



SUMITOMO CHEMICAL

C O R P O R A T E P R O F I L E

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Responsible Care
OUR COMMITMENT TO SUSTAINABILITY

The Dream of Chemistry In Your Life

You may encounter Sumitomo Chemical's products and technologies every day. For example, they exist in many different things like your car or smartphone, the clothes you're wearing now, the delicious fruit you enjoy, or the medicine you're prescribed when you're ill. It's as if they were like air; even though you may not notice them, they are important things that firmly support your life. We, Sumitomo Chemical, are always close to you, and we aim to help you live a better, more comfortable life and be even more useful to you.



Sumitomo Chemical has an established Business Philosophy, which comprises its fundamental business principles, missions, and values, based on Sumitomo's Business Principles, handed down from the past.

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.

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Company History

The history of Sumitomo Chemical dates back to 1913, when its predecessor, the House of Sumitomo, worked to mitigate an environmental problem caused by sulfur dioxide emissions from its operation of the Besshi Copper Mine in Japan's Ehime Prefecture, and constructed a fertilizer plant to produce calcium superphosphate fertilizers from the emitted sulfur dioxide. This fertilizer plant was the beginning of Sumitomo Chemical's business. Since then, we have developed our business in diverse areas in keeping with changing times, and have worked to contribute to the sustainable development of society.

In the field of petrochemicals, Sumitomo Chemical constructed its first petrochemical complex in Ehime Prefecture in 1958. In 1965, we set up our second petrochemical complex in Chiba Prefecture, near Tokyo, and strengthened our petrochemical business. Outside of Japan, the company was a leading participant in establishing the petrochemical complex in Singapore, an economic cooperation project between the governments of Japan and Singapore, which began operations in 1984. The complex commenced operation of a new ethylene cracker in 1997 under its second phase expansion project, bringing its total ethylene capacity to one million tons per year. We supply synthetic resins and other products in Asia, which is seeing some of the world's most vigorous demand growth. In 2005, together with Saudi Aramco, we established Rabigh Refining and Petrochemical Company in Saudi Arabia, and its world-scale oil refining and petrochemical complex started operation in 2009. In 2015, Sumitomo Chemical established the Energy & Functional Materials Sector. We are producing and selling functional materials that reduce the burden on the environment and help to conserve energy and natural resources.

Meanwhile, Sumitomo Chemical was focusing efforts in the areas of dyes, agrochemicals and pharmaceuticals with the acquisition in 1944 of Japan Dyestuff Manufacturing Company, and achieved technological advances in these fields. In the field of agricultural chemicals, we established Valent in 1988 as our development and sales base in the United States. Subsequently, we enhanced our global R&D and sales network, with business operations in Europe, South America and Australia, among other regions. In the pharmaceuticals business, we developed our business through Sumitomo Pharmaceuticals, which represented the core of our pharmaceutical operations. In October 2005, Sumitomo Pharmaceuticals and Dainippon Pharmaceuticals merged to form Dainippon Sumitomo Pharma, whose English name was changed to Sumitomo Dainippon Pharma in 2014. It acquired U.S. pharmaceutical company Sepracor (currently Sunovion Pharmaceuticals) in 2009, gaining a foothold in the United States in a move to become an advanced, research-driven pharmaceutical company.

Also, in accordance with the progress of information technology, and to further strengthen and develop our business, Sumitomo Chemical established the IT-related Chemicals Sector in 2001. We are advancing active investments in display-related materials, such as polarizing films and touchscreen panels, mainly in Asia.

With "Creative Hybrid Chemistry for a Better Tomorrow" as our corporate slogan, and with a flexible mindset unconstrained by convention and beyond the boundaries of chemistry, Sumitomo Chemical will integrate its wide range of technologies cultivated from years of experience and strive to achieve sustainable growth by continuing to create new value.

1913	The House of Sumitomo establishes an independently managed fertilizer plant at Nihama, Ehime prefecture.		1997	The petrochemical complex in Singapore commences operation of its second phase expansion project.	
1915	Operations commence and the first shipment of calcium superphosphate fertilizer leaves the plant.		1998	Facilities in Singapore for the manufacture of acrylic acid and its derivatives, including methyl methacrylate resins, are completed.	
1925	The Sumitomo Fertilizer works, Limited. is incorporated with operations at what is now the Ehime Works.	Sumitomo Fertilizer Manufacturing Co., Ltd.	2000	Sumitomo Chemical establishes Genomic Science Laboratory, operated jointly with Sumitomo Pharmaceuticals.	Petrochemical Corporation of Singapore (Pte.) Ltd.
1934	Sumitomo Fertilizer Manufacturing changes its name to Sumitomo Chemical Co., Ltd.		2001	Sumitomo Chemical establishes the IT-related Chemicals Sector as a new business sector.	
1944	Sumitomo Chemical acquires Japan Dyestuff Manufacturing Company, diversifying into dyestuffs and pharmaceuticals at the present-day Osaka Works and Oita Works.	Japan Dyestuff Manufacturing Company	2002	Sumitomo Chemical Takeda Agro Co., Ltd., a joint venture between Sumitomo Chemical and Takeda Chemical Industries, Ltd., succeeds Takeda Chemical's agrochemical business and commences operation (fully acquired in 2007).	
1949	Sumitomo Chemical takes over the aluminum business of Sumitomo Aluminium Smelting Co., Ltd.		2003	Sumitomo Chemical opens a plant for the integrated production of LCD polarizing film at its subsidiary Dongwoo Fine-Chem Co., Ltd. in Korea and commences operation.	Dongwoo Fine-Chem's LCD polarizing film plant
1958	Sumitomo Chemical starts production of ethylene and its derivatives, diversifying into the petrochemical business at its Ehime Works.	Ethylene plant, Ehime Works	2004	Sumitomo Chemical opens a plant for the integrated production of polarizing film for LCD displays at its subsidiary Sumika Technology Co., Ltd. in Taiwan.	
1965	The Takatsuki Research Laboratory is completed, serving as the Company's central laboratory (closed in March 2003). Sumitomo Chiba Chemical Co., Ltd. is established and is fully acquired in 1975 at the present-day Chiba Works.	Sumitomo Chiba Chemical Co., Ltd.	2005	Sumitomo Chemical establishes equally owned joint venture Rabigh Refining and Petrochemical Company (Petro Rabigh) together with Saudi Aramco. Sumitomo Pharmaceuticals and Dainippon Pharmaceutical merge to form Dainippon Sumitomo Pharma. (The company's English trade name is changed to Sumitomo Dainippon Pharma in 2014.)	Groundbreaking ceremony at Petro Rabigh
1971	The Takarazuka Research Center is established to reinforce research and development activities for pharmaceuticals and crop protection chemicals.		2007	Sumitomo Chemical acquires UK company Cambridge Display Technology, a pioneer in the development of polymer organic LEDs and related devices, and makes it a wholly owned subsidiary.	
1976	The aluminum operation is transferred to the newly formed Sumitomo Aluminium Co., Ltd., subsequently dissolved in 1986.		2009	Petro Rabigh's integrated refining and petrochemical complex starts operation of its ethane cracker, its core plant. Dainippon Sumitomo Pharma acquires US pharmaceuticals company Sepracor Inc.	Petro Rabigh's ethane cracker
1978	The Misawa Works is opened to expand production of pyrethroid household insecticides.		2011	Sumitomo Chemical eliminates the Fine Chemicals Sector and the businesses in this sector are split up and transferred to the Basic Chemicals Sector and the Health & Crop Sciences Sector (former Agricultural Chemicals Sector).	
1982	P.T. Indonesia Asahan Aluminium starts operations.	P.T. Indonesia Asahan Aluminium	2015	Sumitomo Chemical eliminates the Basic Chemicals Sector and the businesses in this sector are split up and transferred to the Petrochemicals & Plastics Sector and the Energy & Functional Materials Sector which is established as a new business sector.	
1983	Sumitomo Chemical suspends ethylene and derivatives production at its Ehime Works and concentrates production at its Chiba Works.		2016	Petro Rabigh's upgraded ethane cracker starts operation in the Phase II Project.	
1984	Sumitomo Pharmaceuticals Co., Ltd. is established by consolidating the pharmaceutical operations of Sumitomo Chemical and Inabata & Co., Ltd. and commences operation the same year. The petrochemical complex in Singapore begins operations.	Press conference to announce the establishment of Sumitomo Pharmaceuticals (now Sumitomo Dainippon Pharma)	2017	Sumitomo Chemical opens a plant for the production of separators for lithium-ion secondary batteries at SSLM, a subsidiary in South Korea.	
1988	The Biochemistry & Toxicology Laboratory, subsequently renamed the Environmental Health Science Laboratory, is established at the Osaka Works.				
1989	The Tsukuba Research Laboratory is established (the present Advanced Materials Development Laboratory).				

Sumitomo Chemical supports people's lifestyles by providing a wide range of basic materials and synthetic resins that help make people's lives more fulfilling.

The Petrochemicals & Plastics Sector meets the diverse needs of customers by providing chemical products that underpin a variety of industries. The products include synthetic resins such as polyethylene, polypropylene and polymethyl methacrylate resin, as well as raw materials for synthetic fibers and various industrial chemicals.



Propylene Oxide

This material is used to manufacture polyurethane and propylene glycol. Polyurethane is used as heat insulating and cushioning materials, and propylene glycol is used as a material for pharmaceuticals and cosmetics.



Automobile seats with cushion materials made using propylene oxide as a raw material

Polypropylene

This synthetic resin provides multiple advantages: it is light and can be easily processed, is highly durable, and is highly resistant to heat and chemicals. It is widely used as a material for automobile bumpers, instrument panels, food trays, home electrical appliances, and medical instruments.



Automobile instrument panel made of polypropylene

Caprolactam

Caprolactam is used as the main raw material for nylon, which is one of the most basic synthetic fibers used for the manufacture of clothing, carpets, and tire cords. Unspun nylon (nylon plastic) is used for a variety of products, including automobiles, electrical products, and food wrapping film.



Caprolactam and nylon products

Methyl methacrylate (MMA) polymer

MMA polymer possesses outstanding transparency, weather-resistance, and a beautiful luster. It is widely used as a material for automobile tail lights, signboards, aquariums, and for the optical components of liquid crystal displays.



Large aquarium panel made of methyl methacrylate

Polyethylene

This synthetic resin is flexible, highly resistant to water and chemicals, and can be easily processed. It is widely used as a material for wrapping film, food tubes, coatings for electrical wires, and films for agricultural greenhouses.



Various products made using polyethylene

[Products]

- Petrochemicals Division: Ethylene, Propylene, Butadiene, Isobutylene, Butene-1, Benzene, Toluene, Xylene, N-hexane, Propylene oxide, and Acetaldehyde
- Industrial Chemicals Division: Sulfuric acid, Nitric acid, Liquid sodium nitrite, Ammonium nitrate, Liquid ammonia, Caustic soda, Hydrochloric acid, Aniline, Methanol, Formalin, Acrylonitrile, Caprolactam, Adipic acid, and Epichlorohydrin
- Polyolefins Division: Low-density polyethylene (SUMIKATHENE™), Linear low density polyethylene (SUMIKATHENE™ L, SUMIKATHENE™ α, and SUMIKATHENE™ Hi α), Metallocene linear low density polyethylene (SUMIKATHENE™ EP and EXCELLEN™ GMH), and Ethylene vinyl acetate copolymer (EVATATE™ and SUMITATE™), Polypropylene (SUMITOMONOBLEN™ and EXCELLEN™)
- Automotive Materials Division: Polypropylene (SUMITOMONOBLEN™ and EXCELLEN™), and Thermoplastic elastomer (ESPOLEX™)
- Methacrylates Division: Methyl methacrylate (MMA) polymer (SUMIPEX™), MMA monomer, and Acrylic sheets

Sumitomo Chemical contributes to the effective resolution of global energy and environment issues by offering functional materials.

Sumitomo Chemical provides a wide variety of functional chemical products that contribute to reducing the environmental impact as well as to conserving energy and natural resources. Such products include alumina and aluminum used for energy-efficient products, high-performance polymer additives and rubber chemicals, as well as super engineering plastics and lithium-ion secondary battery materials used in electronic components and next-generation vehicles.

Alumina

We supply specialty alumina such as low-soda alumina and alumina with a purity of over 99.99%. Low-soda alumina is used for liquid crystal display glass, IC packages, and automobile spark plugs. High-purity alumina is used for lithium-ion secondary battery materials; sapphire substrates for LEDs, and ceramic parts of semiconductor manufacturing equipment.



Products made using alumina and alumina powder

Aluminum

We import aluminum ingots produced by our aluminum development projects in New Zealand, Australia, and Brazil, and provide a stable supply in Japan. Our high-purity (99.99% or higher) aluminum is used in highly functional products, such as aluminum foils for electrolytic capacitors, liquid crystal displays, and wiring materials for semiconductors.



Aluminum ingots

Resorcinol

This material is used in the manufacture of tires, wood adhesives, flame retardants, and ultraviolet ray absorbants.



Resorcinol

Synthetic Rubber

Synthetic rubbers exhibit a variety of outstanding characteristics, including elasticity, oil and weather resistance and anti-wear properties. In addition to automotive parts such as tires, window and door seals, hoses, and gaskets and bushings. Synthetic rubbers also find uses in construction materials, shoes and other applications.



A tire made using synthetic rubber

Super Engineering Plastics

Super engineering plastics are high-performance resins that have excellent heat resistance, strength, chemical resistance, and processability. As materials that meet the needs for lighter and finer articles, super engineering plastics include liquid crystalline polymer, which is used in the manufacture of electrical and electronic products and is expanding into applications in the industry and automobile areas, and polyethersulfone, which, in addition to electrical and electronics applications, is also being used as a carbon fiber composite in aircraft, as a high-performance separation membrane material, and as a heat-resistant coating.



Super engineering plastics

Lithium-ion secondary battery materials

A lithium-ion secondary battery comprises a cathode, an anode, and a separator that electrically insulates these two sheets from one another to prevent a short circuit. Sumitomo Chemical is expanding its business in separators and cathode materials.



Separator "PERVIO™"

[Products]

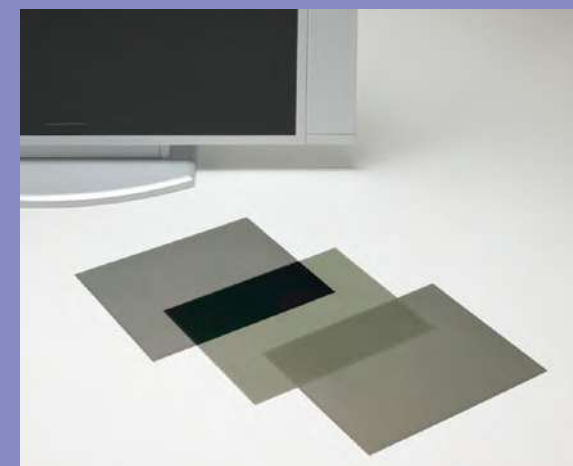
- Inorganic Materials Division : Aluminum hydroxide, Alumina, Activated alumina, Sodium aluminate, High purity alumina, Aluminum, and High purity aluminum
- Specialty Chemicals Division : Resorcinol, Polymer additives (Antioxidant and Light stabilizer), Dyestuffs (Reactive dye and Disperse dye), and Polymer emulsions (EVA emulsions and Ethylene PVC emulsions)
- Advanced Polymers Division : Very low density polyethylene (EXCELLEN™ VL), Special ethylene copolymer (ACRYFT™ and BONDFAST™), Olefin plastomer (TAFTHREN™ and ESPRENE™ SPO), Liquid crystalline polymers (SUMIKASUPER™ LCP), Polyethersulfone (SUMIKAEXCEL™), Styrene butadiene rubber (SUMITOMO™ SBR), Ethylene propylene rubber (ESPRENE™ EPDM), and Rubber Chemicals (Vulcanization accelerator, RF resin)
- Battery Materials Division : Separators (PERVIO™)

Sumitomo Chemical responds to an increasingly sophisticated IT society with our own advanced technology.

The IT-related Chemicals Sector supplies a wide range of products that support ICT-related industries, including optical films for liquid crystal displays (LCDs), color resists, photoresists and high-purity chemicals used in the semiconductor manufacturing process, compound semiconductors (MOEPI wafers) used for devices such as antenna switches and amplifiers of cell phones and smartphones, and aluminum sputtering targets used for semiconductor chips' wiring.

Polarizing Films

Polarizing films are essential for LCD displays for smartphones, tablet terminals and LCD televisions.



Polarizing films "SUMIKALAN™"

Color Resists

There is a growing demand for higher brightness, higher contrast and better color reproduction for liquid crystal displays (LCDs). Color resists are indispensable for the production of color filters, which determine the color properties of LCDs.



Color Resists "DyBright™"

Photoresists

Photoresists are photosensitive resins used in the creation of high-density, highly integrated circuit patterns on semiconductors and printed boards.



Photoresists "SUMIRESIST™"

Compound Semiconductors (MOEPI Wafers)

Compared with silicon semiconductors, compound semiconductors, such as gallium arsenide (GaAs) and gallium nitride (GaN), have excellent properties, such as higher speed and higher breakdown voltage. Compound semiconductors are used for such products as antenna switches and amplifiers of cell phones and smartphones.



Compound Semiconductors (MOEPI Wafers)
* Product of SClOCS COMPANY LIMITED

[Products]

- Optical Materials Division : Polarizing films (SUMIKALAN™) and Light guided plates
- Electronic Materials Division : Photoresists (SUMIRESIST™), High purity electronic chemicals, Sputtering aluminum targets, and Color resist (DyBright™)

Sumitomo Chemical contributes to people's health and a more abundant and sustainable food supply.

The Health & Crop Sciences Sector is engaged in the manufacture and sale of crop protection chemicals, fertilizers, feed additives, household and public hygiene insecticides, and active pharmaceutical ingredients and intermediates. By providing these products, we aim to contribute to a stable supply of crops, help increase food production in response to an increase in the world population, prevent the spread of infectious diseases, and achieve hygienic and healthy lives.

Crop Protection Chemicals

We provide insecticides that are effective on a range of insects that cause damage to crops, trees, and pasture plants; herbicides for a variety of crops, including rice and soybeans; and fungicides to help prevent plant diseases and soil-borne infections. In order to respond to diverse needs with the spread of environmentally friendly agriculture, we supply a wide spectrum of products, including biological pesticides. In addition, within Japan, together with the companies in the Sumitomo Chemical Group, we are developing our business to provide a wide variety of agriculture-related products and services, including crop protection chemicals, fertilizers, and agricultural materials. Moreover, we are working to support rice farmers with total business support, including providing seeds, crop protection chemicals and fertilizers, cultivation management assist, and purchasing and selling rice crops.



Various crop protection chemicals, including insecticides and herbicides

Products for Household Use

We are engaged in the manufacture and sale of various products used for insecticides for indoor and outdoor use (such as mosquito coils, mosquito repellents and aerosols), insect repellents for clothes, termiticides, as well as ectoparasiticides for use in the animal health field. These products include technical grade, and formulated products mainly containing pyrethroids as the active ingredient. Resin emanators have also been introduced recently as a product providing energy-free mosquito-repellent action.



Household insecticides made using Sumitomo Chemical's products

Products for Control of Infectious Diseases

We manufacture and sell our Olyset™ Net, a mosquito net that helps protect people from the mosquitoes that carry malaria, and other infectious disease control products such as insecticides that kill mosquito larvae.



Olyset™ Net

Feed Additives

We manufacture and sell methionine, which is mainly used in chicken farming. Methionine is a type of essential amino acid that promotes the growth of animals fed with it.



DL-methionine and methionine hydroxy analog used as feed additives

Active Pharmaceutical Ingredients (APIs) and Intermediates

We engage in the manufacture and sale of APIs and intermediates outsourced from pharmaceutical companies, as well as pharmaceutical chemical products developed in-house, such as generic APIs, based on our advanced organic synthesis technologies and quality assurance capabilities.



Active pharmaceutical ingredient

[Products]

- Crop Protection Division and Crop Protection Division-International: Agricultural insecticides, Agricultural fungicides, Agricultural herbicides, Plant growth regulators, Biological insecticides, Turf maintenance system, Fertilizers, and Rice
- Environmental Health Division: Household insecticides, Moth-proofing agents for clothes, Termite insecticides, Insect-proof laminate, Aroma and Decolorization Devices (airnote™), Insecticidal mosquito net (Olyset™ Net) and Public hygiene insecticides
- Animal Nutrition Division: DL-methionine and Methionine hydroxy analog
- Pharmaceutical Chemicals Division: Active pharmaceutical ingredients and Pharmaceutical intermediates

Sumitomo Chemical supports the healthy and comfortable daily lives of people.

Sumitomo Chemical started its pharmaceuticals business as the first Japanese company to manufacture synthetic pharmaceuticals based on its advanced organic synthesis technology. At present, the company is developing the Sector through Sumitomo Dainippon Pharma Co., Ltd., engaged in the prescription pharmaceuticals business, and Nihon Medi-Physics Co., Ltd., engaged in the diagnostic pharmaceuticals business.



Sumitomo Dainippon Pharma Co., Ltd.

Sumitomo Dainippon Pharma focuses on the areas of cardiovascular/diabetes, and psychiatry & neurology, as well as specialty areas such as cancer, infectious disease, and orphan disease treatments, where patients' needs are highly specialized and largely unmet. Sumitomo Dainippon Pharma markets AIMIX® (therapeutic agent for hypertension), LONASEN® (atypical anti-psychotic agent), TRERIEF® (therapeutic agent for Parkinson's disease) and Trulicity® (GLP-1 receptor agonist). The company has actively taken initiatives to expand its business overseas, and in the United States, it launched LATUDA® (atypical antipsychotic agent) in 2011 through Sunovion Pharmaceuticals, which became a subsidiary in 2009. Also, in 2012, it acquired Boston Biomedical, the U.S. biotechnology venture company which specializes in the field of cancer research and development, to concentrate its R&D efforts on this area in addition to its key area of psychiatry & neurology



LATUDA® (atypical antipsychotic agent)



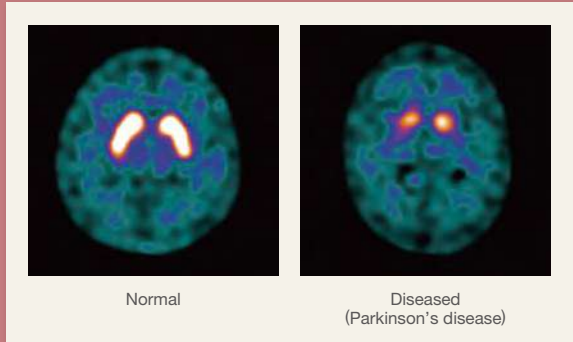
Osaka Research Center

Nihon Medi-Physics Co., Ltd.

Nihon Medi-Physics is the leading company in the highly specialized field of nuclear medicine in both diagnosis and therapy. It offers a comprehensive range of functions from research and development to production, marketing and sales of radiopharmaceuticals used in diagnostic imaging procedures, such as SPECT for cerebral vascular disorder, dementia, cardiac disease, and malignant tumor, as well as PET, which is considered useful for early detection of malignant tumors. In the therapy field, it provides a radioactive seed for brachytherapy, a radiopharmaceutical product to palliate the pain caused by bone metastasis of cancers. In 2014, in order to meet increased medical needs, it launched a new diagnostic agent, "DaTSCAN® injectable," for diagnosis of Parkinson's disease and dementia with Lewy bodies. Moreover, by leveraging the experience and know-how cultivated in the manufacturing and distribution of radiopharmaceuticals, we recently diversified into contract businesses to promote the PET imaging procedure as a drug development tool in both non-clinical and clinical stages.



DaTSCAN® injectable

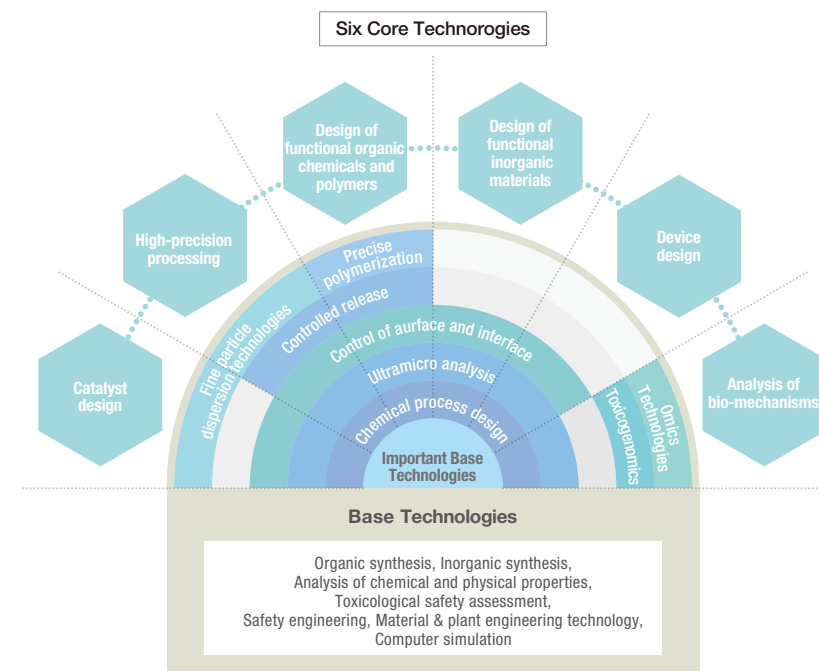


Dopamine transporter scintigrams by administration of DaTSCAN® injectable (The image data provided by Juntendo University Hospital)

Sumitomo Chemical has continued to pioneer new fields with its creative technologies and tireless spirit of inquiry. The technologies and products we have developed in the course of our efforts contribute to growth in a variety of fields. We will continue to enhance our technological capabilities based on the belief that we can create a new era through creative R&D.

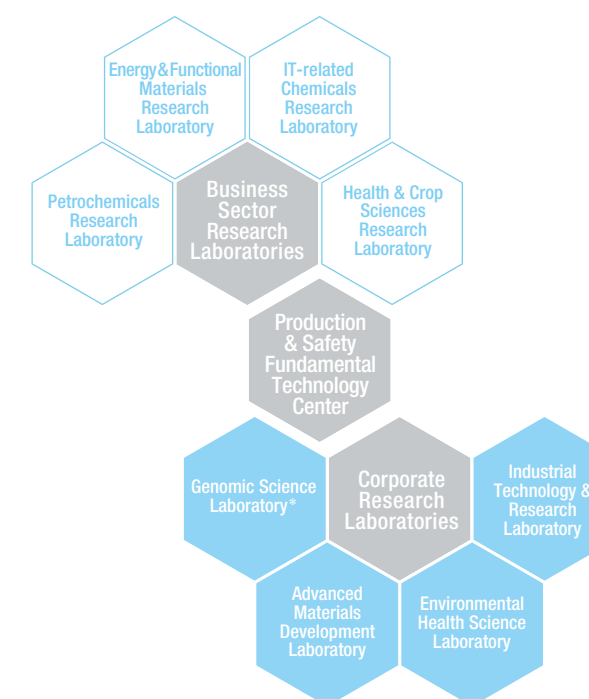
Pursuit of Creative Hybrid Chemistry

Sumitomo Chemical has been developing six core technologies by utilizing its technologies accumulated through a broad range of research activities over many years. The six core technologies are catalyst design, high-precision processing, design of functional organic chemicals and polymers, design of functional inorganic materials, device design, and analysis of bio-mechanisms. Sumitomo Chemical's Creative Hybrid Chemistry forms the basis of its R&D strategy. Creative Hybrid Chemistry means enhancing our base technologies while broadening and deepening our six core technologies, and combining these disparate technologies from both inside and outside the company to create higher value-added products and technologies. Moreover, in addition to developing new materials, we are also emphasizing linkages with the business of materials solutions, which encompasses the development of downstream businesses and businesses of different industries. In order to quickly and efficiently apply the fruits of our R&D efforts toward the development of high value-added businesses, we will aggressively pursue technological collaborations with academic institutions and companies from other industries around the world.



Research and Development Organization

Sumitomo Chemical's research organization comprises the Business Sector Research Laboratories, the Corporate Research Laboratories, and the Production & Safety Fundamental Technology Center. At the Business Sector Research Laboratories, both manufacturing and sales personnel are making concerted efforts on research and development of products that contribute to the maintenance, strengthening, and expansion of their business activities and of basic and elemental technologies. The Corporate Research Laboratories are engaged in long-term research projects, including projects to develop (a) technologies required to enter new business fields, (b) common base technologies that will yield competitive advantages for the sustainable development of the company's core businesses, and (c) next-generation products and processes. The Production & Safety Fundamental Technology Center promotes research and development to strengthen safety measures, disaster-prevention capabilities and production plants' competitiveness, while actively providing support for the company's manufacturing operations.



* Genomic Science Laboratory is managed jointly with Sumitomo Dainippon Pharma Co., Ltd.

Industrial Technology & Research Laboratory

Industrial Technology & Research Laboratory

This Laboratory carries out industrial chemistry research to develop new chemical processes and improve existing manufacturing technology. In addition, the Laboratory is engaged in R&D work in fields of specialized technologies that support production operations, including environmental technology.

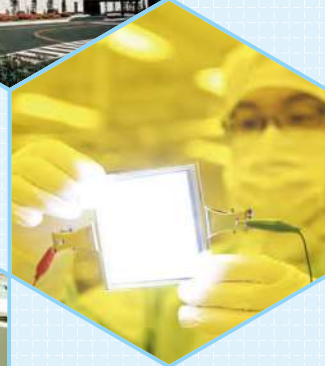


Environmental Health Science Laboratory

This laboratory evaluates the possible impact of our products on human health and the environment using the latest scientific knowledge as well as state-of-the-art technologies.

The laboratory is further enhancing and accelerating its life science research by conducting-omics (comprehensive biological analysis) research, including toxicogenomics, basic research relating to ES cells, and applied research.

Environmental Health Science Laboratory



Genomic Science Laboratory

In order to accelerate R&D for innovative new medicines, this laboratory is working on the establishment and practical application of base technologies, including bioinformatics, genomics, proteomics, and metabolomics analysis technologies, protein structural analysis, and *in silico* drug discovery technologies.

Utilizing these cutting-edge technologies, this laboratory aims to engage in advanced, clear-cut R&D to analyze and characterize the mechanisms of action of new drugs, and search for biomarkers able to predict the medical efficacy or side-effects of drugs in clinical trials.



Genomic Science Laboratory

Advanced Materials Development Laboratory

As a base for advanced materials development for the purpose of creating new businesses, the Advanced Materials Development Laboratory conducts research and development of new, highly functional materials in a wide range of fields, such as the fields of ICT, environment, and energy. Specifically, the laboratory is developing polymer organic light emitting diodes (PLEDs) used for next-generation displays and lighting, polymer photovoltaic cells in the area of clean energy, and printed electronics materials that are expected to find uses in the ICT fields. The laboratory also conducts extensive research on new materials by utilizing open innovation and our company's global network, and develops designs for materials as well as synthesis and processing technologies through structural analysis and computational science, while considering business models and conducting premarketing research in cooperation with business divisions.

Advanced Materials Development Laboratory

Petrochemicals Research Laboratory

Petrochemicals Research Laboratory

With research efficiency and speed, this laboratory pursues the development of polymers to sustain and expand Sumitomo Chemical's business. It also develops and improves catalysts and manufacturing processes and conducts polymer structure analysis. The laboratory aims to establish technologies based on the latest science and to create new research areas while upgrading fundamental technologies that support product development, such as polymer design, organic synthesis, catalyst design, analysis of chemical and physical properties, and computer simulation.



Energy & Functional Materials Research Laboratory

Energy & Functional Materials Research Laboratory

In order to expand its business relating to energy and the environment, Energy & Functional Materials Research Laboratory is conducting research and development in a broad range of fields, including inorganic materials, polymer materials, and organic synthesis, to create new products and enhance the competitiveness of existing products, such as battery materials, high-performance polymers, super engineering plastics, and high-performance rubber and new additives for fuel-efficient tires.

In addition, in accordance with the globalization of this business, its research and development is also being conducted in collaboration with Sumitomo Chemical's overseas group companies.



IT-related Chemicals Research Laboratory

IT-related Chemicals Research Laboratory

This laboratory conducts a wide range of R&D activities for products and technologies that support the IT industry, including optical wide films and other liquid crystal display materials and semiconductor processing materials such as photoresists.

In order to provide customers with leading-edge products in response to their needs in an appropriate and prompt manner, the laboratory collaborates with SCIOCS, Dongwoo Fine-Chem of South Korea, and Sumika Technology of Taiwan, all of which are subsidiaries of Sumitomo Chemical, thereby also contributing to the globalization of the Company's business.

Health & Crop Sciences Research Laboratory

Health & Crop Sciences Research Laboratory

This laboratory aims to help create healthier and more hygienic lives, and contribute to improving the yield of food crops and agricultural productivity through our expertise in organic synthetic chemistry, biology, and formulation technologies. The laboratory is engaged in the development of new agricultural chemicals and functional fertilizers, more effective and safer household insecticides, and technologies for preventing infectious diseases, as well as efficient synthetic methods for pharmaceutical chemicals.

The laboratory collaborates with Sumitomo Chemical's overseas Group companies to incorporate the needs of global customers into our R&D activities, thereby contributing to the expansion and globalization of the company's business.

Production & Safety Fundamental Technology Center

Production & Safety Fundamental Technology Center

Production & Safety Fundamental Technology Center

To strengthen safety measures, disaster-prevention capabilities and production plants' competitiveness, the Production & Safety Fundamental Technology Center promotes research and development on the safety of manufacturing processes and facilities, materials diagnostics, and the enhancement of manufacturing technology using computers. It also works to build fundamental technologies related to production and safety to support the company's manufacturing operations for the global business environment.





from left : Oita Works/ Ehime Works/ Ohe Works/ Okayama Plant/ Osaka Works/ Utajima Pilot Production Department/ Gifu Plant/ Chiba Works/ Misawa Works

Ehime Works

The Ehime Works was established in 1913 to produce sulfuric acid and calcium superphosphate from sulfur dioxide recovered from the emissions of the copper refinery operated by Sumitomo. Located in Ehime, in the Shikoku region of Japan, which is Sumitomo Chemical's place of origin, the Ehime Works has been transforming itself, keeping pace with the progress of the company. The Works began manufacturing industrial chemicals against a backdrop of the development of Japan's modern industries and entered the petrochemical field in 1958, ahead of the others. The Works has been proactively increasing the number of products it manufactures, although it suspended operation of its manufacturing facilities for ethylene and some ethylene derivatives in 1983. Its products now include bulk chemicals (e.g. caprolactam and methacrylate resin), fine chemicals such as methionine (feed additive), and electronics products such as optical functional films, which the Works manufactures using a variety of basic materials it produces. In 2009, the manufacturing facilities for optical functional films and other products became the Ohe Works and now functions independently. The Ehime Works responds flexibly to the development of new business and supports the company in a number of business operations.

Oita Works

In 1939, a factory was established as the intermediates production base for dyes and pharmaceuticals by Japan Dyestuffs Manufacturing Co., which was founded in 1916 for the domestic production of synthetic dyes and eventually became the largest dyestuffs manufacturing company in Japan. Following the merger of this company with Sumitomo Chemical, the factory became Sumitomo Chemical's Oita Works in 1944. Subsequently the Works began the production of agricultural chemicals and in 1962 started manufacturing a pesticide known as SUMITHION™, which has become popular not only in Japan but also in overseas markets. Using its advanced organic synthesis technologies, the Works is now engaged in the manufacture of a wide range of agricultural chemicals, resorcinol used in adhesives for tires and other applications, and a polymer additive called SUMILIZER™ GP. In 2014, the Utajima Pilot Production Department, the Okayama Plant, and the Gifu Plant were added as production sites to enhance the manufacturing organization for pharmaceutical chemicals. The Oita Works is also home to the pharmaceuticals manufacturing plant of Sumitomo Dainippon Pharma Co., Ltd., and plays a core role in the globalization of the Sumitomo Chemical Group's life science chemicals business.

Ohe Works

In April 2009, the Ohe Works was established as a manufacturing and assembly plant in the Ohe district of our Ehime Works, where we have been producing optical functional films and our separator for lithium-ion secondary batteries. The Ohe Works has worked to build manufacturing and technological capabilities and also gather the talent and technology ideally suited for the field of manufacturing and assembly in order to strengthen the competitiveness of our existing businesses and enter new business fields to support the further development and growth of the manufacturing and assembly business of Sumitomo Chemical and the Sumitomo Chemical Group.

Okayama Plant

The Okayama plant manufactures mainly pharmaceutical chemicals while also producing a variety of specialty fine chemicals. It can flexibly handle everything from batch production for the development phase to large-scale production, and has the capabilities to scale production in response to the diversified needs of customers.

Osaka Works

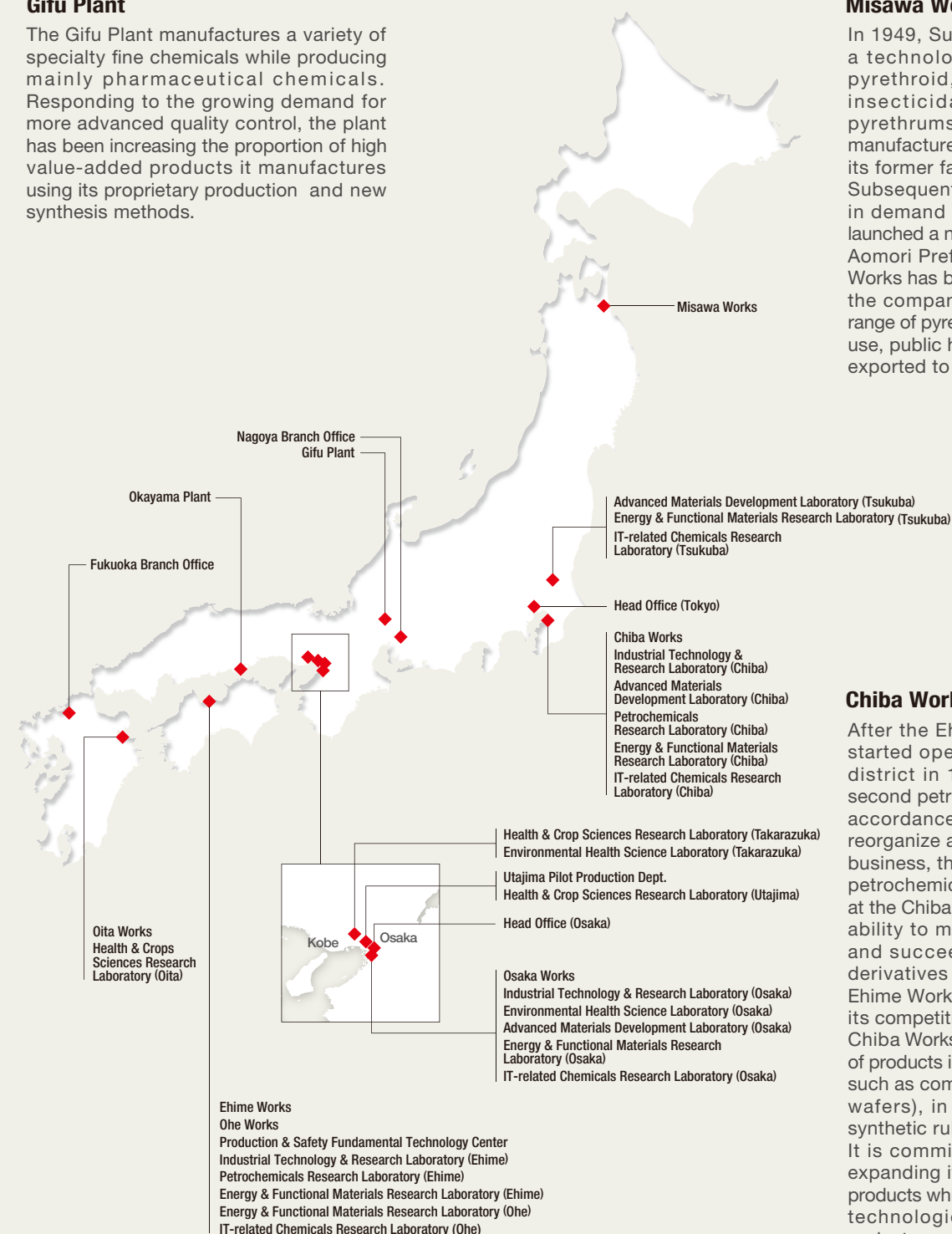
Japan Dyestuffs Manufacturing Company, the predecessor of the Osaka Works, was established in 1916 for the domestic production of synthetic dyes, eventually becoming the largest dyestuffs manufacturing company in Japan. In 1944, this company was merged with Sumitomo Chemical and became the Osaka Works. Since then, it has been continuously delivering useful technologies and new products in response to the needs of the times. The Osaka Works has developed as the core for the manufacture of fine chemical products. At present, the Osaka Works produces photoresists, agricultural chemicals, dyes, and polymer additives by leveraging the technologies it has developed, while working closely with a research laboratory located on the same premises to meet diverse customer needs.

Utajima Pilot Production Department

The Utajima Pilot Production Department works to scale up the development of new pharmaceutical chemicals contracted out by both domestic and overseas companies to commercial-scale production. The department is committed to contributing to the actual production of these chemicals through laboratory experiments, and collects chemical and industrial data required for the safe and stable production of pharmaceutical chemicals at the manufacturers' plants.

Gifu Plant

The Gifu Plant manufactures a variety of specialty fine chemicals while producing mainly pharmaceutical chemicals. Responding to the growing demand for more advanced quality control, the plant has been increasing the proportion of high value-added products it manufactures using its proprietary production and new synthesis methods.



Misawa Works

In 1949, Sumitomo Chemical established a technology to industrially synthesize pyrethroid, a compound related to the insecticidal component contained in pyrethrums, and constructed a plant to manufacture PYNAMIN™ on the premises of its former factory in Torishima, Osaka. Subsequently, in response to an increase in demand for the product, the company launched a new plant in 1978 in Misawa City, Aomori Prefecture. Since then, the Misawa Works has been playing an important role as the company's supply base from which a range of pyrethroid insecticides for household use, public hygiene, and agricultural use are exported to countries around the world.

Chiba Works

After the Ehime Works, the Chiba Works started operating in the Keiyo industrial district in 1967 as Sumitomo Chemical's second petrochemical complex. In 1983, in accordance with the company's plan to reorganize and streamline its petrochemical business, the manufacturing operations for petrochemical products were consolidated at the Chiba Works. The Works enhanced its ability to manufacture existing products and succeeded in manufacturing some derivatives that had been produced at the Ehime Works, thereby further strengthening its competitive capabilities. At present, the Chiba Works is engaged in the manufacture of products in the field of electronics materials, such as compound semiconductors (MOEPI wafers), in addition to synthetic resins, synthetic rubbers, and organic chemicals. It is committed to further improving and expanding its portfolio of high value-added products while developing new manufacturing technologies and supporting the major projects undertaken by Sumitomo Chemical in strategic locations such as Singapore and Saudi Arabia. The Works thus serves as the "mother plant" of the company's Petrochemicals & Plastics Sector and plays the core role in the global development of the business.

Our Business Locations Around the World

◆ Petrochemicals & Plastics Sector

Sumika Polymers North America LLC
 Sumika Polymer Compounds America, Inc.
 Sumika Polymer Compounds Europe Ltd.
 Rabigh Refining and Petrochemical Company
 Rabigh Conversion Industry Management Services Company
 Sumitomo Chemical Polymer Compounds Saudi Arabia Company Ltd.
 Singapore Methyl Methacrylate Pte. Ltd.
 Sumitomo Chemical Asia Pte Ltd
 Petrochemical Corporation of Singapore(Pte.)Ltd.
 The Polyolefin Company (Singapore) Pte. Ltd.
 Sumipex (Thailand) Co., Ltd.
 Sumika Polymer Compounds (Thailand) Co., Ltd.
 Jilin Dongcheng Sumika Polymer Compounds Co., Ltd.
 Zhuhai Sumika Polymer Compounds Co., Ltd.
 Sumika Polymer Compounds Dalian Co., Ltd.
 Sumipex TechSheet Co., Ltd.
 NOC Asia Limited
 LG MMA Corp.

◆ Energy & Functional Materials Sector

Sumika Ceramics Poland Sp. zo.o.
 Bara Chemical Co., Ltd.
 New Zealand Aluminium Smelters Ltd.

◆ IT-related Chemicals Sector

Sumitomo Chemical Advanced Technologies LLC
 Sumika Electronic Materials(Wuxi) Co., Ltd.
 Sumika Huabei Electronic Materials(Beijing) Co., Ltd.
 Sumika Electronic Materials(Xi'an) Co., Ltd.
 Sumika Electronic Materials(Hefei) Co., Ltd.
 Sumika Electronic Materials(Shanghai) Co., Ltd.
 Sumika Electronic Materials(Shanghai) Corporation
 Sumika Electronic Materials(Shenzhen) Co., Ltd.
 Sumika Electronic Materials(Chongqing) Co., Ltd.
 Sumika Technology Co., Ltd.
 SSLM Co., Ltd.
 Dongwoo Fine-Chem Co., Ltd.

◆ Health & Crop Sciences Sector

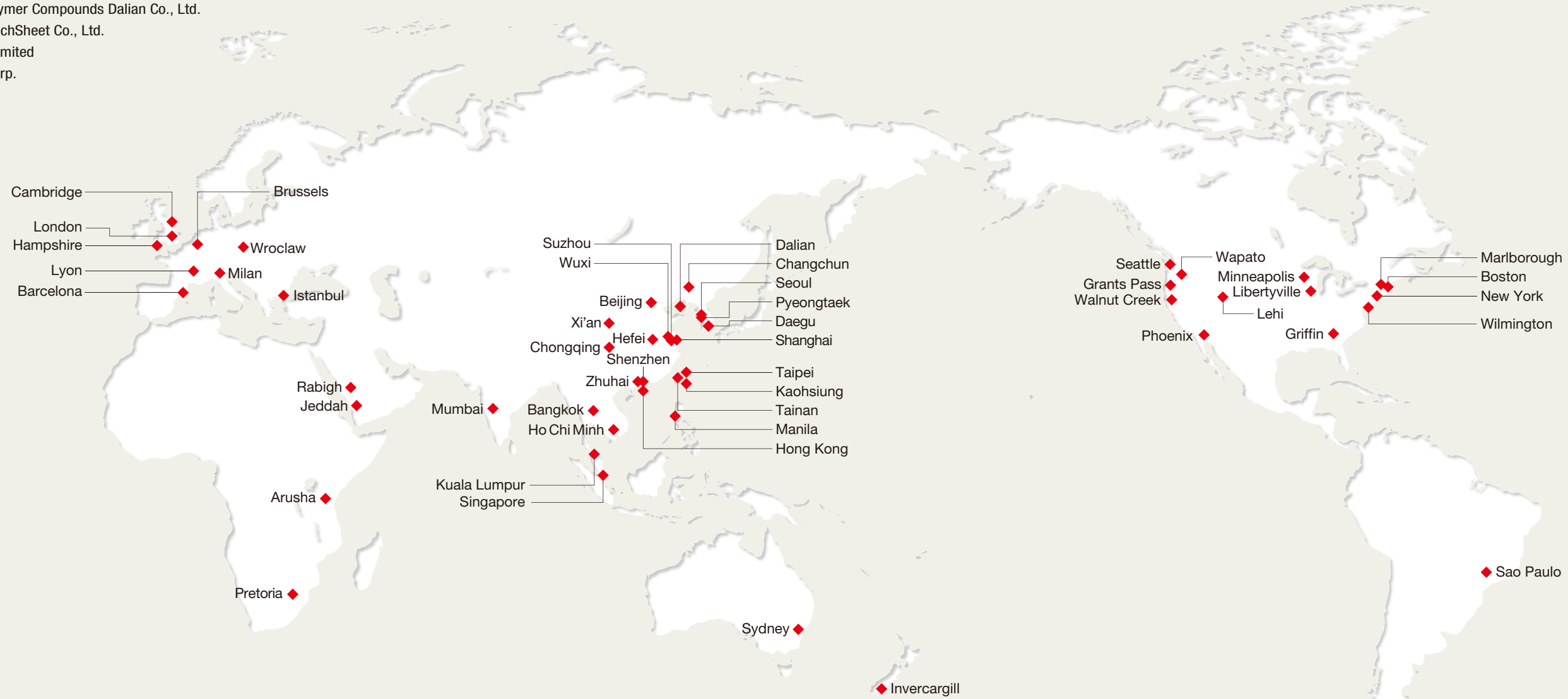
Valent U.S.A. LLC
 Valent BioSciences LLC
 McLaughlin Gormley King Company
 Pace International, LLC
 Mycorrbizal Applications, LLC
 Sumitomo Chemical do Brasil Representações Limitada
 Kenogard S.A.
 Sumitomo Chemical (U.K.), plc.
 Philagro France S.A.S.
 Sumitomo Chemical Agro Europe S.A.S.
 Philagro Holding S.A.
 Sumitomo Chemical Italia S.r.l.
 Philagro South Africa (Pty) Ltd.
 Vector Health International Ltd.
 Sumitomo Chemical East Africa Limited

◆ Pharmaceuticals Sector

Sunovion Pharmaceuticals Inc.
 Sumitomo Dainippon Pharma America Holdings, Inc.
 Boston Biomedical, Inc.
 Tolero Pharmaceuticals, Inc.
 Sunovion Pharmaceuticals Asia Pacific Pte. Ltd.
 Sunovion Pharmaceuticals Europe Ltd.
 Sumitomo Pharmaceuticals (Suzhou) Co., Ltd.

◆ Others

Sumitomo Chemical America, Inc.
 Sumitomo Chemical Europe S.A./N.V.
 Cambridge Display Technology Limited
 S.C.C. Insurance Pte. Ltd.
 Sumitomo Chemical (China) Co., Ltd.
 Sumitomo Chemical Turkey Kimya Sanayi Ve Ticaret Anonim Sirketi



The history of Sumitomo Chemical dates back to 1913, when its predecessor worked to ease an environmental problem caused by sulfur dioxide emissions from smelting operations at the Besshi Copper Mine in the Shikoku region of Japan, using the sulfur dioxide to produce calcium superphosphate fertilizers, which were useful in increasing crop yields. Since then, rather than merely increasing its business profits, the Company has been contributing to society based on its founding spirit.

Sumitomo Chemical practices CSR-based management to achieve a balance among the following three areas: Responsible Care activities, economic pursuits, and social action. In order to contribute to the development of a sustainable society, we are promoting sustainable chemistry, which means providing the people of the world with products and technologies that support their daily lives in a way that is good for society and the environment.

Basic CSR Policy

By continuously creating and providing new value for our stakeholders, the Sumitomo Chemical Group will build the 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, preservation of the environment, safety, product quality and 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.

Sumitomo Chemical Group established its Basic CSR Policy in November 2004 based on Sumitomo's Business Principles and the Sumitomo Chemical Charter for Business Conduct, and it was partially revised in March, 2016. Under this Policy, specific goals are set and CSR activities are implemented to achieve them.



Responsible Care Activities

Responsible Care (RC) activities are the chemical industry's voluntary initiatives to ensure the safety of chemical substances, protect the environment and health, and maintain and improve product quality in all processes from manufacture through to distribution, use, final consumption and disposal.

In RC, Sumitomo Chemical sets targets in each of the following fields: occupational safety and health, industrial safety and disaster prevention, chemical safety, environmental protection and energy, and product responsibility. We also conduct RC audits to objectively evaluate RC activities.

◆ Environmental Protection and Energy

We are working to improve the operational methods at our plants, rationalize production processes and improve the efficiency of facilities and equipment in our efforts to utilize energy and resources more efficiently and reduce all generated waste such as exhaust gases (including greenhouse gases), wastewater and effluent, and all other wastes discharged into the environment.

◆ Occupational Health and Safety

We conduct occupational health and safety activities based on the Corporate Policy of "making safety our first priority." Measures include improvements to our facilities and operation of an occupational safety and health management system (OSHMS*) to prevent labor accidents and ensure the safety and health of our employees.

*OSHMS: System to promote occupational safety and health management in a systematic and continuous manner to improve health and safety levels at worksites

◆ Safety and Disaster Prevention

We ensure the safety of our plants and the soundness of our facilities and prevent accidents at our plants by evaluating safety at every phase, including in the development of manufacturing processes, the design and construction of the plant, operation and maintenance of the plant, and dismantling, with due and continuous consideration for the environment as well as zero-accident and zero-disaster operations. In addition, we conduct strict risk assessments in our efforts to continually strengthen safety measures and enhance our security control system.



Dust explosion experiment conducted as part of training to acquire the ability to detect potential risks and respond appropriately

◆ Chemical Safety

We promote sound management of chemicals based on scientific evidence, and are actively working to enhance appropriate risk-based chemical management.

The Environmental Health Science Laboratory plays a central role in safety research, making use of the latest scientific knowledge and advanced technologies as well as the company's abundant expertise in chemical safety assessment accumulated over many years to conduct prompt and precise chemical risk assessment.

◆ Product Responsibility

We are implementing various measures to provide customers with high-quality products and services that they can use with satisfaction and peace of mind. At each stage of R&D, manufacturing, and sales, we comply with laws and regulations, conduct risk assessments from multiple viewpoints based on the importance of product liability, and work to develop and manufacture safer products.

◆ Responsible Care Audits

We maintain a designated RC audit structure. RC specialized auditors with a wealth of knowledge, experience, and technical expertise take the lead in directly visiting internal departments as well as Group companies in Japan and overseas and conducting effective audits.



Social Contribution Activities

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 from the perspectives of solving global environmental problems and coexistence with local communities. Sumitomo Chemical, its business sites 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.

◆ Contributing to Neighboring Communities

Sumitomo Chemical's offices and facilities are endeavoring to disclose information and promote communication with local residents on a daily basis by organizing tours of their manufacturing and research facilities, holding local dialogue meetings, and taking part in community events, thereby helping residents to gain a deeper understanding of the company's business, as well as building and maintaining good relationships with local communities.



At the Ehime and Ohe Works, a day after the annual "Niihama Drum Festival", which takes place in October, we join neighboring affiliated companies and take part in clean-up activities with them

Sumitomo Chemical's facilities are also engaged in a variety of activities tailored to the particular needs of communities. These activities, which harness our special expertise as a chemical company, include accepting local senior high school students as interns and providing elementary and junior high school students with school science visits as a way of developing their interest in chemistry.



At the Young Inventors' Club for children in the Ichihara and Sodegaura areas, participants can enjoy making things for themselves, which they find inspiring. This activity has been led by the Chiba Works from 2002

◆ Global Contribution

Using our proprietary technology, we developed the Olyset™ Net, an insecticidal mosquito net used to control malaria, and have been supplying the nets to Africa and other countries.

In the process of expanding the net production system in response to an increase in demand for the nets, we licensed our technology free of charge to a mosquito net manufacturer in Tanzania, and local production of the nets started in 2003. At present, as many as 7,000 local people are employed in producing the nets. In addition, using a part of the revenues from the Olyset™ Net business, we provide educational support in cooperation with NGOs such as World Vision Japan and Plan Japan, and have led the construction of elementary schools in twelve (as of March, 2017) countries, including Tanzania, Kenya and Ghana.



Stitching operations at the Olyset™ Net plant in Tanzania



Children learning in a school building constructed with the support of Sumitomo Chemical

