

# SUMITOMO CHEMICAL

## CSR HIGHLIGHTS 2013

Sustainable Chemistry



## What we hope you will take away from this report

We have created this report to help our stakeholders improve their understanding of Sumitomo Chemical's approach to Corporate Social Responsibility (CSR), including measures taken by the Company to fulfill such responsibilities.

Sumitomo Chemical's founding principle of "contributing to society through business activities" remains deeply entrenched in its wide-ranging business endeavors of today. In this report, employees talk frankly about specific examples of how this principle underpins efforts to develop next-generation businesses. In addition, we present details of various measures undertaken to help resolve a host of global social issues.

Together with this SUMITOMO CHEMICAL CSR HIGHLIGHTS 2013, we have published the CSR Report 2013, which provides more detailed information on Sumitomo Chemical's CSR activities.

Moving forward, we continue to improve and expand our CSR activities while taking steps to further bolster communication with our stakeholders. With this in mind, we would very much appreciate any comments and feedback.

Please refer to the following for information regarding Sumitomo Chemical's CSR activities.

### CSR REPORT 2013

This publication provides an in-depth explanation on Sumitomo Chemical's approach to CSR while reporting on the Company's CSR activities in a more detailed manner.



### Website

Our CSR HIGHLIGHTS 2013 and CSR Report 2013 are also available on our CSR website at:

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

## CONTENTS

### Business Overview

Sumitomo Chemical Spreading Its Wings Across the World .....	3
--	---

### Message from the Chairman and President

Helping Solve Global Challenges Through the Power of Chemistry .....	5
--	---

### The Roots and Corporate Philosophy of Sumitomo Chemical

Guided by the never-fading words of its predecessors, Sumitomo Chemical will continue to be a reliable and sustainable company that never stops growing .....	7
---	---

### Sumitomo Chemical and CSR

Sumitomo Chemical is committed to developing next-generation businesses in each of the environment & energy, life sciences, and ICT fields in an effort to help resolve a host of global challenges facing humanity .....	11
---	----

### Next-Generation Business from Employees' Perspectives

#### 1. Environment & Energy

Developing and commercializing new materials that lead us toward a low-carbon society .....	13
---	----

#### 2. Life Sciences

Leveraging the Group's comprehensive strength to invigorate local agriculture .....	15
---	----

Harnessing the power of chemistry to contain tropical diseases .....	17
--	----

#### 3. Information & Communication Technology (ICT)

Technological innovation that spurs growth in cutting-edge information devices around the world .....	18
---	----

### Commitment to Resolving Global Social Issues

#### Preserving Biodiversity and Preventing Global Warming

Working alongside the people of Thailand to restore the mangrove forests .....	19
--	----

#### Addressing Poverty in Developing Countries

Working to improve the educational environment for the children of Africa .....	21
---	----

#### Disaster Recovery Efforts after the Great East Japan Earthquake

Continued support through voluntary employee participation .....	22
--	----

# Sumitomo Chemical Spreading Its Wings Across the World

At present, Sumitomo Chemical is conducting business globally with more than 100 Group companies in five fields: basic chemicals, petrochemicals & plastics, IT-related chemicals, health & crop sciences, and pharmaceuticals. To continue to receive the approval of its wide range of stakeholders, Sumitomo Chemical will use its advanced technologies to create new products that reflect the changing times, contribute to improving people's lives, and help the international community resolve global problems involving resources, energy, food, and the environment.

## Company Profile

Name:	Sumitomo Chemical Co., Ltd.
Head Office (Tokyo):	Tokyo Sumitomo Twin Building (East) 27-1, Shinkawa 2-chome, Chuo-ku, Tokyo 104-8260, Japan
(Osaka):	Sumitomo Building 5-33, Kitahama 4-chome, Chuo-ku, Osaka 541-8550, Japan
Founding:	September 22, 1913
Start of business operations:	October 4, 1915
Incorporation:	June 1, 1925
Capital:	89,699 million yen
Consolidated net sales:	1,952.5 billion yen
Number of consolidated subsidiaries:	162
Number of employees:	30,396 (As of March 31, 2013)

## Business Locations



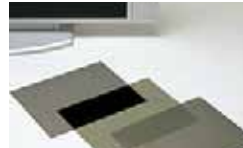
## Business Sectors



Alumina powder and products made from alumina



A variety of products made from polyethylene



Polarizers indispensable for LCDs



A variety of crop protection chemicals including agricultural insecticides and herbicides



Products developed at Dainippon Sumitomo Pharma Co., Ltd.

### Basic Chemicals Sector

Inorganic chemicals  
Raw materials for synthetic fibers  
Organic chemicals  
Methyl methacrylate (MMA)  
Alumina products Aluminum  
Functional materials  
Additives  
Dyes, etc.

### Petrochemicals & Plastics Sector

Petrochemical products  
Synthetic resins  
Synthetic rubber  
Synthetic resin processed products, etc.

### IT-related Chemicals Sector

Optical products  
Color filters  
Semiconductor processing materials  
Electronic materials  
Compound semiconductor materials  
Battery materials, etc.

### Health & Crop Sciences Sector

Crop protection chemicals and fertilizers Agricultural materials  
Household and public hygiene insecticides  
Materials for the prevention of tropical disease infections  
Feed additives  
Pharmaceutical chemicals, etc.

### Pharmaceuticals Sector

Ethical pharmaceuticals  
Diagnostic radiopharmaceuticals, etc.

### Others

Provision of support services to affiliated companies



#### Notes:

1. The Production & Safety Fundamental Technology Center was established in order to bolster the security, disaster prevention capabilities, and competitiveness of plants. Certain functions undertaken by the Process & Production Technology Center were transferred to the newly established center effective as of April 2013. In line with these initiatives, the name of the Process & Production Technology Center was changed to the Industrial Technology & Research Laboratory.
2. Effective as of May 2013, the Plastics Technical Center was integrated into the Petrochemicals Research Laboratory in order to further realize synergy effects between each facility and to bolster the development of new products and application.

## Helping Solve Global Challenges Through the Power of Chemistry

### Corporate Business Plan for Fiscal 2013 to Fiscal 2015

Entering its 100th anniversary this year, Sumitomo Chemical has embarked on a new three-year Corporate Business Plan. Under this plan, we have reaffirmed the importance of corporate social responsibility (CSR) in Sumitomo Chemical's business operations and have made a commitment, as part of our corporate vision, to helping solve global challenges—such as those related to energy, the environment, and food—through the power of chemistry.

Chemistry wields virtually unlimited potential to create solutions to a myriad of problems that threaten the sustainable development of the world, including environmental issues, natural resource and energy problems, food shortages, and poverty. At Sumitomo Chemical, we will strive to develop and globally deliver innovative technologies and products by focusing our resources on three high-growth areas: the environment and energy, life sciences, and information and communication technology. In addition, we will step up our “Creative Hybrid Chemistry” initiative aimed at spurring innovation by combining the technologies and expertise in diverse fields that we have accumulated through years of operation as a diversified chemical company.

In particular, we will accelerate the development of organic thin-film photovoltaic cells, which are attracting strong interest as next-generation solar cells that are thinner, lighter, and flexible, while also redoubling our efforts to commercialize polymer organic light emitting diode (PLED) lighting, which offers high energy efficiency and can produce light of a wide variety of colors and tones. Moreover, we will launch the SUMIPURE™ aluminum titanate diesel particulate filter (DPF) for removing soot from the exhaust of diesel-powered

vehicles, with a particular focus on European markets, where demand is projected to grow rapidly.


### Responsible Care

In order to continue contributing to the sustainable development of society, we consider it essential not only to pursue these technology and business development efforts, but also for the entire Sumitomo Chemical Group to promote Responsible Care—a commitment to ensuring safety, environmental protection, and high quality throughout the life cycles of our products, from research and development, production, distribution, and sale to use and disposal.

In our new Corporate Business Plan, one of the Group's priority management issues is to ensure safe and stable operations by enhancing our culture of safety and strengthening our safety assurance capabilities. We are also committed to increasing our measures to prepare for large-scale natural disasters, such as earthquakes and tsunamis, which, since the Great East Japan Earthquake, have received a great deal of attention. In addition, with the aim of further enhancing the Responsible Care initiative across the Group, we will promote the global use of our operational standards that lay down policies and measures related to our Responsible Care activities and step up efforts to improve communication among and strengthen cooperation between the Group companies in and outside Japan.

### Advancing Projects that Contribute to Global Society

As part of its CSR activities, Sumitomo Chemical has undertaken various social action projects. The centerpiece of these efforts is



Hiromasa Yonekura,  
Chairman

米倉弘昌

Masakazu Tokura,  
President

十倉雅和

our malaria control initiative for supporting Africa's development. Malaria, an infectious disease transmitted by Anopheles mosquitoes, has been a major impediment to Africa's endeavor to end poverty, and its elimination is identified as one of the most pressing challenges facing the human race under the Millennium Development Goals, which the United Nations aims to achieve by 2015. Sumitomo Chemical has been making a significant contribution to the control of malaria by supplying Olyset™ Net, an insecticidal mosquito net that it developed in-house to protect people from malaria-carrying mosquitoes, to Africa as well as Asia. We are also producing Olyset™ Net in Africa, thereby helping to create local jobs while promoting the growth of the regional economy.

We believe that improving Africa's educational system is crucial in enabling the continent to overcome poverty and achieve self-sustaining economic development. Since 2005, Sumitomo Chemical has engaged in projects with an NGO to build elementary and junior high school buildings and related facilities in Africa and has donated a portion of the revenues from the Olyset™ Net business to the effort. 14 projects have been completed in 10 countries in the region, with two projects currently underway, one in Ethiopia and the other in Malawi.

We are working on a variety of social action projects in Asia as well. In Thailand, we have been implementing, in collaboration with an NGO, the "Sumitomo Chemical's Forest" project, in which we plant mangrove trees as an effort towards protecting biodiversity and mitigating global warming. And in China, leveraging the expertise we have accumulated through our agriculture-related businesses, we plan to launch projects to help ensure food safety, including projects to develop and promote the use of safe agricultural cultivation techniques and effective food safety inspection and

analysis methods.

We at Sumitomo Chemical will remain strongly committed to contributing to the sustainable development of Africa and Asia by implementing social action projects that meet the needs of individual countries and regions.

### As a Member of the International Community

Since 2005, Sumitomo Chemical has been a member of the United Nations Global Compact, a platform to encourage companies' voluntary action to help achieve sustainable growth, while also participating in Global Compact LEAD—the U.N. program to put into action the vision developed in the Global Compact—since its launch in 2011. To advance its CSR activities on a global basis, the Sumitomo Chemical Group will continue to actively engage in these kinds of voluntary efforts within the international community and cooperate closely with local communities, NGOs, and other various stakeholders.

At the same time, by developing innovative technologies and products through the creative power of chemistry and by contributing to the sustainable development of society through our business activities, we will strive to achieve strong and sustained growth as a global diversified chemical company.

We would greatly appreciate your continued support and understanding.



## *Guided by the never-fading words of its predecessors, Sumitomo Chemical will continue to be a reliable and sustainable company that never stops growing*

The Sumitomo Business dates back to the Edo Period, with a spirit emphasizing harmony between the Company's interests and those of the public

The origin of Sumitomo Chemical dates back about 400 years to the Edo Period, when Masatomo Sumitomo, the founder of Sumitomo, established a book and medicine shop in Kyoto. The foundation of the Sumitomo Spirit is Monjuin Shiigaki, or the Founder's Precepts, written by Masatomo Sumitomo, which lay out the founder's business philosophy, including the importance of honesty, prudence, and certainty. This philosophy has been passed down and maintained by the Sumitomo Group companies, including Sumitomo Chemical.

After its founding, Sumitomo expanded its business to include copper smelting and copper trading, and began developing the mining business with the opening of the Besshi Copper Mine in the Shikoku region in 1691.



Wooden statue of Masatomo Sumitomo

Copper production increased year by year after the opening of the mine, eventually reaching about one-quarter of total domestic output in 1698. However, output later slowed, and the Company was confronted with new challenges to its business, including the potential seizure of the mine by the new government during the Meiji Restoration.

The businesses of the House of Sumitomo saw the need to shift from the traditional family management model to a more modern business management model and promoted the expansion of production volume through the introduction of Western mining and smelting technologies. Against such a background, the Company in 1891 created Sumitomo's Business Principles, which can be sourced to the Founder's Precepts written by Masatomo Sumitomo. The Sumitomo Spirit is concisely defined in two articles, with the first article noting that the trust of society and our business partners is of the utmost importance, and the second article calling for the Company to refrain from the pursuit of easy gains.

While not expressly stated, "Harmony between the individual, the nation, and society" is also one concept that encapsulates the Sumitomo Spirit. This concept expresses the Company's basic stance to seek to benefit not only its own business, but also both the nation and society, as well as the Company's emphasis on maintaining harmony between its interests and those of the public. This Spirit has been passed down through generations at Sumitomo Group companies.

### The Sumitomo Spirit

#### Sumitomo's Business Principles

##### Pledge 1

Sumitomo shall achieve prosperity based on solid foundation by placing prime importance on integrity and sound management in the conduct of its business.

##### Pledge 2

Sumitomo's business interest must always be in harmony with public interest; Sumitomo shall adapt to good times and bad times but will not pursue immoral business.

Harmony between the individual, the nation, and society



## Founding Sumitomo Chemical in the spirit of pursuing the interests of both the Company and society

Modernization of management methods allowed a sharp expansion in production volume at the Besshi Copper Mine, but the mine's emission gases became a social problem. Since the copper ore contained sulfur, sulfur dioxide gas was emitted during the smelting process, which seriously damaged crops in the surrounding area.

The House of Sumitomo attempted to solve the emissions problem by moving the smelting facilities to an uninhabited island called Shisaka, about 20km off the coast of Niihama. Unfortunately, this failed to fully resolve the problem and the damage was all the more aggravated. Masaya Suzuki, Third Director General of Sumitomo stated, "Sumitomo will construct facilities to remove emissions at any cost. I am determined to do it even if the cost exceeds the compensation fees." With this strong commitment in mind, Sumitomo worked feverishly on research and development to find a solution and finally decided to construct a new plant specializing in the production of fertilizers (calcium superphosphate) from sulfur dioxide in 1913. The new fertilizer plant, the predecessor of Sumitomo Chemical, began making its first shipments in 1915.

The plant had a dual mission—to address environmental problems by achieving zero emissions and to contribute to the development of agriculture by providing farmers with affordable fertilizers. This fertilizer plant marks the very beginning of Sumitomo Chemical's business. In this way it can be said that Sumitomo Chemical was founded on the concept of "harmony between the individual, the nation, and society."



First shipments from the Sumitomo fertilizer plant in 1915



Fertilizer depository at the Sumitomo fertilizer plant

## Formulating a business philosophy to clarify the common direction expected of employees amid an era of globalized operations

Sumitomo Chemical since its founding has fostered the growth of its business through a variety of technological innovations and continues to build on its foundation as a diversified chemicals manufacturer.

As the Company's business becomes globalized, the number of non-Japanese employees in recent years has been increasing, and the cultures and values of the employees have become diversified. To clarify the common future direction of all employees in this environment, Sumitomo Chemical, taking into account the "harmony between the individual, the nation, and society" concept and principles set forth in the Sumitomo's Business Principles, formulated its Business Philosophy in 2009 based on the Sumitomo Spirit the Group has maintained to date.

The Business Philosophy is concisely embodied in three sentences. The first concerns the Company's ethos. Sumitomo Chemical aims at achieving not only concrete economic goals, but also the more abstract vision of becoming the ideal company it aims to be. The second deals with the Company's mission, or *raison d'être*, which is to provide society with useful things as a member of society. The third states Sumitomo's values, expressing the Company's way of thinking as it sets out to realize its mission, and the drive and attitude with which it approaches this goal.

## Sumitomo Chemical's Business Philosophy

1. We commit ourselves to creating new value by building on innovation.
2. We work to contribute to society through our business activities.
3. We develop a vibrant corporate culture and continue to be a company that society can trust.

Sumitomo Chemical has also produced a Corporate Statement, achieved through discussions with employees regarding the “pride and commitment” that employees are expected to maintain, and what employees need to enhance and value in the future. All the beliefs expressed in this Corporate Statement were then encapsulated into a simple phrase as the Corporate Slogan: “Creative Hybrid Chemistry For a Better Tomorrow.”

The Company also created the Sumitomo Chemical Charter for Business Conduct, which provides the basis for Sumitomo Chemical’s compliance system and shows the important guidelines to be followed when conducting

business activities. Sumitomo Chemical expects each employee to understand the Corporate Philosophy and while seriously considering areas for improvement, apply this philosophy to their daily business activities to support the sustained development of the Company.

## Corporate Slogan

Creative Hybrid Chemistry  
For a Better Tomorrow.

## Corporate Statement

Sumitomo Chemical started business in 1913 as a producer of fertilizers from sulfur dioxide gas emitted by copper smelters. This business, which solved the environmental problem of air pollution while meeting the social demand for more agricultural production, embodied the business philosophy of the Sumitomo family handed down from the 17th century.

“Our business must benefit society, not just our interests.” Throughout our history of almost a century, we at Sumitomo Chemical have lived by this credo. We have worked to build better lives by developing various businesses that meet people’s evolving needs. At the same time, we have continuously delivered technological innovation while paying special attention to product quality, safety, and the environment.

Looking to the future, we will create new value beyond the boundaries of chemistry by combining a variety of ideas, views, and technologies. We will also continue to take up the challenges facing the globe, from meeting basic needs, to protecting the environment, to addressing the issues of adequate supplies of food, energy, and other resources.

In this endeavor, each of us at Sumitomo Chemical will work together to enhance our capabilities, explore new possibilities every day, and overcome the challenges lying ahead with enthusiasm and a strong sense of mission.

Sumitomo Chemical will seek to continue to build trust and bring joy to people across the world through constant innovation.

## Sumitomo Chemical Charter for Business Conduct

1. We will respect Sumitomo’s business philosophy and act as highly esteemed good citizens.
2. We will observe laws and regulations, both at home and abroad, and will carry out activities in accordance with our corporate rules.
3. We will develop and supply useful and safe products and technologies that will contribute significantly to the progress of society.
4. We will engage in voluntary and active initiatives to achieve zero-accident and zero-injury operations and preserve the global environment.
5. We will conduct business transactions based on fair and free competition.
6. We will endeavor to make our workplaces sound and energetic.
7. Every one of us will strive to become a professional and achieve advanced skills and expertise in our field of responsibility.
8. We will actively communicate with our various stakeholders, including shareholders, customers, and local communities.
9. As a corporate member of an international society, we will respect the culture and customs of every region of the world and contribute to the development of those regions.
10. We will strive for the continued development of our Company through business activities conducted in accordance with the guiding principles described herein.

## My Thoughts on the Corporate Philosophy

We would like to introduce the values and behaviors which are important to employees in their daily operations as the Company seeks to maintain the trust of society and promote sustainable growth



Specialty Chemicals Division,  
Marketing Department  
Sumitomo Chemical

**Yasushi Takakura**, General Manager

When drawing up business strategies for our products and when faced with difficult negotiations with business partners, there are times when I recite from memory the Sumitomo's Business Principles. By asking questions such as whether my thoughts are well-timed or not and whether we are only pursuing easy gains, I go back to the beginning and reflect on what is written in Article 2 of our Business Philosophy. This way I can confidently make a proposal or decision.



Responsible Care Office (Environment, Safety)  
Oita Works, Sumitomo Chemical

**Mitsuyo Kojima**

I reflect what I am now with the Sumitomo Spirit exemplified by the Company "seeking to benefit not only its own business, but also the nation and society." To ensure harmony between the Company and the local area, I believe it is important to continue to work toward protecting the environment through the effective use of risk communication. I hope to fulfill my responsibilities as not only a Sumitomo Chemical employee, but also a citizen of the world.



Sumitomo Chemical Asia Pte. Ltd.

**Edwin Kong**, Senior Regional Sales Manager

Polymers play an increasingly important role in improving the quality of life. Continued innovation of plastic products for applications to reduce our carbon footprint, including clean water transportation, food hygiene & freshness preservation, and the replacement of metal automotive parts, would ensure a continuous harmonious co-existence between polymer companies, society, and humanity. As senior regional sales manager in charge of polymer sales at Sumitomo Chemical Asia, it remains my duty as the leader of the sales team to remind our team of this important role when promoting products and developing new applications for our customers, particularly for those in developing countries who have much to benefit from this evolution.



RC Department  
Sumika Electronic Materials (Shanghai)  
Corporation

**Yuan Fei**, Manager

In light of concerns over the supply of electricity, there has been an increased need to conserve energy in China. In response, Sumika Electronic Materials Technology (Wuxi)\* shifted to LED lighting at the Wuxi plant last year and upgraded air-conditioning inverters, reducing electricity costs by about 1.1 million RMB on an annual basis. The Company also received a grant from the provincial government for functional remodeling. We believe that in addition to cutting costs and reducing the environmental impact, these actions increase the trust of society and thus serve as examples of putting into practice the spirit of contributing not only to the Company, but to the nation and society as a whole.



Legal & Corporate General Affairs Office  
(Legal & Compliance Group)  
Sumitomo Chemical

**Takeru Komoriya**, Manager

It can be interpreted that the principle of "Placing prime importance on integrity" is about maintaining the trust of society. While compliance is a relatively recent concept, the meaning is not merely about abiding by the law. Rather, it is about addressing the broader needs of society. It is amazing how from the early years, Sumitomo was fully aware of what was necessary to develop their business over the long term. The Company continues to strengthen its training efforts in order to effectively communicate this corporate spirit.



Research Group (Chemical Safety Assessment)  
Environmental Health Science Laboratory  
Sumitomo Chemical

**Mika Ota**, Senior Researcher

The phrase "Paying special attention to product quality, safety, and the environment" in the Corporate Statement accurately states our position. As part of my job of testing and evaluating the chemical safety of our products, I conduct assessments in a sound scientific manner with "a strong sense of mission" and "exploring new possibilities every day" keeping in mind the Statement.

\*Sumika Electronic Materials Technology (Wuxi) Co., Ltd. is one of the companies managed by Sumika Electronic Materials (Shanghai) Corporation

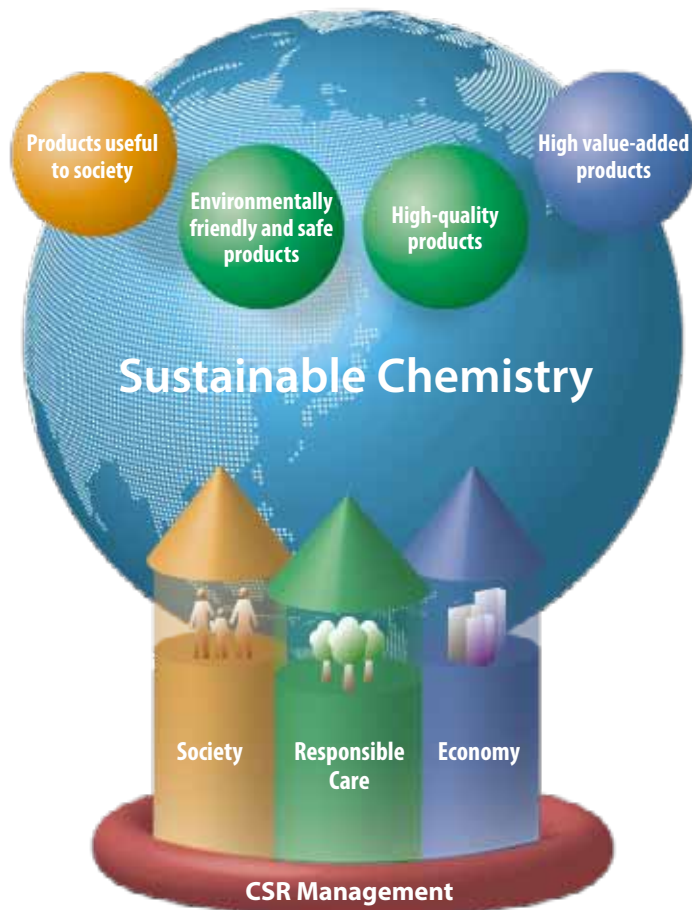
*Sumitomo Chemical is committed to developing next-generation businesses in each of the environment & energy, life sciences, and ICT fields in an effort to help resolve a host of global challenges facing humanity*

**Sustainable chemistry as the mission of a chemical company**

Since its foundation, Sumitomo Chemical has maintained an unwavering commitment to a philosophy that placed the utmost importance on contributing to the development of society through the Company's business activities. This philosophy fits aptly with the chemical industry's current focus on sustainable chemistry.

Sustainable chemistry refers to using the power of chemistry to continuously provide useful products and services that contribute to comfortable and fulfilling lives for people throughout the world in an environmentally and socially friendly manner.

As a Company that is deeply involved in the chemistry industry, Sumitomo Chemical will practice sustainable chemistry as part of its CSR-based management to achieve balance among the three areas of economy, Responsible Care (RC), and society, in all aspects of its corporate activities.



**Society**

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

**Responsible Care**

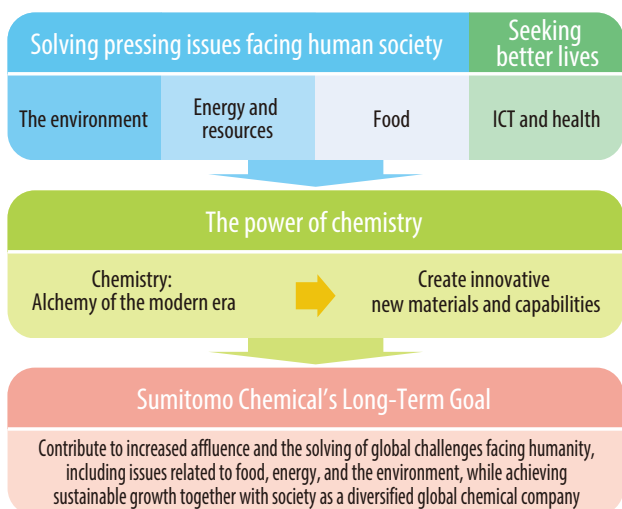
(Safety, environment, product quality)  
Eliminating accidents and disasters, protecting the environment by most effectively using natural resources and energy, producing safe products, and protecting the health of customers and employees

**Economy**

Maximizing corporate value by continually providing better products

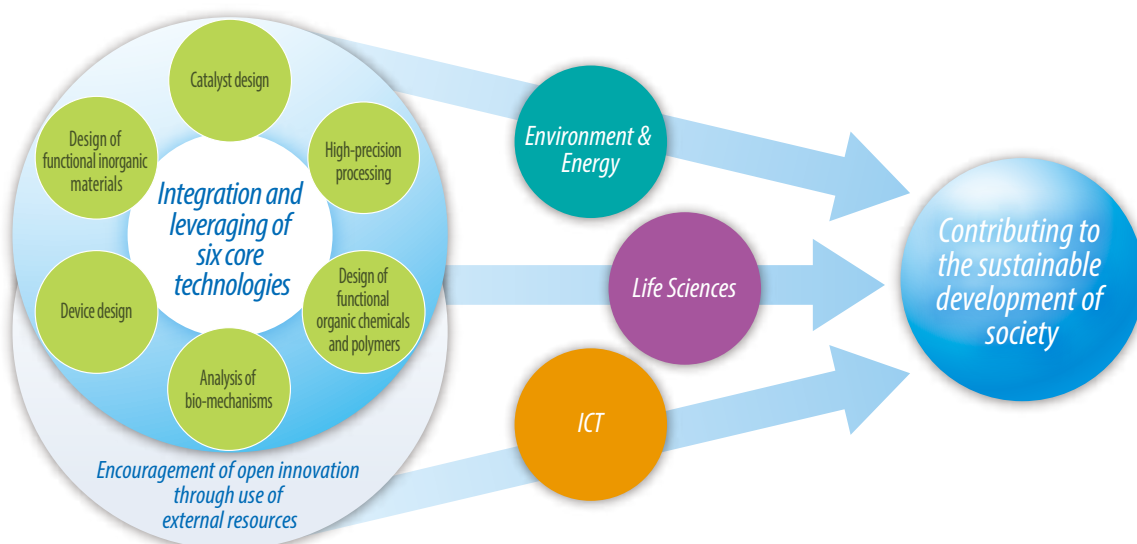
## Sumitomo Chemical's Long-Term Goal, Corporate Vision and Medium-Term Corporate Business Plan

At present, societies are facing a range of global issues in connection with the environment, natural resources, energy, and food. In addition, awareness toward health is steadily increasing, with growing expectations of an upswing in the pace of technological innovation in the ICT field. Chemistry, which is also referred to as "alchemy of the modern era," helps create innovative materials and



## Developing next-generation business by promoting Creative Hybrid Chemistry

By combining its core technologies nurtured over many years as a diversified chemicals manufacturer with the technologies of other fields both within and outside the Company, Sumitomo Chemical is promoting Creative Hybrid Chemistry that is capable of creating high value-added products and technologies. In this manner, the Company is working to develop next-generation businesses that help solve many of the world's current issues.



capabilities. It is a field that is brimming with creativity with the ability to solve each of the aforementioned issues and to contribute to abundant lifestyles. Under these circumstances, Sumitomo Chemical is endeavoring to achieve growth together with society as a diversified global chemical company by providing new technologies and products that contribute to the sustainable development of society.

For its Fiscal 2013-2015 Corporate Business Plan, Sumitomo Chemical has set three corporate visions with a view to achieving its long-term goals.

### Corporate Vision

- 1 Create new value based on technologies accumulated over the years
- 2 Through the power of chemistry, help solve global challenges (e.g. problems related to energy, the environment and food)
- 3 Develop a corporate culture full of can-do spirit and always be a company that society can trust

Guided by its Fiscal 2013-2015 Corporate Business Plan, Sumitomo Chemical is selectively allocating management resources to the three fields of environment & energy, life sciences, and ICT while accelerating the pace of next-generation business development. In specific terms, the Company is looking to address global-scale environmental and climate change issues in the environment and energy field and addressing food and health problems in the life sciences field while promoting widespread global use of information communication infrastructure.

# 1. Environment & Energy

## Developing and commercializing new materials that lead

### Developing burnable lightweight materials to reduce automobile weight

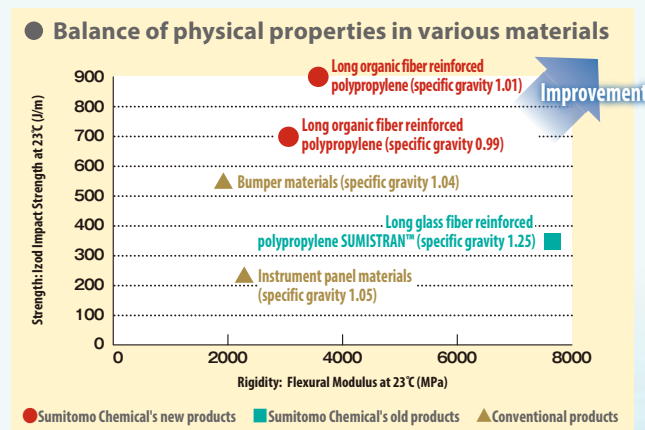
In the automotive industry, reducing the weight of automobiles has been a major challenge over the past few years as a step toward the realization of a low-carbon society. The development of lightweight materials as a replacement for metal is key to answering this challenge. Glass fiber reinforced materials, which are made with inorganic materials, have mainly been used as a lightweight material for this purpose. When it is disposed of and incinerated, however, the glass fiber remains behind as a residue that sticks to surfaces inside the incinerator, posing a problem from the perspective of thermal recycling\*. To fix this problem, we began to research whether a burnable organic material could be developed with the same lightness and sturdiness. Leveraging the know-how we gained in the production of long glass fiber reinforced polypropylene SUMISTRAN™, which is mainly for automotive applications, in 2012 we successfully developed long organic fiber reinforced polypropylene that uses polyethylene naphthalate (PEN) fiber as an organic material.

\* Thermal recycling is the capture and reuse of thermal energy given off when waste is incinerated.

### A well-balanced material that is both light and strong

Sumitomo Chemical jointly developed long organic fiber reinforced polypropylene with TEIJIN LIMITED, a producer of PEN fiber. The matrix of fibers is strongly entwined together and lightweight, and their strength does not deteriorate much when foamed. We were able to create a material that is both light and strong, a feat that had been quite a challenge.

In terms of lightness and strength, there are even better materials. However, long organic fiber reinforced polypropylene comes in pellet form, making it easier to mold into other shapes, and can be processed using general-purpose machinery, making it useful in a wide variety of applications. It is also unlikely to cause injury, since fragments of the material do not fly everywhere if broken. Long organic fiber reinforced polypropylene's greatest feature is its near perfect balance of properties.



### Long Organic Fiber Reinforced Polypropylene Addresses Social Issues Faced by the Automotive Industry

As a chemicals maker, Sumitomo Chemical provides a wide assortment of materials that are essential for modern society. We will continue to make advances in the development and commercialization of new materials based on our accumulated expertise in order to address the needs of the automotive industry, namely to conserve energy further with lighter-weight automobiles.

Petrochemicals Research Laboratory

**Hisakatsu Hama**, Research Associate

# us toward a low-carbon society



Long organic fiber reinforced polypropylene pellets

## Switching to lightweight materials improves fuel economy during driving and transportation

Automobiles typically weigh in at around one tonne per vehicle. Reducing their weight by 100 kilograms is said to improve fuel economy by one kilometer per liter of gasoline. If the polypropylene that is mainly used in instrument panels and bumpers is replaced with long organic fiber reinforced polypropylene, a weight reduction of 20 to 30% can be achieved, contributing significantly to better fuel economy.

Naturally, if steel, aluminum, and other metal parts can be replaced with this new material, even greater fuel economy can be attained. In addition to benefits to fuel economy while driving, energy is conserved during the transportation of the parts and the vehicles themselves, another major benefit.

Sumitomo Chemical has already started preparing a mass production structure, but commercialization is still around the corner. We have sent samples to automakers and other customers, who are now testing the new material. They have been generally impressed with the performance characteristics of long organic fiber reinforced polypropylene.

## Newly developed technology is meaningful only if it is used

We are pleased to have received positive feedback about long organic fiber reinforced polypropylene at product exhibitions and academic conferences, but what motivates us the most is when they are out benefitting the world after customers decide to use our newly developed products. Accordingly, a major issue is reducing costs enough to reach the commercialization stage. Moreover, we must help our customers reduce the labor it takes to produce their parts by increasing the formability of our materials further. Technology does not end with its development. It is only meaningful when technology is useful and available to the world.

Although we now envision this new material being primarily used in automobiles, we aim to expand its range of applications by listening to the needs of our customers and leveraging our comprehensive capabilities as a chemicals maker. We have also been developing a material that has excellent sound insulating properties, in addition to being light and strong. We think it will be quite useful in the aircraft and consumer electronics fields.



## 2. Life Sciences

# Leveraging the Group's comprehensive strength to invigo

### Offering total support for agricultural management by strengthening production and logistics assistance

People are once again realizing the importance of agriculture amid calls in recent years to enhance food safety and self-sufficiency. Japan's agricultural industry, however, faces various problems. Specifically, concerns over such issues as labor shortages, income instability, and low profitability are common among many farmers. In light of these circumstances, the Sumitomo Chemical Agro Group (Sumitomo Chemical and Group companies involved in agricultural businesses) has undertaken initiatives with the aim of comprehensively supporting agricultural management as a "total solutions provider." The Sumitomo Chemical Agro Group helps create a brighter future for Japan's agriculture industry by providing comprehensive support to farmers through the provision of products including crop protection chemicals, fertilizer and other agricultural materials as well as by offering its broad know-how in crop cultivation, marketing, and management.

In particular, the Sumitomo Chemical Agro Group offers cultivation guidance along with logistics and sales support. In order to propose more effective growing methods, it is essential that we first gain experience working in agriculture. To this end, this Group has been establishing our own farms throughout Japan since 2009, which develop cultivation expertise through actual practice while effectively using neglected farmland to create local jobs.

The Sumitomo Chemical Agro Group offers logistics and marketing support through sales channels centered on

Nihon Ecoagro Co., Ltd., including regular and upscale supermarkets. Emphasizing traceability,\* this Group will develop a system to provide good-quality products at fair prices with the added value of safety and reliability.

\*Traceability: Food product verification that maintains clear records at each stage, from cultivation to processing, distribution, and sales.

### Expanding Sumika Farm and Sunrise Farm nationwide to develop relationships of trust with local communities

Sumika Farm is currently growing fruits and vegetables in four prefectures: Nagano, Oita, Yamagata, and Mie. In Saijo City, Ehime Prefecture, Sunrise Farm Saijo has been established and is being operated as an advanced agriculture model under the Future City Model Project of Nippon Keidanren (Japan Business Federation). Forming partnerships mainly with equipment manufacturers and the Saijo branch of Japan Agriculture (JA), Sunrise Farm Saijo is working to achieve its goal of growing and selling highly competitive produce.

In every case, there were local farmers who were initially uncertain and confused regarding the purpose of Sumika Farm and Sunrise Farm. As the first step to creating trusting relationships with local communities, we held briefing sessions on several occasions to convey the message that we wish to do our utmost to make a social contribution through the revitalization of local agriculture.

Although each farm manager is an employee of the Sumitomo Chemical Agro Group, the farm staff is comprised almost entirely of local hires. In addition, we are contributing



### Being a "Total Solutions Provider" that Comprehensively Supports Agricultural Management

Sumitomo Chemical positions operations that offer long-term support to agricultural businesses as one of its core businesses. We work to invigorate agriculture in Japan as a "total solutions provider" by leveraging the products and functions of each Group company to support agricultural management.

Sales Department, Crop Protection Division

**Nozomi Miyashiba**, General Manager



# rate local agriculture



to the invigoration of local agriculture in the areas of employment and personnel development by establishing an independent approach. This approach is based on the accumulation of experience gained by operating Sumika Farm, which even includes introducing methodologies used in outside industries to establish new agricultural methods.

## Accumulating and laterally developing know-how based on various business models

The operations of Sumika Farm and Sunrise Farm focus on identifying agricultural issues, particularly those involving cultivation methods. In fact, we accumulate know-how by repeatedly engaging in cultivation using trial and error to uncover problems and develop countermeasures. In an effort to be useful to local farmers, we regularly hold workshops to share what we have learned.

Although we presently operate in five locations in Japan, we need to expand the scale of these individual operations. Looking ahead, we plan to establish one to two new farms every year. In February 2013, we established an agricultural corporation in Toyota City, Aichi Prefecture and are moving ahead with specific projects in other regions in collaboration with local universities, JA branches and outside parties. In addition, we are developing businesses based mainly on social contribution models that provide workplaces for people with disabilities as well as the sixth industry model that integrate cultivation, processing, and sales within local communities.

Agriculture has the potential to become one of Japan's key industries depending on the approach taken, and we feel that engaging in this endeavor is tremendously worthwhile.

Since farming operations cannot be approached from a short-term standpoint, we are working to establish highly profitable agricultural business models over relatively long periods of around ten years.

### Stakeholder's Voice

President and Representative Director  
i-Agri Corp.

**Kazuki Banno**

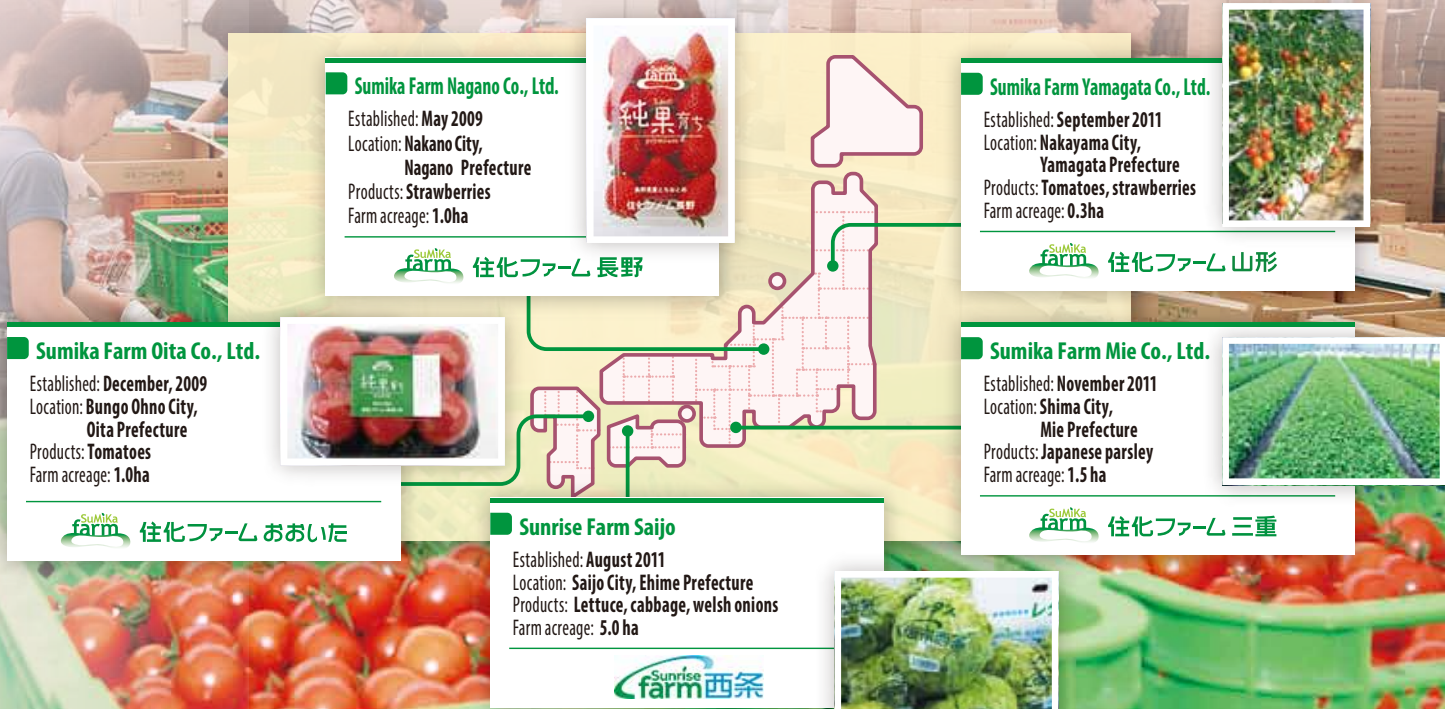


Although agriculture is a single word, it takes on a myriad of different forms. In the years ahead, the core of Japan's agriculture will likely be comprised of farmers who possess management perspectives that will enable them to compete internationally.

Considering what is necessary for growers along with creating a future vision centered on what will be effective for both today and tomorrow, i-Agri Corp. uses its network to solve difficult problems for these growers by helping them develop new marketing channels to expand their businesses while also encouraging the entry of young farmers, who are the key to future growth.

Moreover, the Japanese government is implementing policies that emphasize what we are trying to accomplish. Under these circumstances, I believe that the role we play as a comprehensive "total solutions provider" is extremely meaningful given the importance of solving the problems faced by growers.

Looking ahead, i-Agri Corp. will cooperate with Sumitomo Chemical to proactively provide solutions to various cultivation, sales, and management problems while vigorously advancing innovations that will transform farmers into agricultural managers and agriculture into industry.



## 2. Life Sciences

# Harnessing the power of chemistry to contain tropical diseases



### Contributing to the prevention of malaria by promoting the use of insecticide-treated mosquito nets

Around the world, about 200 million people every year are afflicted by malaria, of which 650,000 people die. Many of these victims are African children, who contract the disease via bites from mosquitoes carrying the malaria parasite. In the tropical areas of central Africa, controlling the insects that transmit this disease is essential to protecting people's health.

Olyset™ Net is a mosquito net made of polyethylene resin-based fibers containing insecticide. Because insecticide is gradually released onto the surface of fibers, Olyset™ Net retains its insecticidal efficacy for more than five years, even after repeated washing, and does not require regular insecticide treatments. Since commencing operations in 2003, our joint venture established in Tanzania has supplied approximately 200 million of these nets. In villages located in Kenya, by using Olyset™ Net, the number of people infected with malaria parasites has fallen from 50% in 2005 to 8% in 2008.



Olyset™ Net

### Moving beyond Africa to expand Sumitomo Chemical's fight against infectious diseases worldwide

To date, the distribution of nets has been undertaken primarily by the World Health Organization (WHO) and other public institutions. Although I have few opportunities to get feedback from end users, during visits to local hospitals, I'm happy to hear that the number of malaria patients has decreased. Since this field is still new, the attractive aspect of my work is having the freedom to take on new challenges in the development of this business. There are also many young employees who are enthusiastic about doing work that takes them throughout areas in Asia and Africa.

Starting in Kenya in October 2011, we released Olyset™ Classic primarily in supermarkets to target average consumers. Yet, challenges remain in terms of expanding private markets by developing diverse sales channels. In addition, we established Africa Technical Research Centre in Tanzania in 2012, which is conducting research not only on mosquito netting, but also spray insecticides and larvicides. Leveraging these technologies, we are contributing to methods for fighting against infectious diseases that extend beyond Africa to Asia as well as Central and South America.



### Olyset™ Net Helps Counter Malaria Worldwide

Throughout tropical regions mainly in Africa, numerous people currently suffer from malaria and other infectious diseases. Sumitomo Chemical is contributing to the improvement of people's health worldwide by harnessing the power of chemistry to develop products that control disease transmitting insects.

Vector Control Division

**Atsuko Hirooka**, General Manager



# 3. Information & Communication Technology (ICT)

## Technological innovation that spurs growth in cutting-edge information devices around the world



### Grasping the latest needs with local development and production bases

Smartphones and other compact information terminals have proliferated around the world as a result of advances in wireless technologies and lower prices for the devices. Smartphones have thus helped close the information gap. Amid rapid technological innovation, Sumitomo Chemical and other parts and materials makers must now be able to follow and understand market needs more than ever before.

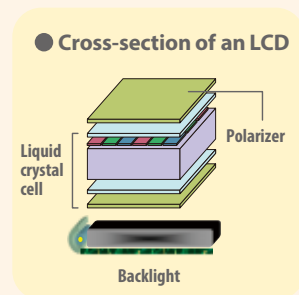
Sumitomo Chemical develops and manufactures polarizers for controlling light in the LCDs of compact information terminals. Taking advantage of its strengths as a diversified chemicals maker, Sumitomo Chemical is able to rapidly advance R&D by using new materials developed in-house. Sumitomo Chemical also has bases in South Korea, Taiwan, and China, all major producers of LCDs, in order to be in close proximity to its customers and precisely understand their needs in product development. Strengthening its ties with information terminal makers, Sumitomo Chemical has also put in place a structure for quickly responding to changing needs through three-way collaboration involving information terminal makers and display makers.

### Our new technologies contribute to energy reduction throughout product life cycles

There is a major trend nowadays toward new technologies and products that reduce environmental impact.

In order to lower the power consumption of devices, Sumitomo Chemical has developed highly transparent polarizers and polarizers with added functionality that improve light utilization efficiency, such as improved brightness and anti-reflectiveness. We are also introducing new manufacturing processes that reduce energy during production and lead to a lighter burden on the environment.

While it is not a simple matter to stay in step with the accelerating pace of change every year, always being on the cutting edge of the times is what makes work so interesting. I hope to contribute to narrowing the information gap further by quickly and precisely grasping customer needs in the future.



### Polarizers that Contribute to Lower Power Consumption in Compact Information Terminals

Improvements in wireless technology and simpler device operability are partly responsible for the rapid proliferation of modern compact information terminals in emerging countries in Asia and South America. Meanwhile, companies are naturally working to reduce their impact on the environment. As a materials maker, Sumitomo Chemical is responding to these needs of global society through operations related to information and communication technology.

Global Technology Planning Department  
Optical Materials Division

**Takahiro Hishinuma**, Team Leader

## Preserving Biodiversity and Preventing Global Warming

# Working alongside the people of Thailand to restore the mangrove forests

### The necessity and significance of mangrove planting

Mangrove forests are made up of a number of different types of trees that grow in the brackish mix of seawater and fresh water located in tropical and subtropical regions of the world. Mangroves are capable of absorbing and then storing in leaves and stems at least 30% more CO<sub>2</sub>, a key contributor to global warming, than other plants in the tropical rain forest. By buffering against storm surges and tsunamis brought on by earthquakes, mangrove forests also provide a key service to nearby communities. Habitat diversity is also characteristic of mangrove forests.

Mangrove forests in Thailand had decreased in size by about 55% over the past 35 years since 1961. This appears to be largely due to the clearing of forests for the development of shrimp farms and local residents cutting down trees to create mangrove charcoal. Left unchecked, the current course of action could have an adverse impact on the lives of people living in the area and the global environment.

The Sumitomo Chemical Group and the Sumitomo Chemical Workers' Union have been conducting tree planting activities in cooperation with the Organization for Industrial, Spiritual, and Cultural Advancement-International (OISCA) in Ranong Province in Southern Thailand since 2008. The project is part of the OISCA "Community Forest Restoration Project," and operations in support areas are managed by local Thai residents under the "Sumitomo

Chemical's Forest" banner. The "Community Forest Restoration Project" is centered on the community (villages and local residents) and forestry operations are focused not only on preserving biodiversity and preventing global warming, but also on building a community where residents can live independent lives. The project also aims to improve awareness among local residents toward living in harmony with nature. The Sumitomo Chemical's Forest now extends to 120 hectares, with approximately 300,000 mangroves planted.



### Promoting labor-management cooperation through the Matching Gift program

Tree planting activities in Thailand are funded partly through a Matching Gift program, a social contribution program established by Sumitomo Chemical and the Sumitomo Chemical Workers' Union. In this program, the company matches donations made by employees and the total amount is then donated to organizations selected as recipients.

The funds from the Matching Gift program are currently being used to support OISCA forest restoration projects, and child upbringing and education programs at Ashinaga. In fiscal 2012, the total contribution, including donations from Sumitomo Chemical and Group employees, as well as matching funds from the company, reached about 30 million yen.





## Dispatch of employees as volunteers for tree planting in Sumitomo Chemical's Forest

Every year, the Sumitomo Chemical group dispatches employee volunteers to participate in tree planting activities and exchanges with the people of Ranong, Thailand. To increase participation from employees, the program in fiscal 2012 was expanded to a twice-a-year activity, with a total of 34 participants being dispatched either during the November 17 to 23, 2012 period, or the February 10 to 16, 2013 period. Alongside local residents, including elementary school students, the participants engaged in weeding, seeding, and planting activities.

Although high tides limit tree planting hours to a minimum, the work itself is difficult as, the footing is unsure and the environment itself is very hot and humid. By participating directly in such activities, the employees can get a real feel of the daily work undertaken by the local residents.

In addition to tree planting activities, the participants are able to deepen their relationships with the local residents thanks to a homestay program with residents affiliated with the "Community Forest Restoration Project" and visits to local elementary schools. For employee volunteers travelling from far-off Japan to participate in tree planting activities, the program can also increase motivation for daily forestry-related work and broaden awareness of the need to

preserve the environment of the local residents.

The Sumitomo Chemical's Forest is not merely a recipient of support, but rather a place that makes us realize that together with the people of Thailand, we are working on the important issue of protecting the global environment.

The Sumitomo Chemical group, together with the Sumitomo Chemical Workers' Union, will continue to carry out these kinds of activities.



### The Significance of Ongoing Tree Planting Activities

OISCA Thailand

**Khayai-Thongnunui**



It is important that tree planting activities continue over the long term. I believe this is well understood by the people of Sumitomo Chemical as they deepen their ties with people in the area with their visits over the years. The effects of a project that can cover 100 hectares in 10 years are actually far more significant than the effects of a project that covers 100 hectares in just one year. I believe educating the local residents is key to protecting the forests, and we are grateful to see the people of Sumitomo Chemical continuing to come every year.

### Participating in the Tree Planting Activity in Thailand —Excitement, Emotion, and Gratitude

Department of General Affairs(Human Resources), Ehime Works

**Yuki Tokuda**



As a volunteer in the tree planting activity, not only was I able to work hand-in-hand with local students in forestry work, but also was able to share many moving experiences with the local people and participants with just a smattering of the Thai language and a smile during the homestay program and visits to local schools. Feeling the strength of the trees, the gentleness of the local people, life bursting forth in the great outdoors, and the smiles of other participants was a very moving experience for me and I am grateful to have had this wonderful opportunity. As our ongoing efforts of the program grow with the mangroves we planted, I hope to foster and strengthen the ties with the people met along the way.

# Addressing Poverty in Developing Countries

## Working to improve the educational environment for the children of Africa



### The learning environment for children in Africa

Many children in Africa do not attend elementary school. Moreover, of those that are able to begin school, many will not graduate.

With only a few schools, many children have to travel great distances to attend, and the dropout ratio for girls is unusually high due to traditional culture and customs. A number of schools are in disrepair, leaving the children to have their classes out in the scorching sun and swirling dust. Even in cases where school buildings exist, classrooms can be small, the rudimentary structure of the building means it may not be able to be used during the rainy season and hygienic conditions may be quite poor.

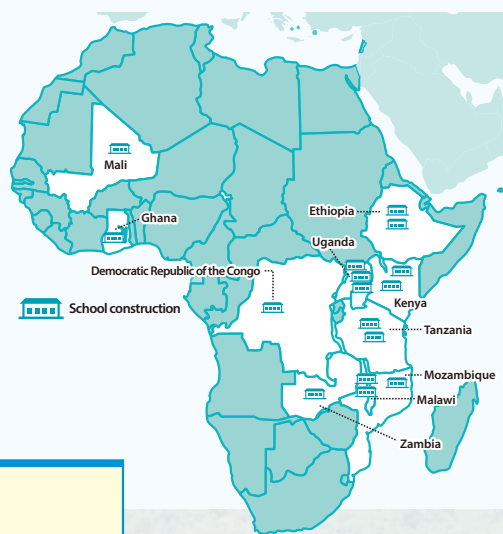
Sumitomo Chemical believes the lack of well-equipped elementary schools is a factor hindering independent economic development and contributing to poverty in the area.

### Sumitomo Chemical's support for education

Based on a desire to improve this situation, Sumitomo Chemical began in 2005 to use a portion of the revenue generated from sales of Olyset™ Net, an insecticidal mosquito net that helps prevent the spread of malaria, to support education in

Africa. In cooperation with NGOs, World Vision Japan and Plan Japan, Sumitomo Chemical has been active in the support of 14 projects in ten countries, assisting in the construction of elementary and middle schools, housing for teachers and students, school lunch room facilities, and water storage tanks. As of June 2013, there are two projects in progress, in Ethiopia and Malawi.

Thanks in part to these efforts, there are now signs of a gradual improvement in school enrollment rates and the percentage of students graduating. As a member of the international community, Sumitomo Chemical will continue to actively promote these efforts to support the people of Africa.



### TFT TABLE FOR TWO

#### Employee support for Africa

As part of its effort to promote employee involvement in social contribution activities, Sumitomo Chemical participates in the TABLE FOR TWO (TFT) program at the cafeterias of its offices. When employees choose a TFT meal, 20 yen per meal is donated to the TFT Secretariat and the money is used to pay for a school lunch for a child in Africa. Following a matching gift model, the Company matches the contribution of employees.

By providing healthy meal options, the TFT menus also serve to promote the employee's overall health.



# Disaster Recovery Efforts after the Great East Japan Earthquake

## Continued support through voluntary employee participation



### The importance of sustained support activities

Although it has been more than two years since the Great East Japan Earthquake, sustained assistance remains necessary for the reconstruction of affected areas and the rebuilding of victims' lives. Sumitomo Chemical will continue to provide support that leverages the special characteristics of the Group.

### Volunteer activities of employees dispatched to disaster-affected areas

Sumitomo Chemical held extra-curricular lessons, led mainly by employee volunteers for elementary school students during the fiscal 2012 spring-vacation and summer-vacation periods. Students were able to experience the fun and mystery of chemistry by participating in science-experiment lessons that utilized some of the Company's products including polarizers. While about 200 elementary school students were able to participate in the summer-vacation program held at a meeting area near temporary housing and a community center in Kamaishi City, Iwate Prefecture, about 160 elementary school students were able to participate in the spring-vacation program held at an after school care facility and shopping center in Otsuchi Town, Iwate Prefecture.



Sumitomo Chemical dispatched 24 employee volunteers in August 2012 to Otsuchi Town to assist in the transfer of the Town Hall, which was damaged in the tsunami, from a temporary facility to a new office. Through coordination with the Otsuchi Town Volunteer Center, the Company has been able to assist in other recovery efforts, including beach cleaning activities.



In June 2013, Sumitomo Chemical, in cooperation with the Kamaishi City Council on Social Welfare, dispatched 20 employees for the opening of Hakozaki Farm, an allotment farm in which private farmland is used by and for the community.

With a goal of revitalizing the community and broadening leisure time options for people living in temporary housing, Sumitomo Chemical and the people of the area are actively planting summer vegetables under the guidance of expert vegetable gardeners.



### Holding fairs to support affected areas

Sumitomo Chemical has from April 2011 been holding fairs to sell processed food and vegetables from areas affected by the disaster as a way to support agricultural and fishery businesses in these regions. The Company will continue to hold such fairs.



There were four such fairs in fiscal 2012, with one held at Ehime Works, Ohe Works, the Osaka Head Office, and the Tokyo Head Office.

### Serving "Tohoku and Kanto support meals" in our cafeterias

Meals made using ingredients produced in the Tohoku and Kanto regions are served as part of a special donations menu in the Sumitomo Chemical employee cafeterias. Donations received in fiscal 2012, as well as matching funds from the Company, were donated to a scholarship fund for children in Miyagi Prefecture and Fukushima Prefecture who lost their parents in the March 11, 2011 disaster. Total contributions reached about eight million yen as of the end of March 2013.





Printed on Forest Stewardship Council® (FSC®)-certified paper that contains materials sourced from well-managed forests.



This Report is printed with vegetable oil ink, an environmental ink made with vegetable oil instead of petroleum-derived solvents. This minimizes the generation of volatile organic compounds (VOCs), and helps conserve precious petroleum resources.

**SUMITOMO CHEMICAL COMPANY, LIMITED**

**CSR Office**

Tokyo Sumitomo Twin Building (East)  
 2-27-1 Shinkawa, Chuo-ku, Tokyo 104-8260, Japan  
 Tel: +81-3-5543-5107 Fax: +81-3-5543-5814

About the cover photo:

With the ability to display a vast array of colors, Sumitomo Chemical's PLED lighting has greatly expanded the range of lighting design. The potential exists to produce large-scale lighting at low cost through the application of printing methods.