targets.

(3) Drawing up an action plan to secure industrial safety

- Sumitomo Chemical pursues activities aimed at thoroughly identifying industrial safety risks that encompass regular and irregular operations.

(4) Checking and evaluating progress toward achieving targets and implementing measures

- The Responsible Care Committee (see page 14 "Organization for Responsible Care Activities") reviews progress toward the achievement of targets and the implementation of measures. Findings under this review are reflected in the plan for the next fiscal year.

(5) Initiatives aimed at promoting voluntary safety activities

- The Sumitomo Chemical Group established the ground rules related to safety and strives to foster a culture of safety.
- Sumitomo Chemical designates one day each month as a "safety day" in an effort to continuously focus the attention of the entire Group on the importance of industrial safety.
- Academic experts conduct seminars and undertake an evaluation of safety assurance capabilities by the Process Safety Competency of Japan for Safety Engineering.

Looking Ahead

Sumitomo Chemical will enhance measures to improve existing risk assessment methods and provide guidance and support to Group companies regarding risk assessment methods. We will continue working to further raise the level of industrial safety and disaster prevention management and promote greater awareness across the Group of the following matters: "managers of each level check the real situation to see whether instructions and countermeasures are firmly in place," "strengthen workers' thorough checking capability," "when on a team, being aware of each other's unsafe actions," and "building up basic knowledge and experience and honing skills."

Responsible Care Activities, Supplementary Data

1. Responsible Care Management

▶ Environmental Management System (ISO14001)

◆ Acquisition of ISO14001 Certification (Sumitomo Chemical (Target: All Works))

Works and Certificate Number	Certification Date	
	ISO14001:1996	ISO14001:2004
Ehime Works (including Ohe Works) [JCQA-E-018]	April 1998	April 2006
Chiba Works [KHK-97ER-04]	June 1997	March 2006
Osaka Works [JQA-E-90072]	November 1997	January 2006
Oita Works (Gifu Plant) [JCQA-E-0206]	December 2000	December 2005
Oita Works (Okayama Plant) [JCQA-E-0218]	January 2001	February 2006
Oita Works [JQA-E-90152]	March 1998	April 2006
Misawa Works [JQA-EM0355]	March 1999	February 2006

ISO14001:1996 certification was obtained at all Works between 1997 and 2001. From 2005 to 2006, these Works took steps to undergo transitional inspections and obtained certification for ISO14001:2004, the revised version of ISO14001:1996.

▶ Quality Management System (ISO9001)

◆ Acquisition of ISO9000 Series Certification (Sumitomo Chemical (Target: All Works))

Works and Certificate Number	ISO9002:1994 Certification Date	ISO9001:2008 Certification Date
Ehime Works [JCQA-0019] [YKA-4004422/J]	October 1994 —	October 2009 August 2009
Chiba Works [JQA-0829]	March 1995	April 2010
Osaka Works [JQA-0721]	December 1994	December 2009
Oita Works (Okayama Plant) [JQA-1650]	March 1997	April 2010
Oita Works [JQA-1069]	December 1995	January 2010
Misawa Works [JQA-0752]	December 1994	December 2009
Ohe Works [JCQA-0320] [JCQA-1720]	April 1998 —	April 2010 January 2010

Certification of compliance with ISO9002:1994 was completed for all Works except the Oita Works (Gifu Plant)*1 between 1994 and 1998. Sumitomo Chemical made the transition to compliance with ISO9001:2008 in 2009–2010. The Ohe Works registered for ISO9001:2008 in 2010.

*1 The Oita Works (Gifu Plant) has been pursuing Good Manufacturing Practice (GMP) management as have other Works, including the Osaka Works, the Oita Works (Okayama Plant), the Oita Works and the Misawa Works.

▶ Occupational Safety and Health Management System (OSHMS)

◆ Acquisition of OSHMS Certification (Sumitomo Chemical (Target: Works and Research Laboratories)

Facilities	Certificate Number	Certification Date
Chiba Works	03-12-1	May 2003
Osaka Works	05-27-3	February 2005
Oita Works (Utajima)	09-27-14	January 2009
Oita Works (Gifu Plant)	09-21-6	February 2009
Oita Works (Okayama Plant)	09-33-7	February 2009
Oita Works	06-44-1	July 2006
Ohe Works	10-38-4	March 2010
Health & Crop Sciences Research Laboratory	07-28-9	January 2007
Tsukuba Regional Research Laboratory*2	05-8-3	December 2005

By fiscal 2009, Sumitomo Chemical acquired OSHMS certification from the Japan Industrial Safety and Health Association (JISHA) at four of its Works and two of its Research Laboratories.

*2 The Tsukuba Regional Research Laboratory was reorganized into the Advanced Materials Research Laboratory, IT-related Chemicals Research Laboratory (Tsukuba), and Energy & Functional Materials Research Laboratory (Tsukuba).

JISHA's Official Websites: https://www.jisha.or.jp/english/index.html (English)
https://www.jisha.or.jp/about/index.html (Japanese)

▶ Voluntary Safety Management of High Pressure Gas based on Certification by the Minister

◆ Number of Accreditations of Completion and Safety Inspection Given for Sumitomo Chemical Facilities

Works	Area	Year of certification	Year and month renewed	Number of facilities given accreditation
Ehime Works	Niihama	2002	March 2013	13
	Kikumoto	2002	March 2013	4
Chiba Works	Anesaki	1987	May 2014	11
	Sodegaura	1987	May 2014	17

Note: Number of facilities given accreditation data as of the time of certification renewal.

To achieve safe operations, Sumitomo Chemical has obtained Accreditation of Completion and Safety Inspection as stipulated in the High Pressure Gas Safety Act for our 45 facilities. Certification for the Chiba Works, which has been certified since 1987, was renewed in May 2014. The Ehime Works, which has been certified since 2002, was also renewed in March 2013. The plants of both Works have been continuing stable operations. Ministerial certification is given to facilities which have achieved excellent safety and management levels and meet legal requirements. Such plants are allowed to conduct their safety inspections on a voluntary basis. In order to obtain ministerial certification, prior review is made by a special team that includes academic experts on the accuracy of daily safety inspection data and the safety management system. Every time, Sumitomo Chemical has been given high marks at the review for renewal of the certification.

▶ Responsible Care Audit Results

◆ Responsible Care Audit Results (Sumitomo Chemical Group)

Facilities		FY2014	FY2015	FY2016
Professional Audits	Works	10	8	9
	Research Laboratories	0	1	3
	Logistics Centers	0	0	0
	Business Sectors	5	4	6
	Group Companies in Japan	12	15	18
	Group Companies Overseas	13	6	7
Management Audits	Works and Research Laboratories	5	7	6
Total		45	41	49

◆ Professional Audits for Facilities and Business Sectors (Sumitomo Chemical)

Area	Facilities (Works, Research Laboratories)	Business Sectors (Head Office Business Sectors)	Total
Good	6	1	7
Needs Improvement	91	14	105
Needs to be Examined	55	2	57
Total	152	17	169

▶ Eco-First Commitments

In March 2012, Sumitomo Chemical reported the progress and results of its efforts to fulfill the Eco-First Commitments to the Japanese Minister of the Environment while announcing its Eco-First Commitments, Updated Version.

Note: The content was updated in November 2016. From fiscal 2016, measures are being taken in line with the updated content.

ECO FIRST

Eco-First Commitments

Updated Version

November 30, 2016

To Koichi Yamamoto
Minister of the Environment

President of
Sumitomo Chemical Co., Ltd.
Masakazu Tokura

As a leader in the chemical industry, Sumitomo Chemical Co., Ltd. considers the appropriate management of chemical substances to be fundamental and not only observes strict compliance with all relevant laws and regulations, but also works to ensure safety, environmental protection, health and product quality throughout the lifecycle of chemical products. The Company also strives to gain the further trust of society through continuous dialogue and undertakes voluntary initiatives (Responsible Care activities) to contribute to the sustainable development of society.

1 We will promote the management of chemical substances and the risk communication in an appropriate and proactive manner using proprietary technology.

- We will review the information on the safety for all our products manufactured and sold in annual amounts of one tonne or more by fiscal 2016, and we will conduct the appropriate risk assessments based on the results by fiscal 2020 using our proprietary technology. In addition we will make the results available to the general public as Safety Summaries.
- We will collaborate with chemical companies in the world on studies of the impact of chemical substances on human health and the environment (Long-range Research Initiative) in order to improve the safety of chemical substances.
- All the offices and facilities at Sumitomo Chemical will strive to communicate effectively with and promote information disclosure to local residents and other stakeholders in creative and voluntary ways that suit the needs of the local community.

2 We will develop and apply management technologies that help reduce environmental impacts to realize safe and secure water treatment.

- To make it easier to select the more appropriate water treatment method (either activated sludge or incineration), we will work to more uniformly standardize methods for evaluating the various kinds of process water expelled from plants.
- We will use microbiota analysis, microbial immobilization and other proprietary technology to increase the sophistication of activated sludge treatment and thereby achieve the following goals:
  1. Ensure stable water treatment by checking and managing the health of the sludge biota
  2. Improve our treatment capabilities
  3. Switch over a portion of the treatment of wastewater for which activated sludge treatment had been deemed too difficult from incineration to such treatment

3 We will proactively contribute to build a sustainable society.

- To contribute to society through the power of chemistry (and related businesses) and encourage reductions in CO_2 emissions through the widespread adoption of low-carbon products and technologies, we internally designate products and technologies that help address climate change, actively promote the development and widespread adoption of these products and technologies, and make available to the public quantitative information on emission reductions.
- We strive to improve the unit energy consumption of all plants by an annual average of 1%. We will switch to energy sources with low emission factors, introduce cogeneration systems and promote the installation of LED lighting at worksites. Through these and other efforts, we will improve CO_2 emission intensity from energy sources 15% relative to fiscal 2005 by fiscal 2020. As a result, total CO_2 emissions in fiscal 2020 will be about 3.2 million tonnes, 15% lower than those in fiscal 2005.
- We promote internal education and environmental education activities in different regions to deepen understanding of the importance of environmental protection.

The Company will monitor the progress made in
the above initiatives, make the results publicly available,
and report them to the Ministry of Environment on a regular basis.

SUMITOMO CHEMICAL

2. Environmental Protection

▶ Evaluation of Environmental Protection Costs and Economic Effects through Environmental Accounting

Sumitomo Chemical continuously gathers and evaluates data on environmental protection-related expenses, investments, and economic results in line with the Company's environmental accounting system introduced in fiscal 2000.

◆Items Pertaining to Environmental Accounting

(1) Period: April 1, 2016 to March 31, 2017

(2) Boundary: Sumitomo Chemical and 20 major consolidated subsidiaries (15 in Japan and 5 overseas)*1

(3) Composition (Classification): Based on Ministry of the Environment (Japan) guidelines

(4) Outline of the results (investment and expenses): Consolidated investment increased by 2.6 billion yen, and consolidated expenses increased by 0.2 billion yen.

*1 Sumitomo Dainippon Pharma Co., Ltd.; Koei Chemical Co., Ltd.; Taoka Chemical Co., Ltd.; Sumitomo Joint Electric Power Co., Ltd.; Sumika Color Co., Ltd.; Nihon Medi-Physics Co., Ltd.; Nippon A&L Inc.; SanTerra Co., Ltd.; Sumika-Kakoushi Co., Ltd.; Sumika Agrotech Co, Ltd.; Ceratec Co., Ltd.; SC Environmental Science Co., Ltd.; SN Kasei Co., Ltd.; Sumika Agro Manufacturing Co., Ltd.; Sumika Plastech Co., Ltd.; Dongwoo Fine-Chem Co., Ltd.; Sumitomo Chemical Asia Pte Ltd; The Polyolefin Company (Singapore) Pte. Ltd.; Sumika Technology Co., Ltd.; and Sumika Electronic Materials (Wuxi) Co., Ltd.

◆Environmental Protection Cost

(100 million yen)

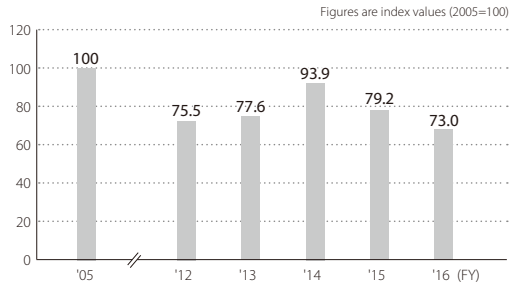
Classification		Details of Major Initiatives	FY 2015				FY 2016			
			Non-Consolidated		Consolidated		Non-Consolidated		Consolidated	
			Investment	Expenses	Investment	Expenses	Investment	Expenses	Investment	Expenses
Facility Area Costs			20	169	26	272	40	160	52	266
Breakdown	Pollution Prevention Costs	Prevention of air pollution, water pollution, soil contamination, noise pollution, odors, ground subsidence, etc.	(13)	(117)	(17)	(159)	(25)	(109)	(35)	(152)
Breakdown	Global Environmental Protection Costs	Energy saving, prevention of global warming, ozone layer depletion, and other measures	(3)	(3)	(6)	(34)	(13)	(3)	(15)	(34)
Breakdown	Resource Recycling Costs	Resource saving, water saving and rainwater usage, waste reduction/disposal treatment, recycling, etc.	(3)	(49)	(3)	(79)	(2)	(49)	(2)	(81)
Upstream/ Downstream Costs		Green purchasing, recycling, recovery, remanufacturing and appropriate treatment of products, recycling costs associated with containers and packaging, environmentally friendly products and services, etc.	0	0	0	4	0	0	0	3
Administrative Costs		Costs associated with environmental education, environmental management systems, the monitoring and measuring of the environmental impact of business activities and products, environmental organization operations, etc.	0	7	0	12	0	8	0	13
R&D Costs		Development of products with attention to environmental safety, research into energy-saving processes, etc.	1	60	1	60	0	68	0	68
Social Activity Costs		Protection of the natural environment and enhancement of its scenic beauty and greenery, support for community initiatives aimed at environmental protection, support for environmental preservation groups, environment-related paid contributions and surcharges, etc.	0	5	0	8	0	5	0	8
Environmental Remediation Costs		Environmental rehabilitation of contaminated environments and other environmental damage, reserve funds to cover environmental recovery, etc.	0	0	0	0	0	0	0	0
Total			21	241	27	357	40	240	53	359

◆Economic Effects

(100 million yen)

Results	FY2015		FY2016	
	Non-Consolidated	Consolidated	Non-Consolidated	Consolidated
Reduced costs through energy saving	3	6	5	15
Reduced costs through resource saving	3	20	4	40
Reduced costs through recycling activities	27	31	20	33
Total	33	57	28	88

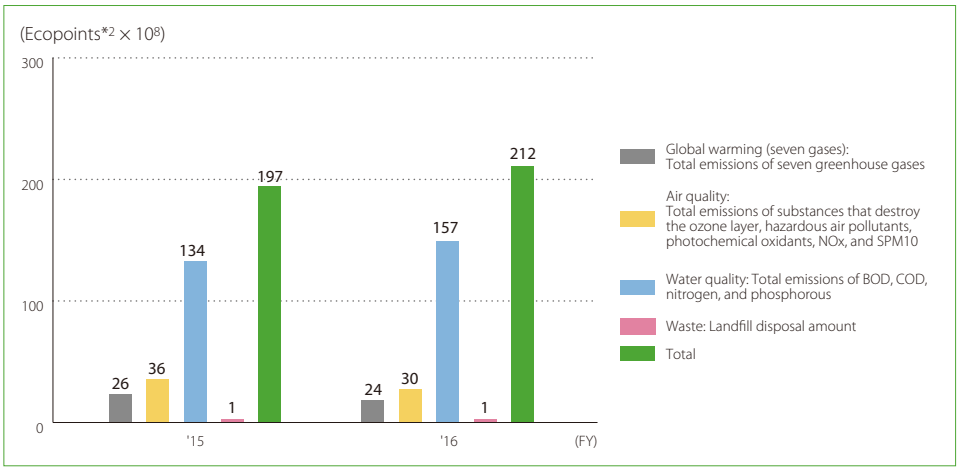
◆Cost Efficiency of Environmental Protection Measures (Sumitomo Chemical)



In fiscal 2009, we began implementing measures to improve the cost efficiency of our environmental protection measures by making sure that all activities were as cost effective as possible. We will implement more effective measures by analyzing and studying the breakdown of our environmental protection costs and reviewing each item to determine its importance. We calculate the cost efficiency of our environmental protection as the ratio of annual total production value to total environmental protection costs, in order better to reflect actual production activities in the calculation.

▶Examining the Practical Use of Environmental Efficiency Indicators and Environmental Management Accounting Methods

◆Breakdown of Aggregate Values for Environmental Impact (Sumitomo Chemical) by JEPIX*1



• Assessing the environmental impact of each Group company using JEPIX

In fiscal 2016, as in the previous fiscal year, we undertook environmental impact assessments using JEPIX, in order to evaluate the effectiveness of this index as a strategic management indicator, and continued with relevant analyses.

• Assessing the environmental impact of each product by LIME*3

For more practical use of LCA*4 data both internally and externally, we use LCA software (MiLCA) from the Japan Environmental Management Association for Industry to undertake environmental impact assessments of our major products using the LIME method.

• Trial evaluation of material flow cost accounting (MFCA)*5

We are continuing to evaluate the effectiveness of this tool and also are performing examinations for the simplification and standardization of the method and procedures in order to foster their use. MFCA, which focuses on the loss of energy and resources, helps minimize loss and cost and reduces environmental impact.

*1 Environmental Policy Priorities Index for Japan (JEPIX): This method, which employs a uniform single indicator called "Ecopoints" to evaluate environmental impact, is derived from the Swiss LCIA Eco Scarcity methodology. The current method evaluates the discrepancy between targets (e.g. laws and environmental policies) and actual conditions based on material flow data.

*2 Ecopoints: An indicator for total environmental impact—the smaller the value, the lower the environmental impact.

*3 Life-cycle Impact assessment Method based on Endpoint modeling (LIME): A life-cycle impact assessment method developed in Japan as a cornerstone for measuring Japan's environmental conditions.

*4 Life Cycle Assessment (LCA): A method for evaluating the environmental impact of products and services throughout their lifecycles.

*5 Material Flow Cost Accounting (MFCA): An environmental cost accounting method that identifies input costs of materials, processing, electricity, fuel, and others, and compares them with the energy and resources lost in manufacturing processes.

▶ Reducing Greenhouse Gas Emissions

◆ Greenhouse Gas Emissions (All Seven Gases) (Sumitomo Chemical (Target: All Facilities))

(1,000 tonnes in CO_2 equivalent)

		FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
CO_2	Energy sources	3,454	3,134	3,190	3,357	3,347	2,559	2,405
	From other than energy use	109	98	62	63	65	55	50
Methane (CH_4)		–	–	–	–	–	–	–
Nitrous oxide (N_2O) (CO_2 equivalent)		49	58	67	63	76	65	45
Hydrofluorocarbon (HFC)		–	–	–	–	–	–	–
Perfluorocarbon (PFC)		–	–	–	–	–	–	–
Sulfur hexafluoride (SF_6)		–	–	–	–	–	–	–
NF_3		–	–	–	–	–	–	–

Note: CH_4, HFC, PFC, SF_6, and NF_3 are outside the scope of reporting.

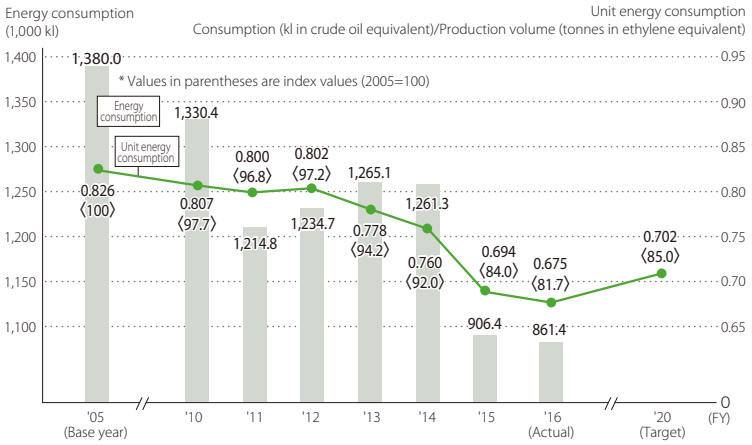
▶ Energy Saving

◆ Breakdown of Unit Energy Consumption (Sumitomo Chemical (Target: All Works))

	Energy consumption (1,000 kl in crude oil equivalent) (a)	Production (1,000 tonnes in ethylene equivalent) (b)	Unit energy consumption (a/b)
Ehime Works	401.2	672.3	0.597
Chiba Works	340.1	412.9	0.824
Osaka Works	23.4	12.8	1.824
Oita Works	49.0	43.5	1.125
Misawa Works	11.9	9.6	1.236
Ohe Works	35.8	125.2	0.286
Total	861.4	1276.4	0.675

Note: Data for the Oita Works includes data for the Gifu and Okayama plants.

◆ Energy Consumption and Unit Energy Consumption (Sumitomo Chemical (Target: All Works))



Target

Improve unit energy consumption for fiscal 2020 by 15% compared with fiscal 2005.

Results

In fiscal 2016, unit energy consumption improved 18.3% compared with fiscal 2005.
- Unit energy consumption: improved 2.7% compared with fiscal 2015
- Energy consumption: totaled 861 thousand kl in crude oil equivalent in fiscal 2016

◆Energy Consumption and CO_2 Emissions*1 (Sumitomo Chemical and Group Companies in Japan*2 (Target: All Facilities))

	Energy consumption (1,000 kl in crude oil equivalent)	CO_2 emissions from energy use (1,000 tonnes)
Sumitomo Chemical	873	2,405
Works	861	2,382
Non-manufacturing sites including the Head Offices and Research Laboratories	12	23
Sumitomo Chemical and Group companies in Japan	1,109	3,032
Works	1,081	2,979
Non-manufacturing sites including the Head Offices and Research Laboratories	28	53

*1 Calculated based on the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures.
*2 The boundary of calculation covers the same participating companies listed on page 2.

◆Initiatives for Energy Saving and CO_2 Emissions Reduction in the Logistics Division

Energy Consumption and CO_2 Emissions for Group Companies in Japan ("Specified Consigners")*3

	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015*4	FY2016*4
Energy consumption (1,000 kl in crude oil)	3.4	4.1	3.9	3.9	3.9	1.6	1.6
CO_2 emissions (1,000 tonnes)	8.9	10.9	10.3	10.3	10.3	3.9	4.0

*3 Totals for Nippon A&L Inc. and Nihon Oxirane Co., Ltd. (2010–2014)
*4 Since fiscal 2015, the figures are only for Nippon A&L Inc.

▶Industrial Waste Reduction

◆PCB Waste (Sumitomo Chemical and Group Companies in Japan (Target: All Works)

Storage and Control of High Concentrations of PCB Waste (As of the End of Fiscal 2016)

	Number of units of PCB waste			Volume of PCBs (kl)
	Total	Storage	Usage	
Sumitomo Chemical	26	18	8	0.1
Sumitomo Chemical and Group Companies in Japan	61	53	8	1.0

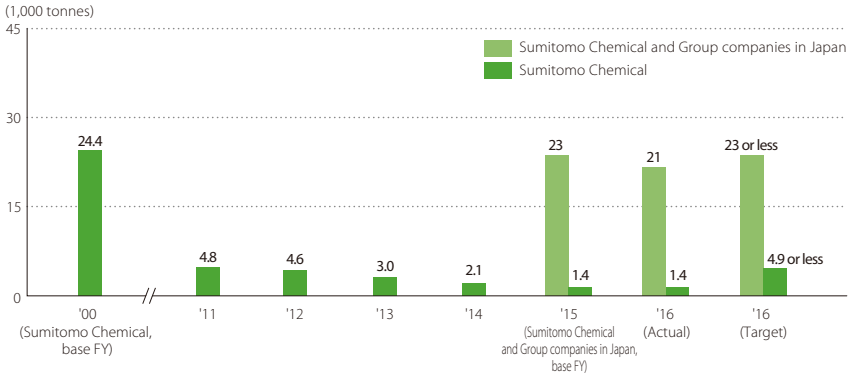
Note: The volume of PCBs does not include minute amounts of PCB waste in the PCB net conversion amount. High concentrations of PCBs classified into fluorescent lamps, mercury lamp ballast, and contaminated substances (wastepaper, etc.) fall outside the scope of collation.

In accordance with the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, Sumitomo Chemical properly collects high-concentration polychlorinated biphenyl (PCB)-containing waste.*5 The Company then stores this industrial waste, which is subject to special controls, in specified areas within the Company's waste storage facilities, subsequently ensuring strict control of this waste. Sumitomo Chemical plans to treat all PCB waste ahead of the deadline specified under the Act.

*5 Transformers, capacitors, and other electronic devices that contain PCB insulating oil.

Target	Properly collect and store high-concentration PCB-containing waste and complete treatment of this waste at an early date.

◆Landfill Disposal Amount★

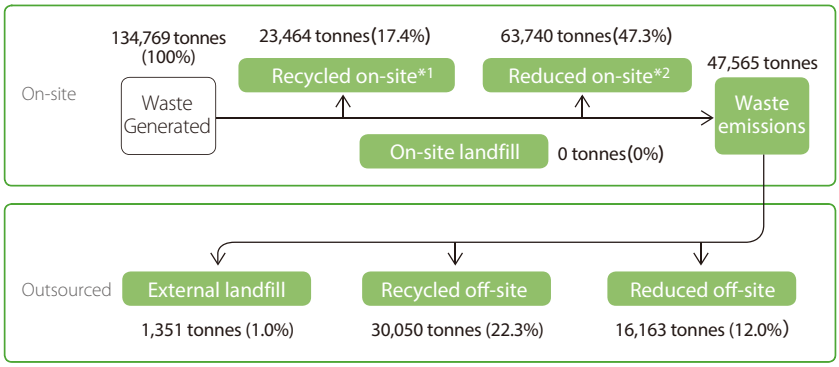


◆Digitization of Manifests to be Prepared Pursuant to the Waste Management and Public Cleansing Act (Sumitomo Chemical (Target: All Works))

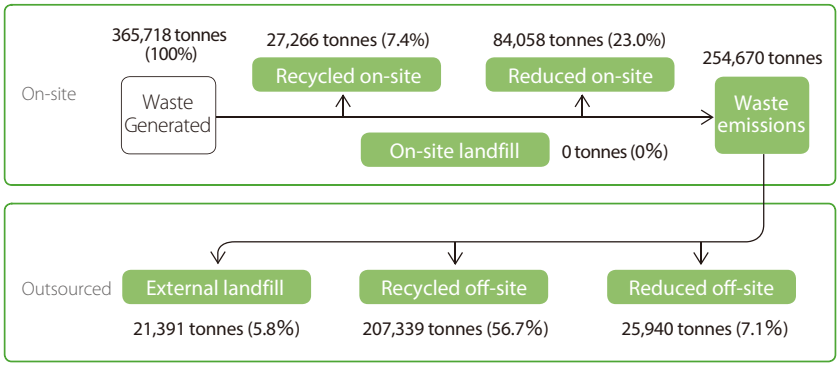
	Number of manifests issued	Number of manifests digitized	Digitization rate (%)
FY 2011	19,243	15,048	78
FY 2012	17,502	13,259	76
FY 2013	19,389	15,329	79
FY 2014	18,662	14,930	80
FY 2015	18,973	16,337	86
FY 2016	19,868	19,594	99

Sumitomo Chemical has been fostering the digitization of manifests to improve operational efficiency and ensure compliance with the law and transparency of data.

◆Waste Disposal Flow Chart and Results (Sumitomo Chemical (Target: All Works))



(Sumitomo Chemical and Group Companies in Japan (Target: All Works))



*1 Recycled waste: Total amount of waste that was reused, recycled, or thermally recycled
*2 Reduced waste: Total amount of waste reduced through incineration, etc.

★: Assured by an independent assurance provider

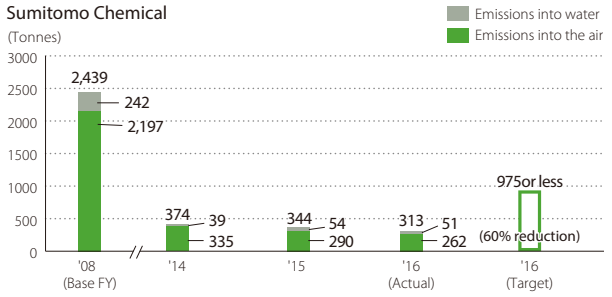
◆List of Results by Item in connection with the Disposal of Waste (Sumitomo Chemical (Target: All Works))

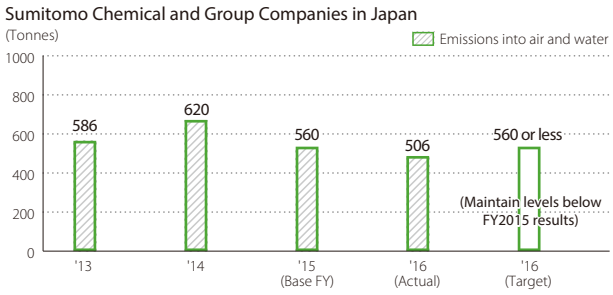
(Tonnes)

Type	Waste	Recycled on-site		Reduced on-site		Waste emissions	On-site landfill	Reduced off-site	Recycled off-site		External landfill
	Generated	Reused, recycled	Thermally	Incineration	Other				Reused, recycled	Thermally recycled	
Burnt residue	3,422.9	0.0	0.0	0.0	0.0	3,422.9	0.0	0.0	3,307.4	0.0	115.5
Sludge	46,032.1	0.0	10,743.2	19,473.6	2,911.0	12,904.2	0.0	2,744.8	9,719.3	0.3	439.9
Oil waste	30,687.6	2,483.8	9,764.4	9,701.3	0.0	8,738.1	0.0	4,034.8	3,705.9	981.1	16.1
Waste acid	8,784.9	24.0	1.2	4,884.7	1,497.7	2,377.3	0.0	1,645.0	707.1	11.8	13.5
Waste alkali	35,796.3	18.0	7.5	23,006.2	123.7	12,641.1	0.0	6,747.7	4,783.0	1,070.6	39.7
Waste plastic	5,646.3	0.0	310.8	1,160.3	15.5	4,159.6	0.0	424.7	3,085.9	103.0	546.3
Waste paper	1,172.2	0.0	92.8	844.2	0.0	235.2	0.0	18.7	216.3	0.0	0.2
Wood waste	1,126.3	0.0	0.0	81.4	0.0	1,044.9	0.0	101.1	671.7	260.4	11.8
Textile waste	36.0	0.0	0.0	36.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Animal and plant residues	7.4	0.0	0.0	0.0	0.0	7.4	0.0	7.4	0.0	0.0	0.0
Metal waste	581.2	0.0	0.0	4.8	0.0	576.4	0.0	191.7	361.7	0.0	23.2
Glass and pottery waste	553.3	0.0	0.0	0.0	0.0	553.3	0.0	33.0	485.3	0.0	35.0
Slag	504.0	0.0	0.0	0.0	0.0	504.0	0.0	0.0	504.0	0.0	0.0
Debris	360.0	13.0	0.0	0.0	0.0	347.0	0.0	203.5	74.0	0.0	69.5
Soot and dust	45.1	0.0	5.1	0.0	0.0	40.0	0.0	0.0	0.0	0.0	40.0
Textile waste	13.4	0.0	0.0	0.0	0.0	13.4	0.0	10.8	1.9	0.0	0.6
Total	134,769	2,539	20,925	59,192	4,548	47,565	0	16,163	27,623	2,427	1,351

▶ Addressing PRTR and VOCs

◆Trends in Emissions of Substances Subject to the PRTR Act





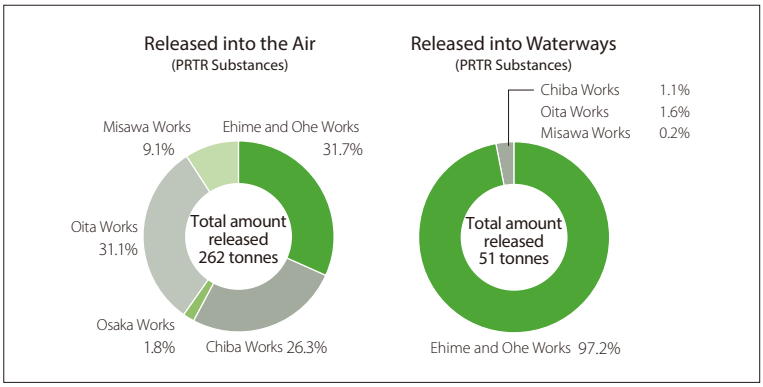
Note: Data for previous fiscal years has been retroactively adjusted to enhance accuracy.

◆Release and Transfer of PRTR Substances(Sumitomo Chemical and Group Companies in Japan)

(Tonnes)

	Released			Transferred		
	Air	Water	Subtotal	Sewage	Waste	Subtotal
PRTR substances						
Sumitomo Chemical (110 substances)	262	51	313	3.3	3,961	3,964
Sumitomo Chemical and Group companies in Japan	454	52	506	7.2	6,618	6,625
JCIA PRTR substances						
Sumitomo Chemical (143 substances)	864	94	958	62	6,256	6,319

◆PRTR Substances Released by Works (Sumitomo Chemical)



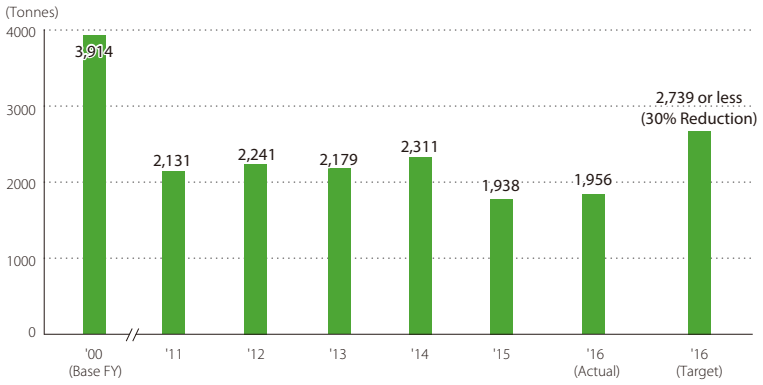
Note: Data for the Oita Works includes data for the Gifu and Okayama plants.

Target Reduce the total release of PRTR substances by 60% compared with fiscal 2008 by fiscal 2016.

▼

Results Reduced the total release of PRTR substances by 313 tonnes, or 87.2%, compared with fiscal 2008 by fiscal 2016.

◆Initiatives to Reduce Emissions of Volatile Organic Compounds (VOCs) (Sumitomo Chemical)



Note: Data for previous fiscal years has been retroactively adjusted to enhance accuracy.

Target Maintain a 30% reduction in VOC emissions compared with fiscal 2000.

▶Prevention of Ozone Layer Depletion

◆Number of Refrigeration Units That Use Specified CFCs and HCFCs as Coolants (as of the end of fiscal 2016)

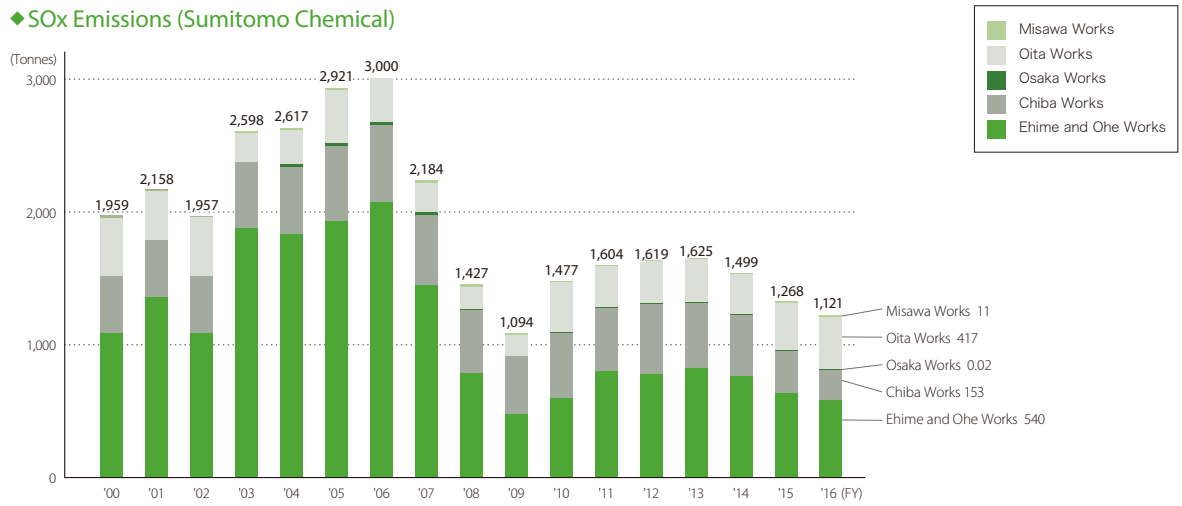
(Number of units)

	Sumitomo Chemical	Sumitomo Chemical and Group companies in Japan
CFC11	11	13
CFC12	2	31
CFC113	0	0
CFC114	0	0
CFC115	0	1
HCFC22	107	203
HCFC123	26	31
HCFC142b	0	1

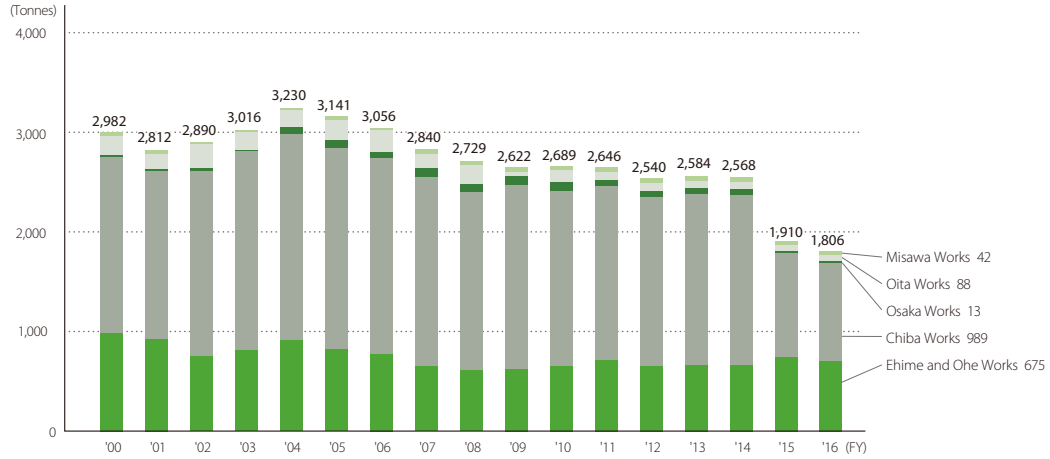
Target
- Eliminate the use of refrigeration units that use specified CFCs as coolants by fiscal 2025.
- Eliminate the use of refrigeration units that use HCFCs as coolants by fiscal 2045.

▶ Preventing Pollution Atmospheric Emissions of SOx, NOx, Soot, and Dust

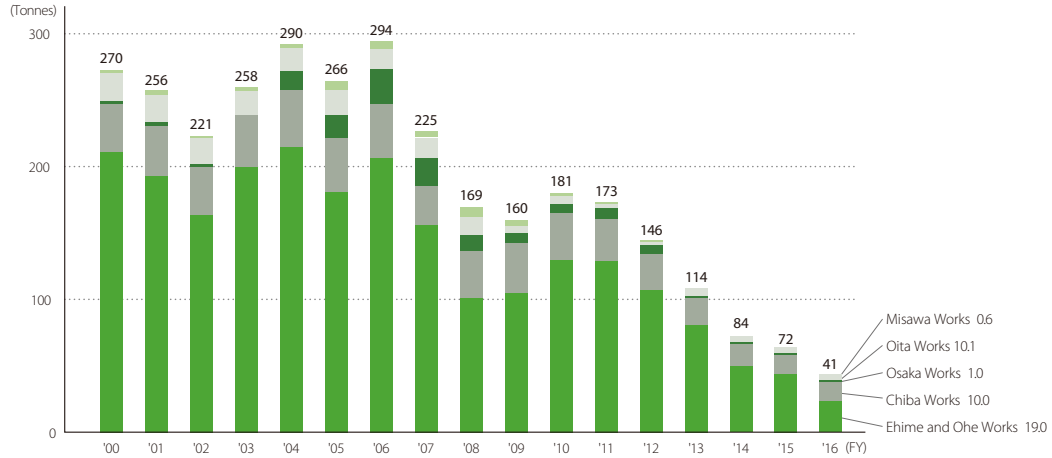
◆SOx Emissions (Sumitomo Chemical)



◆NOx Emissions (Sumitomo Chemical)



◆Soot and Dust Emissions (Sumitomo Chemical)



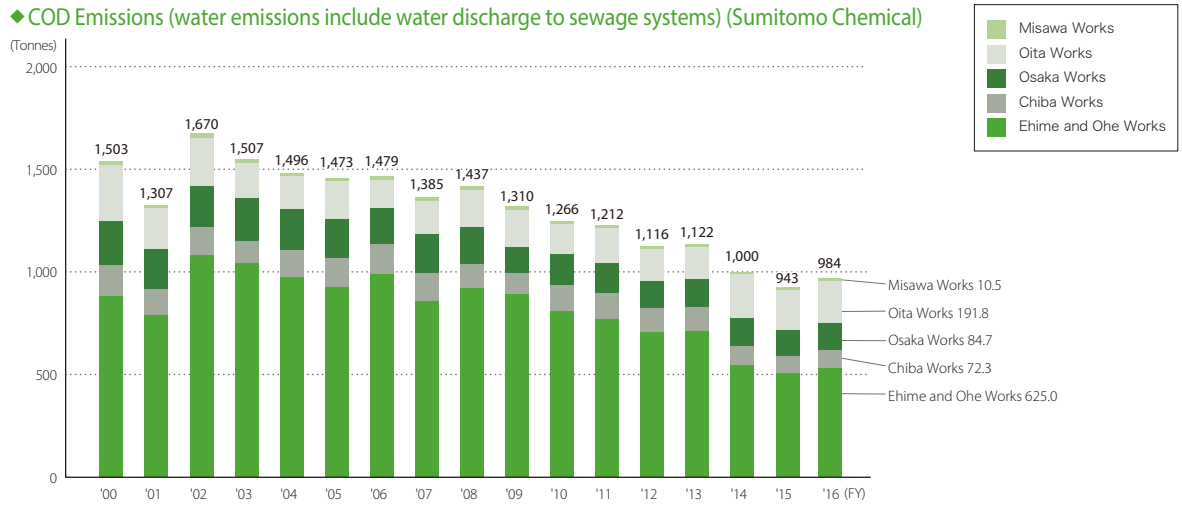
In 1970, Sumitomo Chemical achieved a marked reduction in the release of SOx, NOx, soot, and dust into the atmosphere, and continued to maintain low levels of emissions from 1980 to the present. Furthermore, the Company has concluded cooperative agreements with local municipal governments at each of its Works, establishing voluntary control levels that are stricter than the standards given under applicable laws and regulations.

Note: Data for the Gifu Plant and Okayama Plant from fiscal 2004 to fiscal 2012 is included in Osaka Works. Data for the Gifu Plant and Okayama Plant from fiscal 2013 is included in Oita Works.

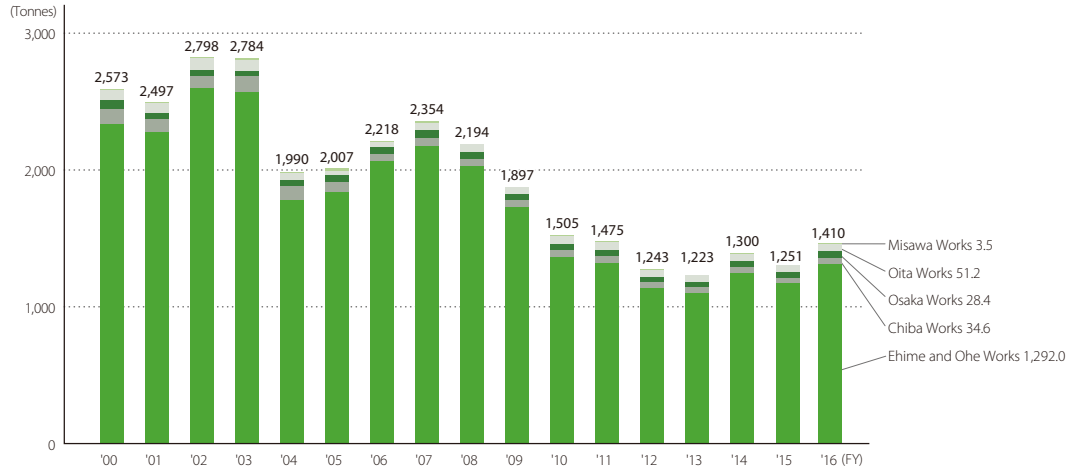
Target	Continue to sustain levels below voluntary control standard values.

▶ Water Emissions of COD, Nitrogen, and Phosphorus

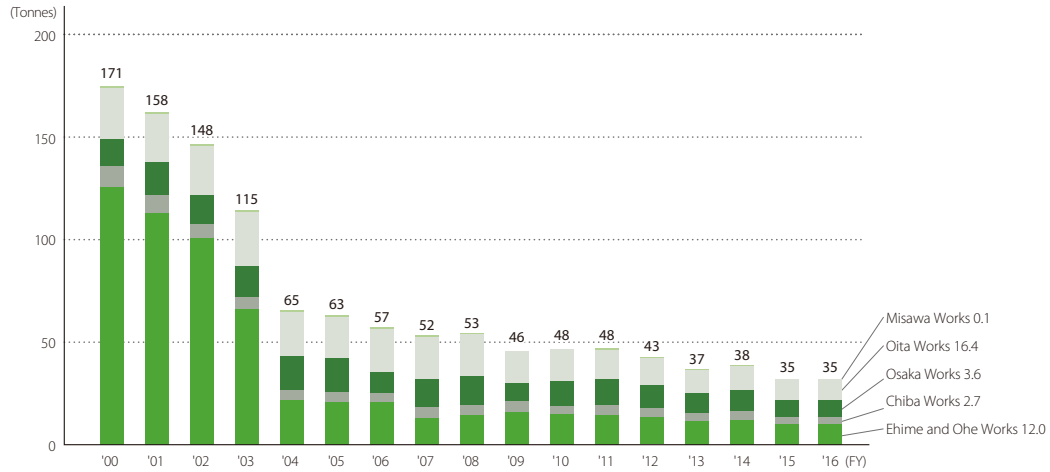
◆COD Emissions (water emissions include water discharge to sewage systems) (Sumitomo Chemical)



◆Nitrogen Emissions (Sumitomo Chemical)



◆Phosphorus Emissions (Sumitomo Chemical)



A number of measures have been implemented to cut emissions, in line with fifth-generation Water Quality Standards, and emissions of COD, nitrogen, and phosphorus into waterways have been significantly reduced since fiscal 2004. Sumitomo Chemical has also concluded cooperative agreements with local municipal governments to establish voluntary control levels for COD, nitrogen, and phosphorus released into waterways at each Works. These standards are also stricter than those established under applicable laws and regulations.

Note: Data for the Gifu Plant and Okayama Plant from fiscal 2004 to fiscal 2012 is included in Osaka Works. Data for the Gifu Plant and Okayama Plant from fiscal 2013 is included in Oita Works.

Target	Continue to sustain levels below voluntary control standard values.

▶ Response to the Pollutant Release and Transfer Register Ordinance (Issued on November 21, 2008)

◆ Release and Transfer of PRTR Substances in Fiscal 2016 (Sumitomo Chemical (Target: All Works))

(Tonnes)

No.	Name of Chemical Compound	Amount Released					Amount Transferred		
		Air	Water	Soil	Landfill	Total	Sewage	Waste	Total
1	Zinc compounds (water-soluble)	0.0	3.83	0.0	0.0	3.83	0.0	168.6	168.6
2	Acrylic acid and its water-soluble salts	<0.1	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
3	Methyl acrylate	0.7	<0.1	0.0	0.0	0.7	0.0	0.0	0.0
4	Acrylonitrile	5.2	0.0	0.0	0.0	5.2	0.0	2.1	2.1
5	Acrolein	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Acetaldehyde	0.1	<0.1	0.0	0.0	0.1	0.0	0.0	0.0
7	Acetonitrile	1.2	0.1	0.0	0.0	1.3	0.0	12.3	12.3
8	o-Anisidine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	Aniline	0.6	0.0	0.0	0.0	0.0	0.0	40.5	40.5
10	2-Aminoethanol	<0.1	0.2	0.0	0.0	0.2	0.0	19.9	19.9
11	m-Aminophenol	0.0	<0.1	0.0	0.0	<0.1	0.0	4.1	4.1
12	3-Amino-1-propene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	Allyl alcohol	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
14	Antimony and its compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	Isobutyraldehyde	0.6	0.0	0.0	0.0	0.6	0.0	0.0	0.0
16	Isoprene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	O-ethyl O-6-nitro-meta-tolyl-sec-butylphosphoramidothioate (Butamifos)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	Ethylbenzene	3.6	0.1	0.0	0.0	3.7	0.1	58.5	58.6
19	Epichlorohydrin	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0
20	1,2-Epoxypropane (also known as propylene oxide)	0.0	<0.1	0.0	0.0	<0.1	0.0	0.0	0.0
21	ε-Caprolactam	0.3	5.2	0.0	0.0	5.5	0.0	0.4	0.4
22	Xylene	3.8	0.1	0.0	0.0	3.9	0.1	71.9	72.0
23	Quinoline	0.9	0.0	0.0	0.0	0.9	0.0	0.0	0.0
24	Cumene	4.2	<0.1	0.0	0.0	4.2	0.0	0.0	0.0
25	Cresol	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
26	Chloroaniline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	Chloroacetic acid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	Chlorodifluoromethane (also known as HCFC-22)	<0.1	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
29	3-Chloropropene (also known as allyl chloride)	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0
30	Chlorobenzene	2.5	<0.1	0.0	0.0	2.5	0.0	89.5	89.5
31	Chloroform	<0.1	0.0	0.0	0.0	<0.1	0.0	53.6	53.6
32	Cobalt and its compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	Vinyl acetate	44.5	<0.1	0.0	0.0	44.5	0.0	19.8	19.8
34	Salicyl aldehyde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	(RS)-alpha-Cyano-3-phenoxybenzyl 2,2,3,3- tetramethylcyclopropanecarboxylate (Fenpropathrin)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	Inorganic cyanide compounds (excluding complex salts and cyanates)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37	1,4-Dioxane	<0.1	0.0	0.0	0.0	<0.1	<0.1	118.9	118.9
38	Cyclohex-1-ene-1,2-dicarboximidomethyl=(1RS)-sis-trans-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate (also known as tetramethrin)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	Cyclohexylamine	0.0	<0.1	0.0	0.0	<0.1	0.0	2.2	2.2
40	Dichlorodifluoromethane (also known as CFC-12)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	2,2-Dichloro-1,1,1- trifluoroethane (HCFC-123)	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0
42	1,2-Dichloropropane	<0.1	0.0	0.0	0.0	<0.1	0.0	363.6	363.6
43	1,3-Dichloropropene (also known as D-D)	0.6	0.0	0.0	0.0	0.6	0.0	236.4	236.4
44	Dichlorobenzene	0.0	0.0	0.0	0.0	0.0	0.0	72.9	72.9
45	Dichloromethane (also known as methylene chloride)	1.4	0.0	0.0	0.0	1.4	0.0	26.9	26.9
46	Dicyclopentadiene	0.1	0.0	0.0	0.0	0.1	0.0	4.4	4.4
47	2,4-Dinitrophenol	0.0	0.0	0.0	0.0	0.0	0.0	35.9	35.9
48	1,3-Diphenylguanidine	0.0	0.5	0.0	0.0	0.5	0.0	11.8	11.8
49	2,6-Di-tert-butyl-4-cresol	0.0	<0.1	0.0	0.0	<0.1	0.0	0.0	0.0
50	2,4-Di-tert-butylphenol	<0.1	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
51	N,N-Dimethylacetamide	0.0	0.0	0.0	0.0	0.0	0.0	7.7	7.7
52	N,N-Dimethylaniline	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5
53	Dimethylamine	0.0	11.3	0.0	0.0	11.3	0.0	0.9	0.9

(Tonnes)

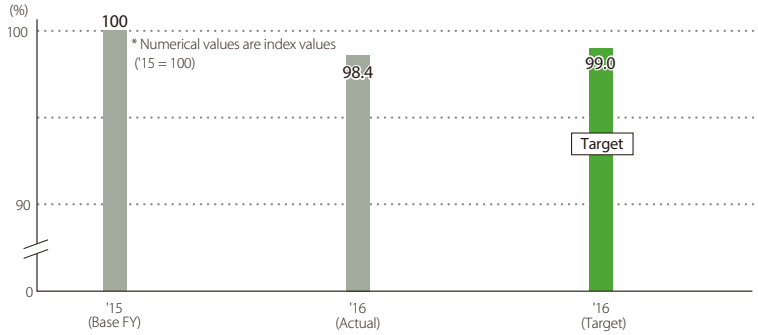
No.	Name of Chemical Compound	Amount Released					Amount Transferred		
		Air	Water	Soil	Landfill	Total	Sewage	Waste	Total
54	Dimethyl sulfide	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	N,N-Dimethylformamide	<0.1	0.0	0.0	0.0	<0.1	0.0	115.9	115.9
56	Styrene	2.2	0.0	0.0	0.0	2.2	0.0	2.0	2.0
57	Dioxins*1	<0.1	<0.1	0.0	0.0	<0.1	<0.1	<0.1	<0.1
58	Thiourea	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
59	O,O-Dimethyl O-(3-methyl-4- nitrophenyl) phosphorothioate (Fenitrothion or MEP)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	Decyl alcohol (Decanol)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61	Terephthalic acid	0.0	0.0	0.0	0.0	0.0	0.0	423.0	423.0
62	Water-soluble copper salts (excluding complex salts)	0.0	<0.1	0.0	0.0	<0.1	0.0	0.0	0.0
63	Sodium dodecyl sulfate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64	Triethylamine	1.5	27.6	0.0	0.0	29.1	0.5	59.7	60.2
65	2,4,6-Trichloro-1,3,5-triazine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
66	Trichlorofluoromethane (also known as CFC-11)	0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0
67	1,2,3-Trichloropropane	0.1	0.0	0.0	0.0	0.1	0.0	27.9	27.9
68	1,2,4-Trimethylbenzene	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0
69	Toluidine	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6
70	Toluene	140.6	0.3	0.0	0.0	140.9	0.2	1666.8	1667.0
71	Naphthalene	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72	Nickel compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
73	Nitrobenzene	0.6	0.5	0.0	0.0	1.1	0.0	41.9	41.9
74	Vanadium compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	Arsenic and its inorganic compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76	Hydrazine	0.0	0.2	0.0	0.0	0.2	0.0	0.0	0.0
77	Methyl 4-hydroxybenzoate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78	Hydroquinone	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79	Biphenyl	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	Pyridine	0.0	<0.1	0.0	0.0	<0.1	0.0	<0.1	<0.1
81	Phenylenediamine	0.0	<0.1	0.0	0.0	<0.1	0.0	0.4	0.4
82	1,3-Butadiene	0.0	0.0	0.0	0.0	0.0	0.0	4.1	4.1
83	Bis(2-ethylhexyl)phthalate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84	tert-Butyl hydroperoxide	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	2-tert-Butyl-5-methylphenol	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
86	2-Propyn-1-ol	<0.1	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
87	2-Bromopropane	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.5
88	Hexadecyltrimethylammonium chloride	<0.1	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
89	n-Hexane	30.5	0.1	0.0	0.0	30.6	0.0	130.7	130.7
90	Water-soluble salts of peroxydisulfuric acid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91	Benzyl chloride	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92	Benzaldehyde	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93	Benzene	0.3	0.2	0.0	0.0	0.5	0.0	0.0	0.0
94	Boron compounds	0.0	0.0	0.0	0.0	0.0	0.0	2.3	2.3
95	Polyoxyethylene alkyl ether (alkyl C=12–15) and its mixture	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96	Formaldehyde	0.2	<0.1	0.0	0.0	0.2	2.5	1.2	3.7
97	Manganese and its compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
98	Phthalic anhydride	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
99	Maleic anhydride	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
100	Methacrylic acid	0.0	0.0	0.0	0.0	0.0	0.0	15.9	15.9
101	2,3-Epoxypropyl methacrylate	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0
102	Methyl methacrylate	8.4	0.0	0.0	0.0	8.4	0.0	35.6	35.6
103	(Z)-2'-Methylacetophenone= 4,6-dimethyl-2-pyrimidinyl hydrazone (Ferimzone)	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.0
104	Methylamine	0.3	0.0	0.0	0.0	0.3	0.0	0.0	0.0
105	3-Methylsulfanylpropanal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
106	Methylnaphthalene	3.3	0.0	0.0	0.0	3.3	0.0	0.0	0.0
107	Molybdenum and its compounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
108	Morpholine	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.0
109	Triphenyl phosphate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	261.8	51.0	0.0	0.0	312.8	3.3	3960.9	3964.2

Under the PRTR Act, significant figures are presented as double-digit kilograms. Unit data in this report, however, is in tonnes rounded to the nearest first decimal place.

*1 Unit data for dioxins is in mg-TEQ.

▶ Sharing Environmental Protection and Management Targets (Japan*1)

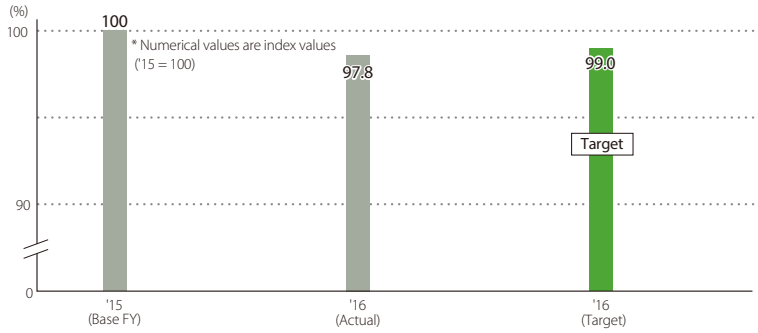
◆Unit Energy Consumption Index (2015 = 100)



Improvement in unit energy consumption

Target	Improve unit energy consumption by at least 1% annually on average.
Results	Unit energy consumption in fiscal 2016 improved by 1.6% compared with fiscal 2015.

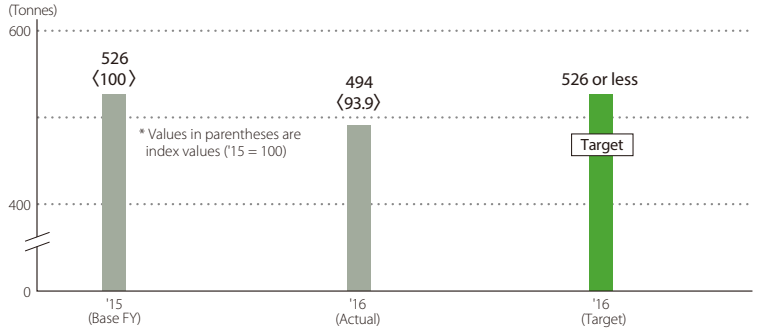
◆Unit CO_2 Emissions Index (2015 = 100)



Improvement in unit CO_2 emissions

Target	Improve unit CO_2 emissions by at least 1% annually on average.
Results	Unit CO_2 emissions in fiscal 2016 improved by 2.2% compared with fiscal 2015.

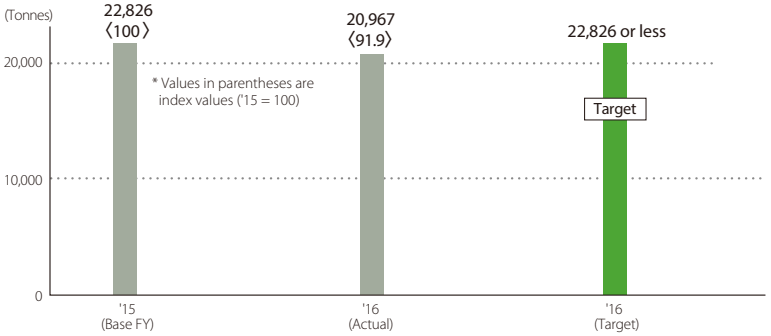
◆Volume of PRTR Substances Released (into the Air and Water) and PRTR Substance Emissions Indices (2015 = 100)



Reduction of volume of PRTR substances released

Target	Maintain the total volume of PRTR substances released (into the air and water) at or below fiscal 2015 levels.
Results	Total volume of PRTR substances released in fiscal 2016 was reduced by 6.1% compared with fiscal 2015.

◆Landfill Disposal Amount and Landfill Disposal Indices (2015 = 100)



Reduction of landfill disposal amount

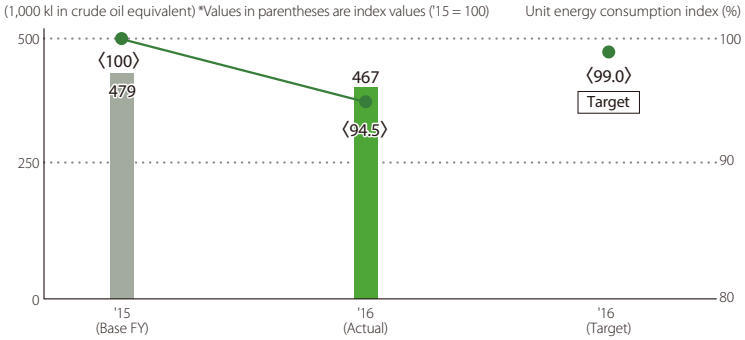
Target	Maintain landfill disposal amount at or below fiscal 2015 levels.
Results	Landfill disposal amount in fiscal 2016 was reduced by 8.1% compared with fiscal 2015.

*1 Sumitomo Chemical and the 15 Group companies listed below are included in the scope of calculation.

Sumitomo Joint Electric Power Co., Ltd.; Nippon A&L Inc.; Nihon Medi-Physics Co., Ltd.; Sumika Color Co., Ltd.; Sumika Agrotech Co., Ltd.; Sumika Assembly Techno Co., Ltd.; Ceratec Co., Ltd.; Nihon Methacryl Monomer Co., Ltd.; SC Environmental Science Co., Ltd.; Sumitomo Chemical Garden Products Inc.; Asahi Chemical Co., Ltd.; Sumika-Kakoushi Co., Ltd.; Sumika Agro Manufacturing Co., Ltd.; Sumika Plastech Co., Ltd.; SanTerra Co., Ltd.

▶ Sharing Environmental Protection and Management Targets (Overseas*1)

◆Energy Consumption and Unit Energy Consumption Indices (2015 = 100)

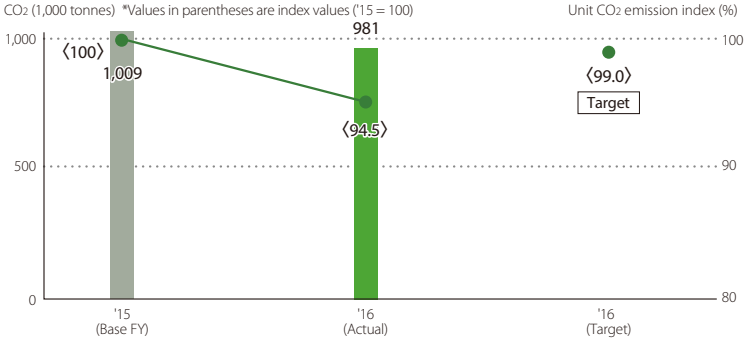


Improvement in Unit Energy Consumption

Target Improve unit energy consumption by at least 1% annually on average.

Results Unit energy consumption in fiscal 2016 improved by 5.5% compared with fiscal 2015.

◆CO_2 Emissions (Energy use) and Unit CO_2 Emissions Indices (2015 = 100)

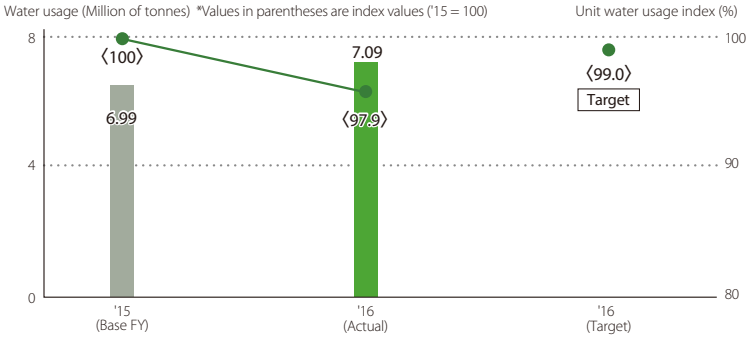


Improvement in Unit CO_2 Emissions

Target Improve unit CO_2 emissions by at least 1% annually on average.

Results Unit CO_2 emissions in fiscal 2016 improved by 5.5% compared with fiscal 2015.

◆Water Usage and Unit Water Usage Indices (2015 = 100)



Improvement in Unit Water Usage

Target Improve unit water usage by at least 1% annually on average.

Results Unit water usage in fiscal 2016 improved by 2.1% compared with fiscal 2015.

*1 The following 20 Group companies overseas are included in the scope of calculation:

Singapore
- The Polyolefin Company (Singapore) Pte. Ltd.
- Sumitomo Chemical Asia Pte Ltd

Thailand
- Sumipex (Thailand) Co., Ltd.
- Bara Chemical Co., Ltd.
- Sumika Polymer Compounds (Thailand) Co., Ltd.

China
- Dalian Sumika Chemphy Chemical Co., Ltd.
- Sumika Electronic Materials (Wuxi) Co., Ltd.
- Sumika Electronic Materials (Hefei) Co., Ltd.
- Sumika Huabei Electronic Materials (Beijing) Co., Ltd.
- Sumika Electronic Materials (Shanghai) Co., Ltd.
- Sumika Electronic Materials (Xi'an) Co., Ltd.
- Sumika Polymer Compounds Dalian Co., Ltd.
- Zhuhai Sumika Polymer Compounds Co., Ltd
- Dalian Sumika Jingang Chemicals Co., Ltd.

Taiwan
- Sumika Technology Co., Ltd.
- Sumipex TechSheet Co., Ltd.

India
- Sumitomo Chemical India Private Limited

South Korea
- Dongwoo Fine-Chem Co., Ltd.
- SSLM Co., Ltd.

United States
- Sumitomo Chemical Advanced Technologies LLC

3. Occupational Safety and Health / Industrial Safety and Disaster Prevention

▶ Criteria and Results of the President's Safety Award for Zero-Lost Workday Operations (as of May 31, 2017)

◆ Sumitomo Chemical Employees

Facilities	Criteria for the President's Safety Award*1	Results
Ehime Works	3 million hours	Reached 9 million work hours in June 2017. Working to reach the target of 12 million work hours.
Ohe Works*2	3 million hours	Reached 9 million work hours in May 2017. Working to reach the target of 12 million work hours.
Chiba Works	3 million hours	Working to reach the target of 12 million work hours.
Osaka Works	3 million hours	Working to reach the target of 12 million work hours.
Oita Works*3	1.5 million hours	Reached 1.5 million work hours in April 2017. Working to reach the target of 3 million work hours.
Misawa Works	30 months	Working to reach the target of 180 months.
Health & Crop Sciences Research Laboratory	30 months	Working to reach the target of 30 months
Tsukuba Regional Research Laboratory*4	30 months	Working to reach the target of 360 months

Sumitomo Chemical has set facility specific criteria for the achievement of continuous periods of zero-lost workday operations for employees as well as contractors. The President's Safety Award is presented to facilities in recognition of their satisfaction of the above-mentioned criteria.

*1 Continuous periods of zero-lost workday operations.
*2 Ohe Works includes Sumika Assembly Techno Co., Ltd.
*3 Oita Works includes the Utajima Pilot Production Department, Gifu Plant, and Okayama Plant.
*4 The Tsukuba Regional Research Laboratory was reorganized into the Advanced Materials Development Research Laboratory, IT-related Chemicals Research Laboratory (Tsukuba), and Energy & Functional Materials Research Laboratory (Tsukuba).

◆ Contractors / Affiliated Company Employees

Facilities	Criteria for the President's Safety Award	Results
Ehime Association (Plant maintenance)	24 months	Working to reach the target of 24 months.
Ehime Logistics Association (Logistics)	24 months	Working to reach the target of 24 months.
Ohe Association (Plant maintenance)	48 months	Reached 96 months in March 2017. Working to reach the target of 144 months.
Ohe Logistics Association (Logistics)	48 months	Reached 96 months in March 2017. Working to reach the target of 144 months.
Chiba Association (Plant maintenance)	24 months	Working to reach the target of 24 months.
Chiba Logistics Association (Logistics)	24 months	Working to reach the target of 24 months.
Osaka Association	24 months	Working to reach the target of 48months.
Oita Association	24 months	Reached 72 months in April 2017. Working to reach the target of 96 months.
Okayama Association	48 months	Working to reach the target of 144 months
Gifu Association	48 months	Working to reach the target of 96 months.
Misawa Works	48 months	Working to reach the target of 96 months.
Health & Crop Sciences Research Laboratory	48 months	Working to reach the target of 240 months.
Tsukuba Regional Research Laboratory	48 months	Working to reach the target of 96 months.

▶ Safety Achievements

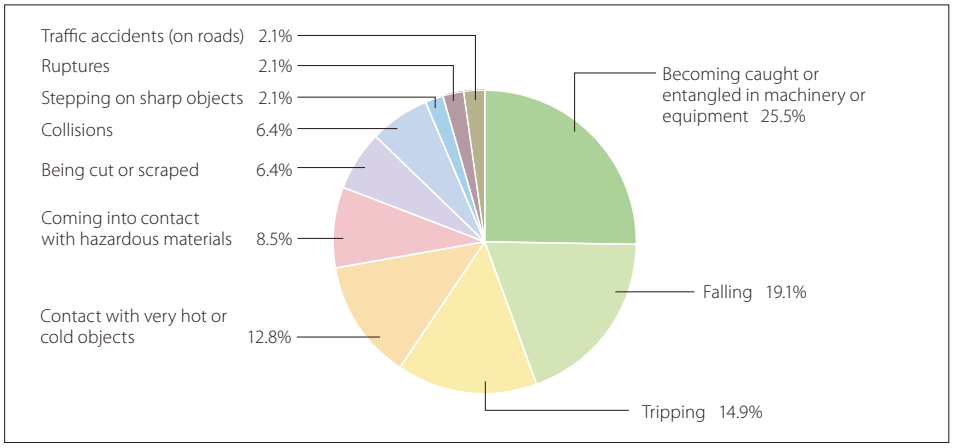
◆ Lost-Workday Injuries (Sumitomo Chemical Group*1)

	FY2013	FY2014	FY2015	FY2016
Number of lost-workday injuries	12	10	15	9
Frequency rate of lost-workday injuries	0.19	0.16	0.24	0.14

Note: Data for previous fiscal years has been retroactively adjusted to enhance accuracy.

In fiscal 2016, the number of injuries resulting in lost workdays decreased by 6 from the previous fiscal year. We will continue to raise awareness of the basic safety rules (ground rules) throughout the entire Group.

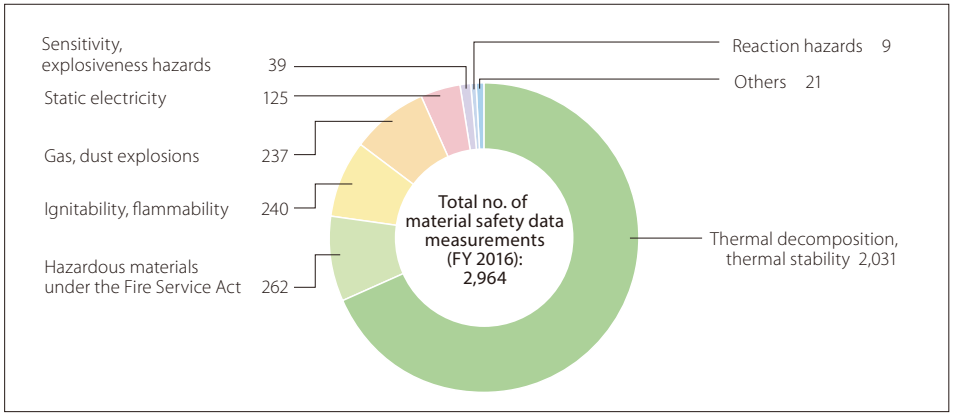
◆ Breakdown of Sumitomo Chemical Group Injuries by Type (Sumitomo Chemical Group*1)



*1 Employees of Sumitomo Chemical, Sumitomo Chemical contractors, and Group companies in Japan and overseas.

▶ Industrial Safety and Disaster Prevention Results

◆ Results of Material Safety Data Measurements



The Safety Engineering Group at the Production & Safety Fundamental Technology Center studies and assesses process safety, researches safety measures, measures and evaluates material safety data, compiles a database on safety technologies, and undertakes training for safety engineers in its efforts to enhance process safety management and to prevent accidents such as fires and explosions. A total of 2,736 material safety data measurements were taken in fiscal 2016 (2,616 measurements in fiscal 2015) from within Sumitomo Chemical. In addition, 228 measurements were taken in fiscal 2016 (205 measurements in fiscal 2015) from Group companies. Total measurements undertaken were 2,964 in fiscal 2016 (2,821 measurements in fiscal 2015).

◆The Launch of Several Process Safety Review Committees (Sumitomo Chemical)

	R&D stages		Industrialization stage		
Fiscal year	Level 1	Level 2	Level 3	Level 4	Level 5
2013	28	32	47	107	23
2014	17	40	44	112	31
2015	22	29	41	131	26
2016	14	33	37	81	17

When new processes are developed at Sumitomo Chemical, the Process Safety Review Committee (levels 1 to 5) convenes at every step, from R&D through to industrial scale production. In essence, this Committee focuses on process safety assessment results and confirms whether safety countermeasures are appropriate.

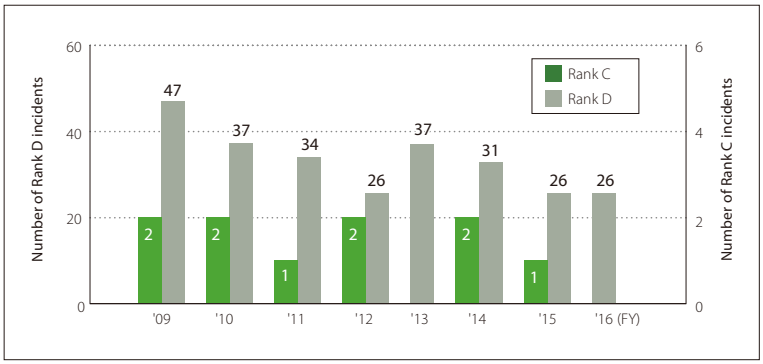
◆Safety Information Database (Sumitomo Chemical)

	Number of data sets	(Year on year comparison)
Accident prevention technology information	18,419	(Increased by 515)
Accident cause investigations	2,311	(Increased by 61)
Accident information	20,083	(Increased by 473)
As of March 31, 2017	40,813	(Increased by 1,049)

A safety information database has been created by collecting information on accidents in Japan and overseas and preparing abstracts of such accidents. As of the end of March 2017, 40,813 sets of data were stored in the database (39,764 sets of data as of March 31, 2016). This system allows all employees at each Works or Research Laboratory to search stored abstracts, and abstracts and their original data can be viewed or printed at individual terminals. These data are also used in process hazard evaluations and case study examinations to prevent similar accidents. In addition, accident data are also disclosed to Group companies as necessary.

▶Logistics Quality Assurance

◆Logistics Issues Having an Impact on Our Customers (Sumitomo Chemical)



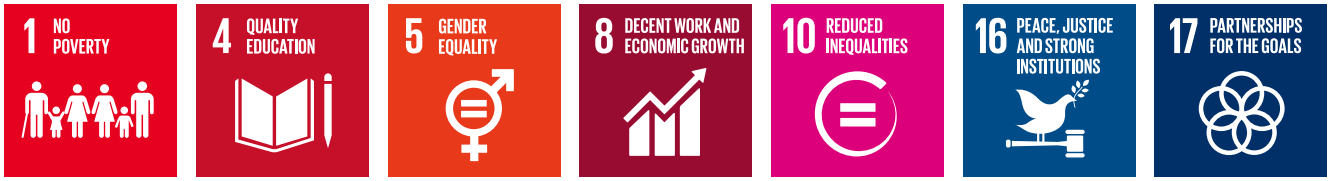
Note: Ranks reflect Sumitomo Chemical's standard, which classifies incidents into Rank A, B, C, and D in descending order of severity. There were no occurrences of Rank A or Rank B (the most severe) incidents. Incidents within the scope of logistics operations consigned to Sumitomo Chemical

In fiscal 2016, the Company reported 0 incidents of rank C or above and 26 incidents of rank D. However, 13 of these incidents involved errors in shipment and delivery, which can cause significant problems in the quality of customers' products. Going forward, we will continue to promote measures to reduce the number of these incidents.

Social Activities

The Sumitomo Chemical Group is proactively fostering communications with customers, suppliers, local communities, and employees. In addition, the Group conducts a wide range of social activities as part of its efforts to build good relationships with these groups.

Contributing to the SDGs through Social Activities



Percentage of female managers (p. 63)

7.8%
(18 more)

Number of men taking childcare leave (p. 65)

142
(41 more)

Number of beneficiaries of support for education in Africa (p. 70)

Over 12,000 people

CONTENTS

Social Activity Goals and Results

Goal achieved or steadily progressing: ○; Goal not achieved: △

Item	Fiscal 2016 Goals	Fiscal 2016 Results	Evaluation	Fiscal 2017 Goals	Page
Hand in Hand with Customers	● Improve the level of service provided by customer service personnel (including Group companies) ● Improve the dissemination of information, including through the Company's website	● Improved the level of service provided by customer service personnel ● Improved the dissemination of information, including through the Company's website	○ ○	● Improve the level of service provided by customer service personnel (including Group companies) ● Improve the dissemination of information, including through the Company's website	pp. 56-57
Hand in Hand with Business Partners	● Thoroughly ensure compliance ● Conduct fact-finding surveys of new raw-material and packaging-material suppliers and provide guidance and training to existing suppliers	● Thoroughly ensured compliance ● Promoted CSR procurement by conducting fact-finding surveys of new suppliers through monitoring and feedback and by providing guidance and training to existing suppliers.	○ ○	● Thoroughly ensure compliance ● Promote CSR procurement by strengthening collaboration with business partners through CSR surveys related to raw-materials and packaging-materials	pp. 58-59
Hand in Hand with Employees	● Further promote global HR initiatives and talent development ● Work on workforce management that is responsive to business expansion ● Build HR systems that respond to revisions to relevant laws and regulations as well as changes in conditions ● Promote diversity and work-life balance	● Undertook global recruitment, systematically conducted global talent development ● Secured necessary personnel for business operations, utilization of effective organizations, task formulation, human resources ● Built a new HR system with employee training and growth as a central pillar ● Held a meeting of the Committee for Diversity and Work-Life Balance, managed in-house childcare facilities, surpassed the legal requirements for employment of employees with disabilities, improved the ratio of female managers	○ ○ ○ ○	● Further promote global HR initiatives and talent development ● Work on workforce management that is responsive to business expansion ● Implement fair and objective system operations in line with the aim of the new HR system ● Promote diversity and work-life balance	pp. 60-67
Hand in Hand with Local Communities and Society	● Provide support to achieve United Nations Sustainable Development Goals ● Provide prompt and precise support in response to emergencies and disasters in Japan and overseas ● Promote social contribution activities distinctive to the Sumitomo Chemical Group by leveraging the strengths of each workplace ● Continue to expand information disclosure and promote interactive dialogue	● Created employment opportunities and supported education in Africa through Olyset™ Net ● Provided prompt support to those affected by natural disasters ● Participated in and cooperated with local events, held science workshop classes ● Continued to expand information disclosure and promote interactive dialogue	○ ○ ○ ○	● Provide support to achieve United Nations Sustainable Development Goals ● Provide prompt and precise support in response to emergencies and disasters in Japan and overseas ● Promote social contribution activities distinctive to the Sumitomo Chemical Group by leveraging the strengths of each workplace ● Continue to expand information disclosure using SDGs and promote interactive dialogue	pp. 68-71

Note: More details are available in the supplementary data section between pages 72 and 75.

Hand in Hand with Customers

Basic Stance

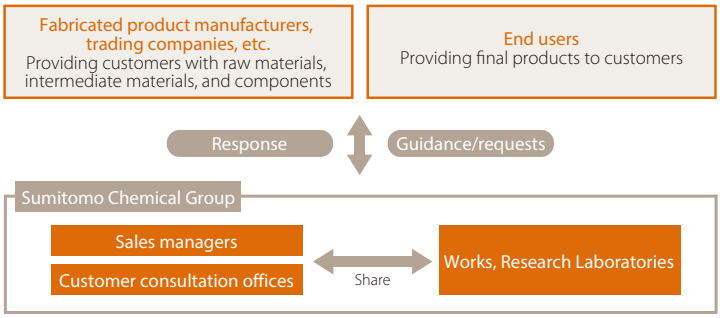
Throughout the Group, Sumitomo Chemical is working to supply high-quality products and services that satisfy customers' needs and ensure safety in their use, and sales managers and customer consultation offices provide support tailored to products and specific details.

Business & Products
URL: http://www.sumitomo-chem.co.jp/english/products/

Framework for Initiatives

Sumitomo Chemical works to accurately and rapidly reflect customers' requests in product development and improvement by sharing this information among Works, Research Laboratories and sales personnel. In addition, data on customer complaints and requests for improvements in product quality are stored on an internal database to prevent similar issues from occurring.

Customer Communication System



Examples of Initiatives

Supporting Development of Resin Products

Sumitomo Chemical conducts research into the structure and composition of resin materials in line with customer requests to offer comprehensive support of their efforts to develop resin products.

In the automotive component field, for example, we offer resin materials primarily aimed at rationalizing production and creating lighter, stronger products with a wider range of functions. In addition, we use plastic computer-aided engineering (CAE) technology to offer information about the formation and processing characteristics of resin materials and predictions about the practical applications of certain resin products.

Going forward, we will work to swiftly develop resin materials in line with customer requests and continue creating new value demanded by the market with our customers.

Initiatives of the AgroSolutions Division-Japan

The AgroSolutions Division-Japan established a customer consultation office related to crop protection chemical products and fertilizers. The division promotes business operations based on a spirit of compliance and prompt, appropriate, sincere service provided with an awareness of the customer's perspective.

We receive a wide range of questions from customers regarding crop protection chemicals and fertilizers, from how to appropriately use them to the safety of products grown using them. The consultation office works diligently to find the latest information, including registrations, regarding these chemicals to enable the provision of accurate, easy-to-understand information in line with Japan's Agricultural Chemicals Control Act and other related laws. The office's consultants are in constant contact with customers, striving to enable them to correctly and effectively use Sumitomo Chemical's crop protection chemicals and fertilizers.

In addition, the AgroSolutions Division-Japan maintains an agricultural support website entitled Sumitomo Chemical *i-nouryoku*. Through

this site, the division delivers a range of information, including introductions of new crop protection products and fertilizers. The division also issues the *i-nouryoku* newsletter to members of the site with the aim of enhancing communication with customers.

Sumitomo Chemical *i-nouryoku*
URL: https://www.i-nouryoku.com/ (Japanese only)

Initiatives in the Rice Business

In the autumn of 2014, Sumitomo Chemical started a business that handles everything from providing rice producers with original varieties of rice seed, crop protection chemicals, and fertilizers; supporting cultivation management; and buying and selling harvested rice. We have teamed up with a range of business partners in agricultural regions, including the rice producers; wholesalers of crop protection chemicals and fertilizers; agricultural cooperatives; and collection businesses. We've also joined with distribution partners, including rice wholesalers and traders. Taking advantage of the unique characteristics of different rice varieties with regard to flavor and yield, we have been engaged in producing commercial-grade rice seed, which is in high demand. We will continue to contribute to the development of Japan's agriculture through new rice production proposals.

Left: *Koshihikari* rice; right: The Company's original variety, *Koshihikari Tsukuba SD No. 1* rice
The Company's registered variety boasts good flavor, short stalks, and high yields. Short stalks keep this variety from being vulnerable to lodging (falling over).

Looking Ahead

Collecting information through close consultation with internal and external partners, and maintaining a proactive attitude when listening to our customers' opinions, Sumitomo Chemical remains committed to continuously providing products that satisfy the needs of its customers. Moreover, the Company is expanding information disclosure as a matter of policy in order to provide our customers with vital information in the most appropriate manner.

Hand in Hand with Business Partners

Basic Stance

The Sumitomo Chemical Group is committed to building mutually beneficial and sound relationships with business partners. In addition to ensuring fairness, equitability, and transparency in our transactions with business partners, we are also encouraging them to promote their CSR activities through our responsible procurement activities with an emphasis on compliance and respecting human rights.

Sumitomo Chemical clearly states its basic principle of responsible procurement in the Company's Basic Procurement Principles. In addition, we clarify our stance toward and policy on responsible procurement in our Group Business Standards of Procurement, which provide guidelines for procurement operating activities for Group companies in Japan and overseas.

Basic Procurement Principles (Outline)

Basic Procurement Principles

1. The Procurement Section shall strive to conduct procurement transactions on the basis of fair, equitable, transparent and free competition without involving personal interests or arbitrary considerations.
2. The Procurement Section shall strive to select suppliers to transact with in accordance with the most appropriate and economically rational methods and shall pursue the maintenance of sound business relationships with suppliers, aiming for mutual growth and development.
3. The Procurement Section shall strive to provide corporate services globally throughout the entire Group.
4. In its procurement, the Procurement Section shall give preference to those suppliers that are active in CSR initiatives, with the aim of fulfilling its corporate social responsibilities and building sound relationships with suppliers.
5. The Procurement Section shall strive always to meet the quality requirements of Sumitomo Chemical's internal sections that request purchases of Goods and Services.
6. In performing Procurement Operations, the highest priority shall be given to safe and stable operations in order to realize zero-accident and zero-injury operations.
7. In performing Procurement Operations, the highest consideration shall be given to customer satisfaction.
8. The Procurement Section shall ensure the transparency of Procurement Operations.

Detailed Information
URL: http://www.sumitomo-chem.co.jp/english/company/purchasing/principles.html

Responsible Procurement Activities

Sumitomo Chemical has added a webpage about CSR procurement to its Procurement Information page on its official website to inform more stakeholders of our responsible procurement initiatives. The webpage features the Sumitomo Chemical Supply-Chain CSR Deployment Guidebook, which explains those CSR promotion items that the Company asks suppliers to follow. Moreover, Sumitomo Chemical has formulated the Sumitomo Chemical Supply-Chain CSR Deployment Check Sheets to enable suppliers to conduct self-evaluations regarding all items. Suppliers can now download the guidebook and check sheets and report the results of their self evaluations.

Procurement Information, "CSR Deployment Guidebook and Check Sheets"
URL: http://www.sumitomo-chem.co.jp/english/company/purchasing/csr_procurement.html

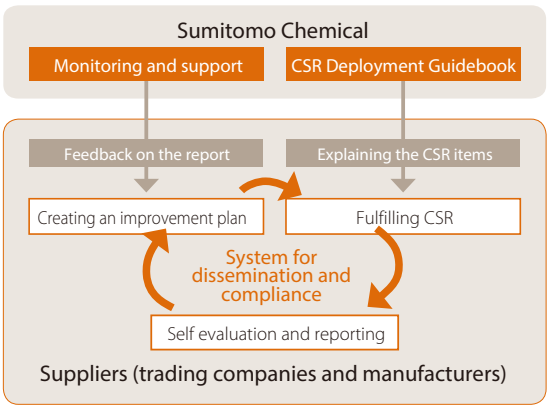
Using the CSR Deployment Guidebook and Check Sheets

Sumitomo Chemical promotes responsible procurement and strengthens cooperation with business partners in part by collecting CSR-related surveys from all new suppliers and from current suppliers of raw materials and packaging materials, especially those outside Japan. Every year, there are around 10 to 20 new suppliers subject to monitoring. In fiscal 2016, all these new suppliers were given good evaluations, and we therefore entered into business with them. We monitor current suppliers primarily located overseas in collaboration with overseas subsidiaries, such as Sumitomo Chemical Shanghai and Sumitomo Chemical India, to monitor local manufacturers in China and India, respectively. As for current suppliers in Japan, there are around 40 companies subject to monitoring via check sheets every year as well as quality assurance audits.

Hand in Hand with Business Partners

We manage the data from the check sheets submitted by suppliers and periodically assess the content. For suppliers who need to follow-up on problems revealed by the monitoring, we furnish feedback, including point-by-point requests for improvement offered. By seeking to raise awareness of and cooperation in ensuring responsible procurement, we aim to prosper alongside our suppliers and strengthen cooperation with them.

System for Responsible Procurement



Promoting Responsible Procurement throughout the Group

We hold Group purchasing information exchange meetings twice a year that gather together responsible purchasing representatives from each Group company. Through these information exchange meetings, Sumitomo Chemical is able to promote responsible procurement throughout the Group by actively sharing necessary information on the Company's responsible procurement activities.

Looking Ahead

Utilizing our current framework, we will continue to strengthen cooperation with business partners and provide support for responsible procurement. Going forward, we plan to revise the CSR Deployment Guidebook and Check Sheets to reflect the needs of society.

Hand in Hand with Employees

Basic Stance

Sumitomo Chemical is actively promoting talent development plans and a system of educational job rotations that focuses on the motivation and skills of each employee. The goals are to make the most of the abilities of diverse human resources and to create a workplace that is both motivating and stimulating. At the same time, the Company works to design and implement various human resource systems that are in line with changes in conditions.

In addition, Sumitomo Chemical is taking steps to further bolster its Global HR initiatives in order to strengthen its global management endeavors from a human resource perspective. The Company is also undertaking proper workforce planning based on business expansion.

Number of Employees (Sumitomo Chemical Group)★

	FY2016
Male	24,232
Female	8,304
Total	32,536

Protection of Human Rights

To educate employees on human rights issues and responsible behavior, Sumitomo Chemical holds a committee on human rights every year, formulates annual policies on human rights, and implements measures to protect human rights.

Moreover, with a view to providing employees with workplaces where they can display their abilities with ease of mind, we are addressing the issues related to various types of harassment, in addition to discrimination, mainly by holding enlightenment seminars. In fiscal 2016, we held a total of 151 seminars and lectures on human rights as a part of the in-house training curriculum, in which a total of 3,787 employees participated. Just as in previous years, in fiscal 2016, there was no instance of discrimination reported.

In addition, in fiscal 2016, we revised the Compliance Manual and Rules of Employment Guidelines to eliminate discrimination against people with disabilities and to prevent maternity harassment and other kinds of harassment. We worked to ensure that all employees thoroughly understand the new revisions. In addition, aiming to establish a system wherein employees are able to receive counseling for various kinds of harassment, including sexual harassment, power harassment, and maternity harassment we have set up a harassment consultation office staffed with counselors.

★: Assured by an independent assurance provider

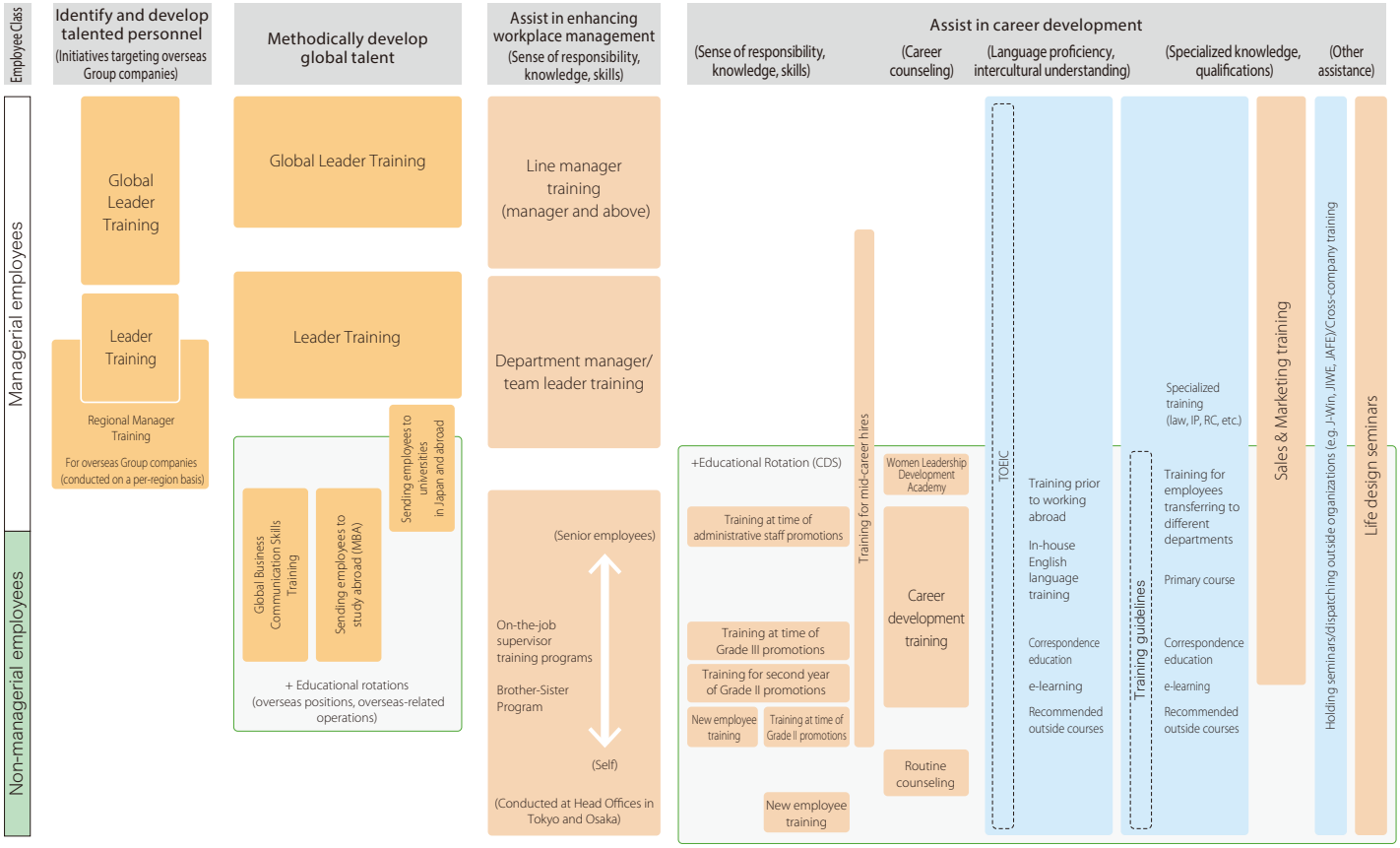
Human Resources System Initiatives

Sumitomo Chemical has introduced a job (role)-based HR system that allows highly motivated and capable employees to engage in more challenging and responsible jobs, and that rewards those who have made significant efforts and contributions to the Company regardless of age, nationality, or gender. Based on this basic framework, we decided to revise the HR system in fiscal 2017 to help train and nurture employees by establishing a mechanism to align the work and training that each worker is assigned to with their individual career aspirations.

Both managerial and non-managerial employees are evaluated not only on the basis of performance but also with an eye to competencies, processes, and behavior. This system encourages employees to not just pursue short-term achievements but the Company's medium- to long-term prosperity and to develop productive behavioral mindsets.

Managers talk with their subordinates on a regular basis to help increase their motivation and abilities with feedback on their performance, objectives, behavioral advantages, and areas for improvement. In the interviews, they also discuss workplace policies, job expectations, and career paths. Furthermore, we have adopted a common evaluation system for managers at overseas Group companies.

Human Resources Development



Note: The Company conducts in-house training courses in the areas of compliance, human rights, CSR, and health maintenance and improvement

Human Resources Development

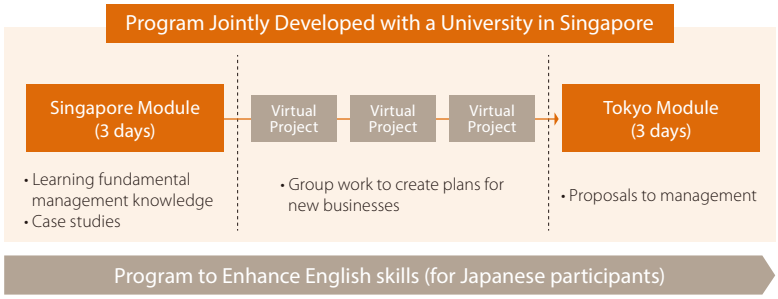
As a part of efforts to develop human resources, the Company undertakes a variety of training initiatives targeting a broad employee base both in Japan and overseas in order to nurture professional human resources, who can not only excel on the world stage but are also capable of ensuring that Sumitomo Chemical takes a further leap forward as a global company.

Sumitomo Chemical is carrying out a staged training program in human resource development for employees both in Japan and at overseas Group companies, in order to discover and develop next-generation leaders in a systematic way, emphasizing the creation of Global Leaders who can take on the role of core management.

Next-Generation Leader Development System

As an example, in Sumitomo Chemical's leader development training for management-level employees both inside and outside of Japan, Sumitomo Chemical worked with an overseas business school to carry out a program in both Singapore and Japan, held completely in English, with the goal of developing the employees' conceptual strength and abilities to propose strategies for the creation of new value.

Leader Training Program



Hand in Hand with Employees

Recruitment, Human Resources Development and Human Resources System

(No. of people)

Name	Approach	FY2016 Results
Career Development System (CDS)	To ensure that individuals are active in the field to which they are most suited, non-managerial employees and some managers are rotated through job assignments linked to the development plans made by their managers based on stated preferences and an interview to help plan and develop their ideal careers.	663
Trainer System	Highly skilled employees who have an aptitude for teaching provide instruction and advice to younger employees to facilitate their development.	57
Full-time Instructor System	We provide supervisors and potential supervisors with on-the-job training to develop core talent for manufacturing departments.	5
Development of Global Talent	In order to create global leaders who will play a central role in management and to develop talent that supports our global business operations, we systematically conduct various training programs.	
(1) Global Leader Training	Our global leader training program focuses on action learning.	21
(2) Leader Training	Held in Singapore and Japan since fiscal 2014 to develop the next generation of leaders, we conduct training programs in English.	28
(3) Regional Manager Training	We provide training for local managers at overseas Sumitomo Chemical Group companies. This training is mainly to help participants better understand and practice Sumitomo Chemical's Business Philosophy and corporate value. (In fiscal 2016, the training was suspended to assess the state of the program and make revisions. It will restart in fiscal 2017.)	—
(4) Global Business Communication Skills Training	Younger employees who are expected to become global talent attend a training seminar conducted in English to develop and improve their business communication skills.	65
Evaluation system for managers	A common evaluation system is applied to managers of overseas Group companies.	369 (Local managers)

Note: As of April 1, 2017

Diversity Initiatives

To promote diversity, Sumitomo Chemical considers it essential to provide all employees with motivating workplaces where they can fully demonstrate their skills and abilities in a variety of situations. As a part of that effort, the Company is focusing on the active advancement of women and promoting priority measures aimed at creating an environment in which as many women as possible can excel.

Initiatives to Promote Diversity (Sumitomo Chemical)★

Name	Concept	Results		
		FY2014	FY2015	FY2016
Number of female managers*1★	In order to promote the success of female employees, Sumitomo Chemical sets quantitative targets regarding the ratio of female managers and systematically promotes female employees to management positions.	205	222	240
Percentage of female managers (%)*1★		6.9	7.4	7.8
Employment rate for people with disabilities(%)*2	Sumitomo Chemical is undertaking initiatives to encourage the employment of people with disabilities to a greater extent than before by taking steps to create workplaces that allow employees with disabilities to make the most of their abilities.	2.26	2.23	2.07
Number of retirees	Sumitomo Chemical has been implementing a system to reemploy retirees to provide them with opportunities to demonstrate the skills and expertise they have gained to date.	105	118	190
Number of reemployed		91	99	175
Reemployment rate (%)		86.7	83.9	92.1

*1 Number and percentage of employees holding positions equivalent to sectional manager or above and assistant manager; as of April 1 of each fiscal year
*2 Average for each fiscal year
Note: Figures include Sumitomo Chemical employees on temporary transfer to other companies but do not include employees from other companies on temporary transfer to Sumitomo Chemical.

★: Assured by an independent assurance provider

Promoting the Active Advancement of Women

Sumitomo Chemical implements programs to actively promote the advancement of women as part of its Mentor System. This involves female managers regularly meeting with executives with whom they have no working relationship to discuss career planning. In 2016, this program was held for five female manager–executive pairs. We believe that meeting with superiors who are highly knowledgeable and possess wide-ranging operational experience helps to cultivate a broader perspective as well as an interest in taking on new challenges.

In addition, we conduct the Women Leadership Development Academy for female managers. The purpose of this program is to provide necessary hints about management and to instill the required sense of commitment; instruction on how to develop a career-oriented mindset; and to impart essential leadership skills, including ways to move tasks forward and appropriate methods for communicating with staff. In fiscal 2016, 23 employees underwent a total of four full-day training sessions. The final session provides an opportunity to deepen mutual understanding by having participants and their supervisor work together to create career visions.

Furthermore, the Company has established the targets below based on the Act of Promotion of Women's Participation and Advancement in the Workplace.

Quantitative Targets for Promoting Women's Participation and Advancement

Sumitomo Chemical has set the following quantitative targets for 2020.

Target 1. **Women accounting for at least 10% of positions equivalent to manager or above and 15% of positions equivalent to assistant manager or above. As of the end of April 1, 2017, the former proportion was 4.5% and the latter ratio was 13.7%.**

Target 2. **At least 13% of male employees taking childcare leave. In fiscal 2016, the percentage was 13.6%. The figure is calculated by dividing the number of male employees who took childcare leave by the number of male employees with a newborn within the period (one year).**

Promotion of Work-Life Balance

The Company is strengthening its work-life balance efforts to help employees make their private and business lives compatible and lead sounder and more fulfilling lives.

Helping Employees Continue Working

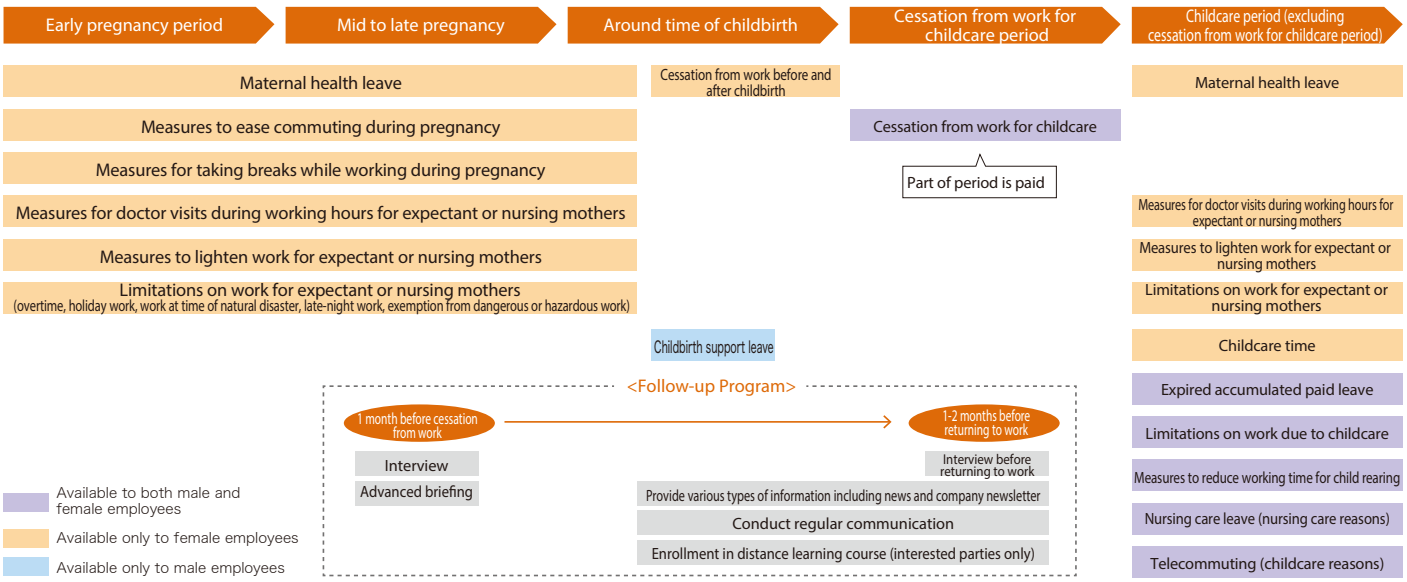
In order to help employees who are experiencing strenuous life events such as childcare and nursing care, we have enhanced various systems and improved the work environment in different areas. We also published a work-life balance guidebook with easy-to-understand explanations about the procedures to be taken regarding pregnancy, childbirth, childcare and nursing care, and how to utilize these systems more effectively.

Measures to Improve Work-Life Balance

Sumitomo Chemical is conducting a variety of activities to help employees work with high efficiency while enabling them to maintain harmony between work and everyday life. For example, we conduct initiatives to raise awareness of the efforts to achieve the work-life balance goals that have been set in each workplace. These initiatives include designating May and November as "work-life balance promotion months," during which we display awareness-raising posters at each workplace. Furthermore, to check the work-life balance awareness level of employees and increase the effectiveness of related measures to enforce them, we collect data on work-life balance indicators from each workplace every six months, including total overtime work hours, the number of employees who worked longer hours, and the percentage of employees taking paid holidays.

Hand in Hand with Employees

Systems and Measures for Better Work-Life Balance and for Use at Time of Pregnancy, Childbirth and Childcare



Results of Systems for Work-Life Balance (Non-Consolidated)

(No. of people)

	System/Measure		FY2014	FY2015	FY2016
Childcare/Nursing Support	Cessation from work for childcare★		142	185	248
		Male	44	101	142
		Female	98	84	106
	Cessation from work for nursing care		2	3	3
	Nursing care leave		120	132	134
	Childbirth support leave		202	167	204
	Maternal health leave		47	58	55
	Special reserve leave (paid)*1		56	59	62
	Reduced working hours system		101	114	118
	Telecommuting*2		9	13	15
	Reemployment system*3		11	11	12
	In-house childcare facilities*4		126(78)	156(101)	161(108)
	Mutual aid association support money for childcare*5		171	175	195
Other	Suspension from work for special reasons for employees accompanying spouses going on overseas transfer*6		2	6	7
	Employee survey*7		-	-	Conducted in August

*1 Only for childcare and nursing care
*2 Number certified at the end of each fiscal year
*3 Number registered as of the end of each fiscal year
*4 Number of users on April 1 each fiscal year. Includes users other than Sumitomo Chemical. The figures in parentheses are the number of Sumitomo Chemical users.
*5 Aggregate number of people at end of each fiscal year
*6 Number of applicants as of the end of each fiscal year
*7 Conducted once every three years

Note: Employee numbers do not include temporary employees, part-time staff, or dispatch employees.

Kurumin Mark

In September 2015, Sumitomo Chemical was certified for the third time as a company that supports childcare and received the next-generation Kurumin certification mark. Under this system, business operators who successfully carry out action plans based on the Act on Advancement of Measures to Support Raising Next-Generation Children and meet all the certification criteria receive certification from the Minister of Health, Labour and Welfare.

This certification was in recognition of our third round of initiatives covering the period between June 2012 and March 2015. The first certification covered the period between April 2005 and May 2007, and the second one covered the period between June 2007 and May 2012. The Company was commended for its initiatives to help promote work-life balance, such as expanding in-house childcare facilities and encouraging employees to take various forms of leave.

Next-generation Kurumin certification mark

★: Assured by an independent assurance provider

Communication with Employees

Dialogue with Labor

Sumitomo Chemical has been partnering with its labor union in addressing various challenges in management based on long-standing mutual understanding and trust.

At Sumitomo Chemical, central labor-management meetings and regional labor-management meetings are held semiannually for parties to exchange opinions.

The Labor-Management Committee for Diversity and Work-Life Balance was established in fiscal 2010 and convened once in fiscal 2016. Every effort is being made to promote opinion exchanges and a uniform understanding of current measures and future challenges.

In addition, we have established a Safety and Health Committee at each worksite as we strive to ensure and improve the safety and health of union members.

Sumitomo Chemical and its labor union have concluded a union-shop contract, and 100% of the non-managerial employees of the Company are enrolled in the union.

Social Contribution Activities Promoted through Labor- Management Cooperation

As for social contribution activities promoted through labor-management cooperation, the Company and its labor union are working together to continue encouraging employees to each make a difference in fiscal 2016.

Social Contribution Activities Promoted through Labor-Management Cooperation

Name	Overview
Matching Gift program	In this program, donations are made by executives and employees, Sumitomo Chemical matches the amount collected.
Mangrove planting project in Thailand (Sumitomo Chemical Forest)	This is one project supported by donations to our Matching Gift program. Employees volunteer to plant trees at the afforestation site in Ranong Province, Thailand.
Coastal woodland rejuvenation project to support recovery from the Great East Japan Earthquake	This is one program supported by donations from the matching gift program. Employee volunteers nurture saplings to rejuvenate coastal woodlands in Natori, Miyagi Prefecture, that were damaged by the tsunami that followed the Great East Japan Earthquake.
Sumitomo Chemical Group Global Project	Provides opportunities for Sumitomo Chemicals Group employees to consider and take actions together to address issues both in Japan and abroad.

Managing Physical and Mental Health

Sumitomo Chemical is implementing a range of measures to help employees maintain and promote their physical and mental health with the assistance of the chief occupational health physician of the Company.

Mental Health

Employees are able to receive counseling from the Company's medical staff, including occupational physicians.

Seminars on maintaining mental health are held for new employees and newly promoted employees, and stratified training seminars on mental health are also organized for sectional managers and team leaders.

In addition, in order to help employees who have been absent from work for extended periods due to mental health problems return to work, we introduced a rehabilitation work system in April 2009. Under this system, an on-site occupational health physician, an HR staff member, and the employee's manager cooperate in helping the employee start working again by determining the working days, hours, and other details for the employee.

We have been cooperating with medical staff to properly implement the stress checks required by law for business operators since December 2015. We are working to prevent mental health problems by encouraging employees to take care of themselves and encouraging superiors to look after their subordinates.

Physical Health

Since April 2008, the health insurance association of companies has been required by law to have all employees and their dependents aged 40 or older undergo health checkups and receive guidance for lifestyle disease. Sumitomo Chemical works with its health insurance association to ensure that all employees and their dependents undergo the health checkups, regardless of age, and employees and their dependents aged 35 or older receive guidance with regard to lifestyle diseases, thereby helping employees with early diagnosis and the prevention of such diseases. In addition, the Company dispatches its chief occupational health physician to provide overseas medical counseling and evaluate medical service environments to support employees working overseas and their accompanying families. In fiscal 2016, medical counseling and environmental evaluations were implemented twice in Saudi Arabia, twice in China, and once each in the United States, Thailand, and Singapore (including employees dispatched to India and Malaysia).

Looking Ahead

In line with its basic stance, Sumitomo Chemical will continue to promote global HR initiatives, train personnel, pursue educational rotations that help to motivate employees and allow them to fully demonstrate their abilities, engage in proper workforce management that reflects optimal business operations, and build HR systems that respond to revisions to relevant laws and regulations as well as changes in conditions. Through these means, the Company will work to address various HR issues.

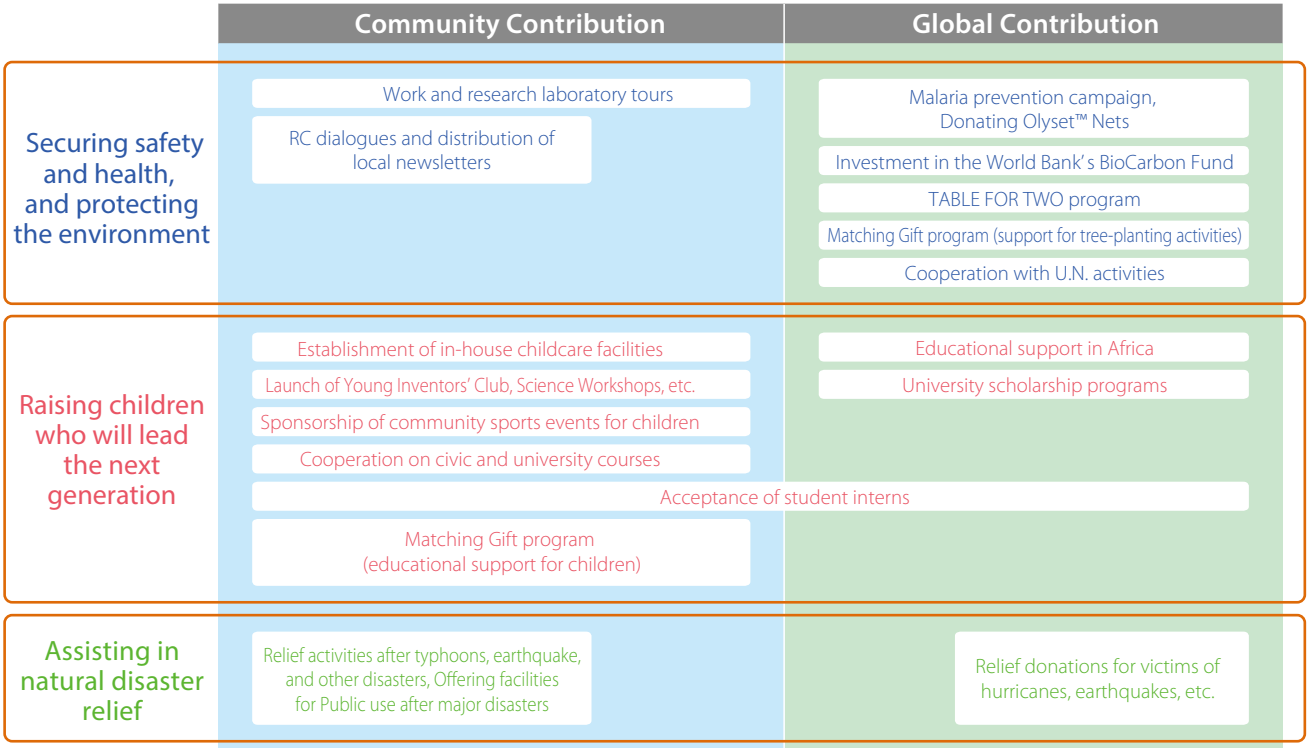
Hand in Hand with Local Communities and Society

Basic Stance

Based on the concept of contributing to the sustainable development of society through its businesses, the Sumitomo Chemical Group is committed to social contribution activities undertaken from the perspectives of solving global problems and coexistence with local communities.

Sumitomo Chemical, its worksite in Japan and overseas, and Group companies engage in a variety of activities to meet the needs of local communities in order to build good relations with them.

Sumitomo Chemical's Social Contribution Activities



Securing Safety, a Sound Environment, and Health

Communication with Society

Sumitomo Chemical has put in place Group-wide policies regarding communication with society and is endeavoring to bolster its activities in these fields. Among a host of initiatives, the Company is focusing on enhancing its information disclosure while engaging in interactive dialogue. Each worksite formulates annual activity plans and conducts specific activities based on the aforementioned Group-wide policies. Taking into consideration feedback and requests received, considerable weight is also being placed on improving the aesthetic appeal of worksites.

Localized Information Disclosure and the Practice of Wide-Ranging Interactive Dialogue

At Sumitomo Chemical, each worksite publishes its own environmental and safety report every year to report on its local activities in detail. The reports complement the Company's own Sustainability Data Book (this publication). In addition, the Ehime, Osaka and Oita worksites each publish local newsletters for the proactive distribution of area-specific information. These are often delivered to residents as newspaper inserts.

Moreover, each worksite engages in a variety of risk communication and dialogue activities for various purposes. These include risk communication model projects carried out jointly with local governments, environment and safety support projects for domestic and overseas governments and businesses, regular meetings with local residents, and dialogues with the community based on cooperation with the chemical industry.

At the Company's head office, Sumitomo Chemical participates in a range of committee activities conducted by the national government

and industrial associations as well as in industry-government-academia seminars and lectures to disseminate relevant information and exchange opinions in a timely manner. The overall aim is to help people deepen their understanding of Sumitomo Chemical and to win more trust from the public.

Information about the Report on the Environment, Health and Safety for Works, Research Labs and Facilities
http://www.sumitomo-chem.co.jp/csr/report/facilities_report.html (Japanese only)

Matching Gift Program

As a social contribution activity with employees and the Sumitomo Chemical Group acting together since fiscal 2007, the matching gift program, which is run in collaboration with the labor union, collects donations from executives and employees working at Sumitomo Chemical and Group companies. Sumitomo Chemical then matches their donation.

One of the beneficiaries of the donations from the matching gift program is the Sumitomo Chemical Forest in Ranong Province, Thailand. In collaboration with the labor union, we have been dispatching employee volunteers to the forest since 2008.

Matching Gift program

*1 OISCA is a global NGO engaged in rural development and environmental protection mainly in the Asia-Pacific region. The money donated by Sumitomo Chemical to this organization is used for its Children's Forest Program, the Sumitomo Chemical Forest mangrove planting project in Ranong Province, Thailand, and Japan's Coastal Forest Restoration Project following the Great East Japan Earthquake.

*2 ASHINAGA is an NPO established to provide physical and mental support for children who have lost their parents because of illness, accidents, or for other reasons. The money donated to this organization is used to provide a scholarship fund for these orphans.

Results

Support for raising and educating children: a total of ¥13,790,938
Support for tree-planting activities: a total of ¥12,325,902

Tree-Planting Project in Thailand
Period: April 27–May 3, 2016
Participants: 20 (from Japan and Singapore)
Total forest area: 220 hectares
Total trees planted: 630,500
Total participants: 179

Note: Total figures are for the period between 2008 and March 2017

Nurturing the Children of the Next Generation

Supporting Education through Science Workshops

Sumitomo Chemical's Group companies and worksites hold general classes and science workshops at local schools and events. We hold science workshops at our bases for children to conduct experiments and make crafts with our products, enabling them to experience the wonders and appeal of science with their own hands, in order to convey in a manner that children can easily understand how everyday products are linked to chemicals.

Hand in Hand with Local Communities and Society

In Osaka, the Sumitomo Chemical Group exhibited at the Children's Chemistry Experiment Show sponsored by the Dream Chemistry 21 Committee. Employees from a number of worksites in the Kansai region put on a workshop for a total of 400 children in which they built kaleidoscopes using polarizers.

Employees from Oita Works held science classes at elementary and middle schools in neighboring Oita City for around 300 children and students. The theme of the lesson was chemical reactions and changes in states of matter. Experiments were conducted using liquid nitrogen, dry ice, a super absorbent polymer, salicylic acid, and other materials. Each worksite within the Works supported and contributed to the class.

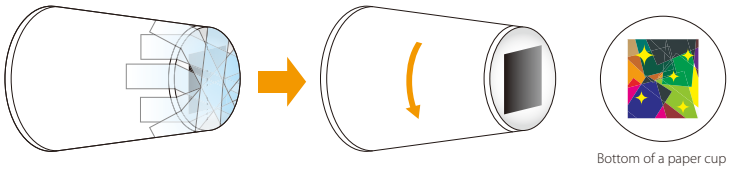
In China, Sumitomo Chemical (China) Co., Ltd. and Sumika Huabei Electronic Materials (Beijing) Co., Ltd. collaborated with the China Soong Ching Ling Foundation (CSCLF) to hold their fifth science workshop, which this year hosted 72 children at an elementary school in Beijing. An experiment was conducted utilizing polarizers to create kaleidoscopes, and another was conducted utilizing a super absorbent polymer.

Example: Let's Make a Glittery Kaleidoscope!

Materials: Paper cups, polarizers, Scotch tape

Directions:
(1) Punch holes in the bottoms of two paper cups and affix polarizers over the holes
(2) Affix overlapping pieces of Scotch tape on to the polarizer of one cup in various angles and place the other cup over top
(3) Point the overlapping paper cups toward a bright light, and rotate one cup to make it possible to see vivid, sparkling colors just like a real kaleidoscope

Purpose: Utilize the Company's polarizers used in TVs and other LCD products to enable children to learn about the properties of light and, in turn, show how science is used in their everyday lives



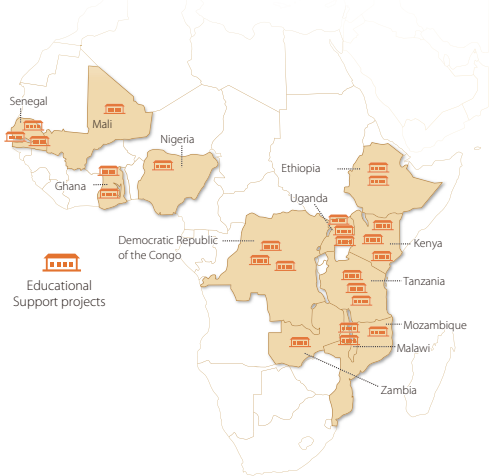
Support for Education in Africa

We believe that in order to break free from poverty and achieve sustainable economic development, Africa needs to build a better educational environment for children. Sumitomo Chemical has been cooperating with the NPOs World Vision Japan and Plan Japan since 2005 in conducting educational support activities centered on the construction of primary and secondary school buildings and related facilities in Africa to support children, on whom the continent's future rests.

To date, we have completed 22 projects in 12 African nations and improved the educational environments of more than 12,000 children. Since fiscal 2015, we have been supporting science and math education in addition to the construction of classrooms.

In fiscal 2016, in the Democratic Republic of the Congo, we supplied math and science teaching materials, raised awareness of malaria, and offered preventive healthcare training in addition to building classrooms for elementary schools. Also, in the Republic of Senegal, we supplied various equipment, including instruments for experiments and IT devices in addition to building classrooms and restrooms for high schools.

Support for Education in Africa



Results

Supported countries: 12
(22 projects completed, 3 under way)

Note: The three projects under way are in the Democratic Republic of the Congo, the Republic of Senegal, and Nigeria (as of April 2017)

Beneficiaries: over 12,000 people

Hand in Hand with Local Communities and Society

Assisting in Natural Disaster Relief

The Sumitomo Chemical Group supports areas affected by natural disasters in a variety of ways.

We have been working with some Group companies to help people affected by the earthquake that struck Kumamoto (Japan) in April 2016. The companies donated funds that matched donations collected from executives and employees. In addition, we provided the Group product *STRONTEC Outdoor Insect Repellent*.

Since the Great East Japan Earthquake of 2011, we have been promoting initiatives involving employee participation to keep the memory of the disaster fresh in people's minds. We have also been providing donations collected through the sale of "Disaster Hit Area Support Meals" served in our cafeterias since April 2011. Under this scheme, a portion of sales is donated to a business that aids orphans in areas hit by the disaster, and the companies match that amount.

Since fiscal 2013, through the matching gift program, we have participated in the OISCA coastal woodland rejuvenation project aimed at rejuvenating black pine coastal woodlands in Natori, Miyagi Prefecture. These woodlands were damaged by the tsunami caused by the Great East Japan Earthquake. Since fiscal 2015, we have dispatched employee volunteers to the area. In fiscal 2016, we dispatched 22 volunteers who provided black pine saplings, planted trees, and weeded and fertilized areas where trees were planted with the aim of rejuvenating about 100 hectares of coastal woodland.

Looking ahead, we will support the recovery of disaster-affected areas through a wide variety of activities.

Results

- Kumamoto Earthquake Donations (matching type with some Group companies, executives, employees, and the Company): ¥11,159,556
- Disaster Hit Area Support Meals (matching type with executives, employees, and the Company): ¥2,070,620, or 35,939 meals
  September: the Iwate Learning Hope Fund: ¥1,428,760 (the portion used between March 2016 and August 2016)
  March: The Great East Japan Earthquake Miyagi Children's Fund: ¥641,860 (the portion used between September 2016 and February 2017)

Looking Ahead

In order to maintain the trust of local communities, Sumitomo Chemical will promote its social responsibilities by making various social contributions distinctive to the Sumitomo Chemical Group from three perspectives: securing safety, a sound environment, and health; nurturing the children of the next generation; and assisting in natural disaster relief.

Social Activities, Supplementary Data

1. Data Regarding Employees

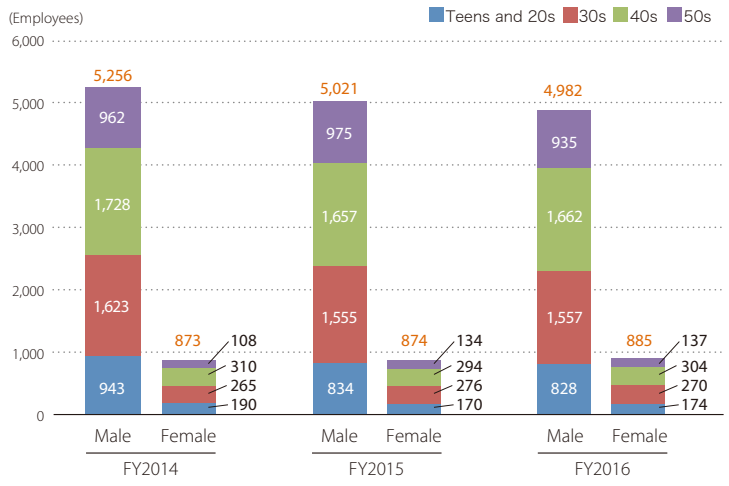
▶ Basic Data

◆ Number of Employees, Average Age, Length of Service, Average Compensation

Item		FY2014	FY2015	FY2016
Number of employees (Sumitomo Chemical Group)★	Total	31,039	31,094	32,536
	Male	—	—	24,232
	Female	—	—	8,304
Number of employees (Sumitomo Chemical) ★	Total	6,129	5,895	5,867
	Male	5,256	5,021	4,982
	Female	873	874	885
Number of non-Japanese employees (Sumitomo Chemical)		128	110	108
Average age (Sumitomo Chemical)		39.5	40.0	40.0
	Male	39.6	40.1	40.0
	Female	38.5	39.1	39.5
Average length of service (years; Sumitomo Chemical)		13.8	14.2	14.1
	Male	14.0	14.4	14.2
	Female	12.6	13.4	13.7
Average annual compensation (Sumitomo Chemical)		¥8,008,407	¥8,444,331	¥8,542,320

Note: Employee numbers do not include temporary employees, part-time staff, dispatch employees, and staff assigned to other companies not included in the scope of consolidation, but do include staff assigned from other companies not included in the scope of consolidation.

◆ Employee Age Composition and Distribution (Sumitomo Chemical)★



★: Assured by an independent assurance provider

◆Number of New Graduate and Mid-Career Hires (Sumitomo Chemical)

Results		FY2014	FY2015	FY2016
New graduate hires	Male	97	79	117
	Female	18	26	32
	Total	115	105	149
Mid-career hires	Male	27	51	65
	Female	1	7	6
	Total	28	58	71

◆Number of Internships (Sumitomo Chemical)

Results	FY2014	FY2015	FY2016
University students in Japan	156	184	160
University students overseas	58	37	25

◆Number of People Who Left the Company (Sumitomo Chemical)

	FY2015			FY2016		
	Total	Male	Female	Total	Male	Female
Retired early	0	0	0	0	0	0
Resigned	92	63	29	73	58	15
Dismissed	0	0	0	0	0	0
Changed jobs	3	3	0	3	3	0
Other reason	2	2	0	5	5	0
Total	97	68	29	81	66	15

◆Retention of New Graduate Hires (Sumitomo Chemical)

	Male	Female
New graduate hires in April 2014	108	22
Number of those remaining as of April 2017	104	22
Retention rate of new graduates after three years	96.3%	100.0%

▶ Diversity

◆Promotions of Executives and Employees (As of April 1, 2016; Sumitomo Chemical)

	Female	Male	Non-Japanese	Percentage of Women
Managers	240	2,847	31	7.8%
General managers or above	9	496	3	1.8%
Officers	1	44	3	2.3%
Executive officers	1	36	3	2.8%

▶ Work-Life Balance

◆Paid Vacation Use Rate (Sumitomo Chemical)

	FY2014	FY2015	FY2016
Number of days provided	20.0	20.0	20.0
Number of days used	13.2	13.8	12.9
Use rate	66.0%	68.9%	64.7%

◆Average Overtime Hours (Sumitomo Chemical)

	FY2015	FY2016
Average Overtime Hours (Hours/Month)	18.7	20.0

◆Return Rate of Female Employees Who Take Childcare Leave (Sumitomo Chemical)

	FY2015	FY2016
Of employees who finished childcare leave within the fiscal year, percentage of employees who returned to work	97.8	93.9

2. Data Regarding Social Contributions

▶ Donation Activities

Amount paid for donation activities: a total of ¥276 million

◆Major Donations (Sumitomo Chemical)

(Unit: million yen)

Item	Amount
To support malaria elimination and activities to raise awareness about malaria	70.1
To support education in Africa	14.2
To support emergency aid for the 2016 earthquake in Kumamoto (Japan)	8.0
To support the development and education of children through ASHINAGA (Matching Gift program)	6.7
To support OISCA's tree planting activities (Matching Gift program)	6.4
TABLE FOR TWO	1.2
To support recovery from the Great East Japan Earthquake	1.0
To provide Olyset™ Nets to a girl's middle school in Tanzania	0.3*1

*1 Monetary equivalent of the donated Olyset™ Nets

Number of donations: a total of 434

◆Number of Major Donations (Sumitomo Chemical)

Item	Number of cases
Local community activities	158
International exchange and cooperation	37
Sports	26
Academic study and research	18
Culture and art	18
Social welfare	16
Education and social education	13
The environment	9
Support to areas devastated by disasters	7

◆Number of Employees Using the System for Taking Leave or Vacation for Volunteering (Sumitomo Chemical)

	FY2014	FY2015	FY2016
Vacations for volunteering	37	26	35

Calculation Standards for Environmental and Social Data Indicators

1. Period: April 2016 to March 2017
2. Scope: Refer to Boundary of This Report on page 2 of the *Sustainability Data Book 2017*.
3. Calculation Method:

Environmental Data Indicator		Unit	Calculation Method
Energy	Fuel, heat, and electricity	Thousand kl of crude oil	((Amount of electricity purchased × Per-unit heating value + Amount of heat purchased × Per-unit heating value) + ∑(Amount of each fuel used × Per-unit heating value for each fuel)) × 0.0258 The per-unit heating value of electricity, per-unit heating value for each fuel, and the types of fuel included in the scope of calculation are based on the values and calculation methods outlined in the Act on the Rational Use of Energy. The energy usage amount by Sumitomo Joint Electric Power Co., Ltd., a company engaged in power business activities, includes the amount of fuel used internally but does not include the energy usage amount by the production of power and steam sold to external parties.
	Energy consumption	Thousand kl of crude oil	((Amount of electricity purchased × Per-unit heating value + Amount of heat purchased × Per-unit heating value) + ∑(Amount of each fuel used × Per-unit heating value for each fuel) × 0.0258 The per-unit heating value of electricity, per-unit heating value for each fuel, and the types of fuel included in the scope of calculation are based on the values and calculation methods outlined in the Act on the Rational Use of Energy. The heating value used overseas is also based on the values outlined in the Japanese law, except for that used by a few Group companies, which employ values set out by the laws of the country in which they operate.
Amount of Exhaustible Resources Used	Hydrocarbon compound	Thousand tonnes	Total amount of hydrocarbon compounds used as raw materials (only raw materials purchased from outside the Sumitomo Chemical Group).
	Metals (excluding rare metals)	Thousand tonnes	Total amount of metals, excluding rare metals, used as raw materials: iron, gold, silver, copper, zinc, aluminum, lead, platinum, titanium, palladium, gallium, and lithium (only raw materials purchased from outside the Sumitomo Chemical Group).
	Rare metals	Thousand tonnes	Total amount of rare metals used as raw materials: nickel, chromium, tungsten, cobalt, molybdenum, manganese, and vanadium (only raw materials purchased from outside the Sumitomo Chemical Group).
Water	Industrial water, drinking water, seawater, groundwater, and other water	Million tonnes	Amount of industrial water, drinking water, seawater, groundwater, and other water used.
PCB/CFCs in Use or under Secure Storage	No. of electrical devices containing high concentrations of PCBs	Units	The number of electrical devices containing high concentrations of PCBs, such as condensers and transformers, that are currently in use or under secure storage. Does not include fluorescent lamps and mercury lamp ballasts or contaminated substances (wastepaper, etc.).
	PCB volume	kl	The total amount of PCBs in electrical devices containing PCBs, calculated as the net PCB content by volume. Does not include fluorescent lamps and mercury lamp ballasts or contaminated substances (wastepaper, etc.).
	No. of refrigeration units using specified CFCs as a coolant	Units	The number of refrigerator units currently using specified CFCs as a coolant.
	No. of refrigeration units using specified HCFCs as a coolant	Units	The number of refrigerator units currently using specified HCFCs as a coolant.
Products	Calculated on the basis of ethylene production	Thousand tonnes	The production volume of products is calculated on the basis of ethylene production, using the amount of energy necessary to manufacture the products by weight (excluding the power and steam sold to parties outside the Sumitomo Chemical Group by Sumitomo Joint Electric Power Co., Ltd., a company engaged in power business activities) and the amount of energy necessary for ethylene production by weight. Some assumptions were made in calculations due to the difficulty of obtaining weight-based figures for certain products.
Water Pollutant Emissions	COD	Tonnes	The total amount of COD emitted into public water bodies (coastal waters/waterways) and sewer systems. Calculated as: The COD concentration at drains included in the scope of calculation × The amount of water drained into public water bodies and sewer systems from each drain.
	Phosphorus	Tonnes	The total amount of phosphorus emitted into public water bodies (coastal waters/waterways) and sewer systems. Calculated as: The phosphorus concentration at drains included in the scope of calculation × The amount of water drained into public water bodies and sewer systems from each drain.
	Nitrogen	Tonnes	The total amount of nitrogen emitted into public water bodies (coastal waters/waterways) and sewer systems. Calculated as: The nitrogen concentration at drains included in the scope of calculation × The amount of water drained into public water bodies and sewer systems from each drain.
Waste Materials	Waste discharge amount	Thousand tonnes	The total amount of waste discharged from business sites. The amount of coal ash generated at Sumitomo Joint Electric Power Co., Ltd., which is included in the waste discharge amount is calculated on a dry weight basis.
	Landfill disposal amount: - On-site landfill - External landfill - Total landfill	Thousand tonnes	The total amount of waste disposed of in landfills. The amount of coal ash generated at Sumitomo Joint Electric Power Co., Ltd., which is included in the landfill disposal amount, is calculated on a dry weight basis. * Landfill disposal amount for Sumitomo Chemical: Of the waste remaining after external reduction processing, the entire amount disposed of in landfills (not recycled) is calculated as the external landfill disposal amount. ** Landfill disposal amount for Group companies in Japan: At some companies' factories, the waste remaining after the external reduction processing of waste is not included. (The landfill disposal amount for Sumitomo Joint Electric Power Co., Ltd. is included.)
Atmospheric Emissions	CO_2 emissions from energy use	Thousand tonnes of CO_2	Amount of electricity purchased × CO_2 emission coefficient for electricity + Amount of steam purchased × CO_2 emission coefficient for steam + ∑(Amount of each fuel used × Per-unit heating value for each fuel × CO_2 emission coefficient for each fuel) The CO_2 emission coefficient for electricity, CO_2 emission coefficient for steam, per-unit heating value for each fuel, and CO_2 emission coefficient for each fuel are based on the values outlined in the Greenhouse Gas Emissions Accounting, Reporting, and Disclosure System of the Act on Promotion of Global Warming Countermeasures. The CO_2 emission coefficient for electricity uses the values for each fiscal year by electric power company.

Calculation Standards for Environmental and Social Data Indicators

Environmental Data Indicator		Unit	Calculation Method
Atmospheric Emissions	CO_2 emissions from energy use	Thousand tonnes of CO_2	Amount of electricity purchased × CO_2 emission coefficient for electricity + Amount of steam purchased × CO_2 emission coefficient for steam + Amount of each fuel used × Per-unit heating value for each fuel × CO_2 emission coefficient for each fuel **Sumitomo Chemical and Group companies in Japan:** The CO_2 emission coefficient for electricity, CO_2 emission coefficient for steam, per-unit heating value for each fuel, and CO_2 emission coefficient for each fuel are based on the values outlined in the Greenhouse Gas Emissions Accounting, Reporting, and Disclosure System of the Act on Promotion of Global Warming Countermeasures. The CO_2 emission coefficient for electricity uses the values for each fiscal year by electric power company. **Group companies overseas:** The CO_2 emission coefficient for electricity is based on values such as the statistical data promulgated by the national government where each Group company is located. The CO_2 emission coefficient for steam, per-unit heating value for each fuel, and CO_2 emission coefficient for each fuel are based on the values outlined in the Greenhouse Gas Emissions Accounting, Reporting, and Disclosure System of the Act on Promotion of Global Warming Countermeasures.
	CO_2 and N_2O emissions from other than energy use	Thousand tonnes of CO_2	Based on the calculation method outlined in the Greenhouse Gas Emissions Accounting, Reporting, and Disclosure System of the Act on Promotion of Global Warming Countermeasures.
	NOx	Tonnes	The total amount of nitrogen oxides originating from facilities specified in the Air Pollution Control Act. Calculated as: Each facility's dry gas emission volume × NOx (N_2O) concentration.
	SOx	Tonnes	The total amount of sulfur oxides originating from facilities specified in the Air Pollution Control Act. Calculated as: Amount of sulfur in fuel used by each facility × Amount of fuel used. Or calculated as: Each facility's dry gas emission volume × SOx (SO_2) concentration.
	Soot and dust	Tonnes	The total amount of soot and dust originating from facilities specified in the Air Pollution Control Act. Calculated as: Each facility's dry gas emission volume × Soot and dust concentration.
Substances Subject to the PRTR Act	Atmospheric emissions, water pollutant emission	Tonnes	Calculated based on the amended Order for Enforcement of the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (amended Order for Enforcement of the PRTR Act), executed on April 1, 2010.
Logistics	Usage amount (Scope: Sumitomo Chemical (non-consolidated))	Thousand kl of crude oil	The energy usage amount is calculated as 10 GJ = 0.258 kl of crude oil, based on the Energy Saving Act Guide Book for Shippers written and edited by Japan's Agency for Natural Resources and Energy.
	CO_2 emissions (Scope: Sumitomo Chemical (non-consolidated))	Thousand tonnes of CO_2	Calculated based on the Manual for Calculation and Report of Greenhouse Gas Emissions (Ver. 4.1) from Japan's Ministry of the Environment and Ministry of Economy, Trade and Industry using the energy usage amount calculated above in GJ.
Scope 3 Greenhouse Gas Emissions (Sumitomo Chemical (Non-Consolidated))	Purchased goods and services	Tonnes of CO_2	∑(weight of raw materials purchased (by type) × CO_2 emission intensity by raw material type) The weight of raw materials purchased (by type) covers roughly 94% of the total amount (weight basis) of raw materials purchased by the Company. Values used for CO_2 emission intensity by raw material type are based on the Basic Database for Carbon Footprint Communication Programs Version 1.01.
	Fuels and energy-related activities not included in Scope 1 or 2	Tonnes of CO_2	Amount of electricity purchased × Unit CO_2 emissions intensity + Amount of heat purchased × Per-unit CO_2 emissions intensity + ∑(Amount of each fuel used × Unit CO_2 emissions intensity for each fuel) Unit CO_2 emissions intensity of Electricity and Heat and Unit CO_2 emissions intensity for each fuel are based on the values outlined in the Database on Emission Intensities for Calculating Organizational Greenhouse Gas Emissions, etc. through a Supply Chain Version 2.4 March 2017 and the Basic Database for Carbon Footprint Communication Programs Version 1.01.
	Upstream transportation and distribution	Tonnes of CO_2	Refer to the calculation method for CO_2 emissions under logistics.
	Waste generated in operations	Tonnes of CO_2	∑(Waste by type × Amount by processing method (incinerating, disposing of in landfills, recycling, disposing of in landfills) × Unit CO_2 emissions intensity by processing method) Waste by type and Unit CO_2 emissions intensity by processing method are based on the values outlined in the Database on Emission Intensities for Calculating Organizational Greenhouse Gas Emissions, etc. through a Supply Chain Version 2.4 March 2017.
	Use of sold products	Tonnes of CO_2	∑(Fertilizer sold by type × Percentage of nitrogen in fertilizer by type × N_2O emission coefficient by type × (298(GWP)) Of Sumitomo Chemical's products, only fertilizers sold to consumers as an end product are subject to calculation. The calculations use the 15 N_2O emission coefficient values by category (presented separately) outlined in the List of Accounting Methods and Emission Coefficients of the Accounting, Reporting, and Disclosure System based on the Act on Promotion of Global Warming Countermeasures.

Social and Economic Data Indicator		Unit	Calculation Method
Occupational Safety and Health	Frequency rate of lost-workday injuries	–	(Number of lost-workday injuries and casualties ÷ Cumulative total of hours worked) × 1,000,000

Environmental Accounting Indicators		Unit	Calculation Method
Environmental Protection Costs		100 million yen	Costs include depreciation.
Economic Effects	Reduced costs through energy saving	100 million yen	Reduced costs of energy through energy saving activities.
	Reduced costs through resource saving	100 million yen	Reduced costs of waste processing attributable to resource saving activities.
	Reduced costs through recycling activities	100 million yen	Reduced costs in the previous fiscal year of waste processing expenses through waste reduction attributable to recycling activities and gains on sales of valuable resources obtained from recycling., etc.

Independent Assurance Report

To the Representative Director & President of Sumitomo Chemical Company, Limited

We were engaged by Sumitomo Chemical Company, Limited (the "Company") to undertake a limited assurance engagement of the environmental and social performance indicators marked with "★" for the period from April 1, 2016 to March 31, 2017 (the "Indicators") included in its Sustainability Data Book 2017 (the "Data Book") for the fiscal year ended March 31, 2017.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Company's website.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information', 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines for the Assurance of Sustainability Information' of the Japanese Association of Assurance Organizations for Sustainability Information. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Data Book, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Data Book and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and also recalculating the Indicators.
- Visiting to a factory and a subsidiary of the Company selected on the basis of a risk analysis.
- Evaluating the overall statement in which the Indicators are expressed.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Data Book are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Data Book.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Osaka, Japan
October 18, 2017