

HOKKO REPORT 2019



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■ Editorial Policy

Hokko Group has issued the Hokko Report, which integrates the company profile and Responsible Care report, since FY 2018. In FY 2019, we expanded our reporting on Environment, Social, and Governance (ESG) activities.

■ Reporting Scope

Reporting period:

FY 2018 (Dec. 1, 2017–Nov. 30, 2018)

Some of the reported information includes activities conducted after December 2018.

Reporting scope:

Hokko Chemical Industry Group. However, quantitative data on health and safety and the environment cover only the main production and research facilities of Hokko Chemical Industry Co., Ltd., namely the Hokkaido Factory, Niigata Factory, Okayama Factory, and the Central Research Laboratories and Fine Chemicals Research Laboratories.

Referenced guidelines:

Environmental Reporting Guidelines 2018, Japanese Ministry of the Environment

Published:

August 2019 (next release scheduled in August 2020)



Origin of the company emblem symbolizing good harvests in Japan

Our company emblem is made of a “seed leaf” designed from the character for “north” (北) used in the corporate name of Hokko. The round shape (○) symbolizes the world, the universe, or perfection, and the seed leaf (Y) suggests fledgling plants.

The seed leaf symbolizes our power to grow in the world like agricultural products that grow large with crop protection products and water.

Business Overview

Message from the President

Advancing the HOKKO Growing Plan 2020 three-year management plan, looking to our 70th anniversary in 2020



Yoshikatsu Nakashima
President

Hokko Chemical Industry Co., Ltd. was established as a chemicals manufacturer on February 27, 1950. Since then, we have achieved steady growth and development through our main business activities of manufacturing and selling crop protection and fine chemical products. In our Crop Protection Products Business, under the motto of “Hokko’s products ensure crop protection from seed treatment to harvesting,” we have manufactured and sold safe, high-quality products throughout our history. We offer these products both domestically in Japan and around the world to help sustain the stable supply of agricultural crops. In our Fine Chemicals Business, we have developed an extensive product portfolio encompassing organic catalysts, electronic materials, and pharmaceutical and agrochemical intermediates mainly using the Grignard reaction as one of our key technologies. These fine chemical products broadly contribute to industry and society.

We embarked on our new three-year management plan HOKKO Growing Plan 2020 in the 2018 business year (Dec. 2017–Nov. 2018) as a first step toward achieving our stated targets of sales of 50 billion yen and ordinary income of 5 billion

yen. These targets represent the corporate scale we aim to achieve in the near future as part of our long-term growth goals.

We did not achieve our plan for sales in FY 2018, the first year of the plan, but we did exceed our plan for ordinary income. In terms of current net profit, we posted record-high profit for the fifth consecutive year in FY 2018. As a result, we were also able to steadily increase our capital adequacy ratio. We are planning to enter a robust growth track in FY 2020, when we mark our 70th year in business, by implementing a strategy that continues to follow the three basic policies outlined in the HOKKO Growing Plan 2020, which are 1) improving the revenue base of our existing businesses, 2) expanding our business fields and domains, and 3) maintaining a sound fiscal structure.

To continue this growth over the long term, improving our corporate governance and Responsible Care activities* is key.

Based on our understanding that working together with stakeholders and maintaining a strong awareness of compliance are vital to achieving sustained growth and improving our corporate value in the mid- to long term, we are taking steps to expand our corporate governance.

As a chemical company, we must ensure safety and environmental considerations in all processes from development to manufacturing, distribution, product use, and disposal. We are therefore conducting Responsible Care activities, which is a voluntary initiative by the chemical industry. Through these activities, we are making ongoing improvements to the environment, safety, and health.

We hope that through this report, our stakeholders are able to deepen understanding of Hokko Group. We welcome your candid feedback as we pursue our future activities.

May 2019

* Responsible Care activities: In the chemical industry, companies that handle chemical substances voluntarily secure “environment, safety and health” in all processes from chemical substance development, manufacturing, distribution, use, final consumption, and recycling through to disposal, publicly release the results of those activities, develop the activities and communicate with society. These initiatives are called Responsible Care activities, and Responsible Care is sometimes abbreviated as RC in this report.

■ Corporate Philosophy

With the goal of benefitting humankind and the management keywords of “social contributions,” “the environment” and “technology,” we offer safe and reliable crop protection products that contribute to food security, and fine chemical products that broadly support industrial activities.

■ Basic Management Policy

Steadily implement our business plan to realize our Corporate Philosophy so as to achieve sustainable and stable growth, contribute to the development of domestic and overseas industries, and create a more affluent society. Under self-regulation from management led by our Board of Directors, we aim to improve our mid- to long-term corporate value and continue to be a company trusted by society.

Progress of the Three-Year Management Plan

We started implementing the HOKKO Growing Plan 2020, our three-year management plan with FY 2018 as its initial year, and are conducting a range of activities looking toward its final year of FY 2020, when we mark our 70th anniversary.

HOKKO Growing Plan 2020 Three-Year Management Plan (Business Years 2018–2020) Challenge to Change – Embrace all change to open up the future

Basic Policy

Improve the revenue base of existing businesses
Strong core businesses driving profit higher

We will strengthen earnings in our existing businesses by shifting our business structure and improving and reforming work processes.

Expand business fields and domains
New fields creating sales

To ensure that we enter a growth track, we aim to use alliances and M&A to build new businesses and enter new fields and domains.

Maintain a sound financial constitution
Stable frame supporting growth

We will maintain sound financial standing that offers a balance of shareholder returns and investment in growth to support our sustained growth into the future.

Results of main activities in FY 2018

- Started construction on synthesis plant no. 9 (Fine Chemicals Business) at Okayama Factory
- Increased obtainment of JGAP*1 instructor certification by all Crop Protection sales staff in Japan
- Improved earning structure by shifting to high value-added items

- In the Fine Chemicals Business, achieved more efficient shipping operations through business alliance with other company
- In the Crop Protection Products Business, rebuilt the supply structure for our self-developed product Kasugamycin in global markets

- Four consecutive years of increased dividends
- 10.0% ordinary income margin
- 0.09 D/E ratio*3
- 59.5% capital adequacy ratio
- 12.8% ROE*4

Main activities in FY 2019

Expanding production structure

- Strict project management for the smooth start-up of synthesis plant no. 9 at Okayama Factory
- Decision on future crop protection product manufacturing facilities for the purpose of increasing profit margin through a manufacturing innovation project

Establishing a sales growth trend

- Establishment of new formulation technology to expand volume of contracted crop protection product manufacturing
- Acquisition of GMP*2 management system for the purpose of business expansion in the pharmaceutical field
- Promotion of business and capital alliances, M&A

Strengthening risk management

- Strengthening of the production management structure using a system to avoid unexpected losses

Advancing work-style reforms using RPA*5

- Deployment in production, logistics, and sales divisions

Synthesis plant no. 9 at Okayama Factory

In July 2018, we began construction of synthesis plant no. 9 within Okayama Factory to expand production capacity in the Fine Chemicals Business.

The plant is constructed mainly for the purpose of contract manufacturing, and is designed to meet diverse needs with optimally located stainless steel and glass-lined*6 reactors and rectification towers.

The plant will realize safe production with less manpower through automation and remote operation from a control room for liquid filling machines, rectification towers, and other equipment. A central computer will consolidate operational data to ensure stable product quality.



Conceptual drawing

Factory Overview

Location and area	402 Muneage, Tamano-shi, Okayama (within Okayama Factory), approx. 1,200 m ²
Main new building	5-story steel-frame structure, floor area of 1,229 m ² , building area of 675 m ²
Main production equipment	8 chemical reactors and auxiliary equipment such as rectification towers
Production capacity	430 t/year (equivalent to 14% of Okayama Factory)
Construction completion and start of production	Plant construction is scheduled for completion at the end of November 2019, with production planned to commence in December
Plant facilities investment and financing	Approx. ¥2.3 billion (building, equipment), self-financed

Stock acquisition to make C. Murata & Co., Ltd. a subsidiary

As of March 18, 2019, we acquired all shares of C. Murata & Co., Ltd. (C. Murata) and have made it a subsidiary. C. Murata has a history of more than 130 years. It successfully shifted its business model from being a long-time textile wholesaler to a trading company exclusively dealing in textile materials. Currently it develops and offers advanced, multifunctional products through materials development from the raw materials and use of proprietary supplemental processing. Its products are used in a wide range of fields including automotive, furniture, bags, shoes, apparel, and for pets, disaster prevention, and caregiving.

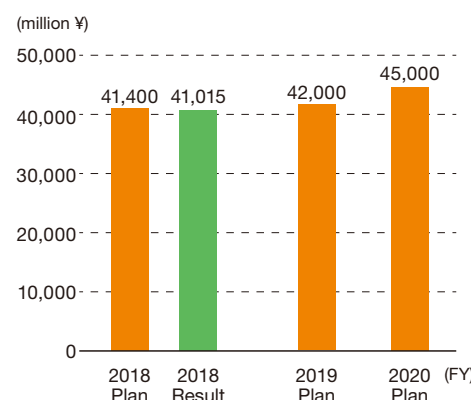
By making C. Murata a subsidiary, we will not only be able to develop and produce materials based on user needs and demand trends but also are aiming to demonstrate synergies and create new added value by integrating the skills, know-how, networks, and other aspects of C. Murata with our production and manufacturing functions as well as our research and development function and the marketing function of our subsidiary Hokko Sangyo Co., Ltd. (sales of antibacterial and antifungal products and Fine Chemicals products).

Company Profile of C. Murata & Co., Ltd.

Trade name	C. Murata & Co., Ltd.
President	Makoto Shimokawa
Head office	2-3-2 Kawaramachi, Chuo-ku, Osaka-shi, Osaka
Tokyo Branch	10-14 Tomizawa-cho Nihonbashi, Chuo-ku, Tokyo
Capital	¥100 million
Equity share	100%
Business description	Sales of industrial textile materials, bag and shoe textile materials, apparel textile materials

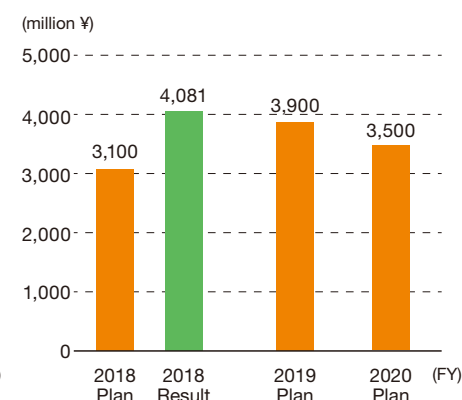
Plan and Results

Sales

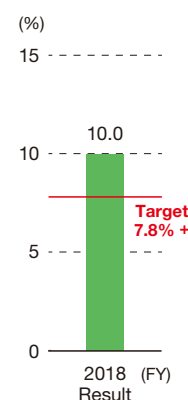


Ordinary income

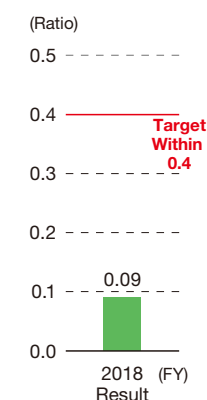
Our plan for FY 2020 has not changed from our initial plan due to factors including depreciation as a result of synthesis plant no. 9 at Okayama Factory, scheduled for completion in December 2019.



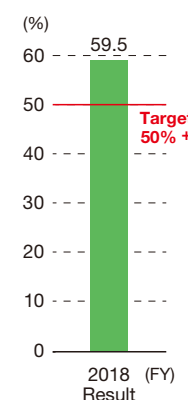
Ordinary income margin



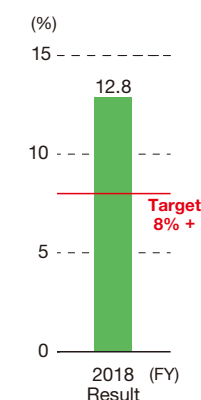
D/E ratio



Capital adequacy ratio

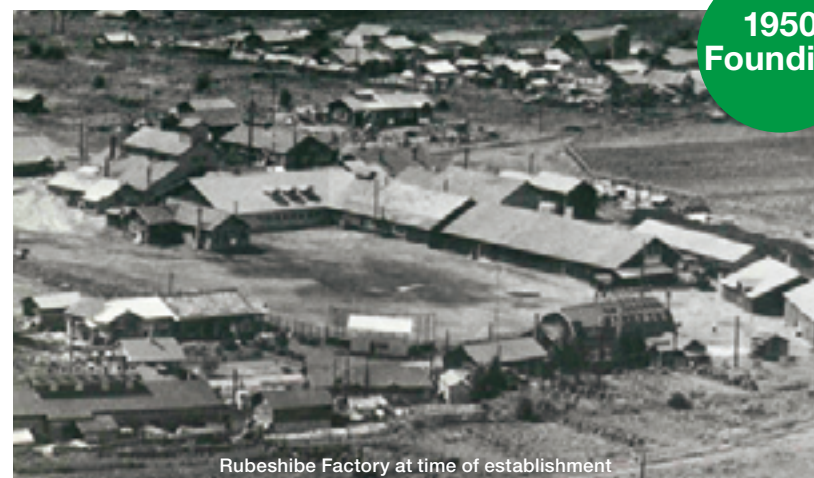


ROE



History of Hokko Chemical Industry

Hokko Chemical Industry was founded on February 27, 1950, when the pharmaceutical division of Nomura Mining Co., Ltd. became an independent company. With our core technology of the Grignard reaction, we have developed the two main businesses of Crop Protection Products and Fine Chemicals.



Rubeshibe Factory at time of establishment

The Rubeshibe Factory was established in the town of Rubeshibe, Tokoro District, Hokkaido (currently Kitami City, Hokkaido), where we first got our start. The factory was transferred from Nomura Mining Co., Ltd. when we were established, and continued to manufacture crop protection products until 1969 (the factory is now located in Takikawa City, Hokkaido).

Our trade name “Hokko” is a combination of two kanji characters, one meaning “north,” which forms part of the name of Hokkaido where our business originally started, and the other meaning “to start” (a business).

Start of the Crop Protection Products Business

We inherited the technology built up at Nomura Mining Co., Ltd., and began manufacture and sales of our first product, Bordeaux Dust (copper fungicide).

Using the Grignard reaction technology for organic synthesis, we began to develop and manufacture crop protection products (fungicides) highly effective against rice blast.



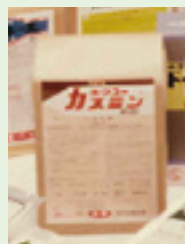
Start of the Fine Chemicals Business

We were the first company in Japan to succeed at industrial production of organometallic compounds using the Grignard reaction. In addition to producing crop protection products using our expertise in reaction technology, we also explored other ways we could contribute to society and industry through chemical products. Our Fine Chemicals Business was born from this and is now one of our leading businesses.

1950 Founding

Crop Protection Products Business

Development of Kasugamycin
We launched Kasugamycin in 1965. It is an aminoglycoside antibiotic isolated from *Streptomyces kasugaensis*, which is produced by microorganisms discovered in the soil of Kasuga Grand Shrine in Nara Prefecture. Kasugamycin is extremely safe and is still used today, more than 50 years after its market launch as a fungicide highly effective against diseases that affect vegetable and fruit tree crops. We have obtained pesticide registration for it in over 40 countries.



Advanced manufacturing technology

In addition to maximizing the efficacy of crop protection products, we offer a wide variety of product types using advanced formulation technology so that crop protection products can be spread more safely and easily.

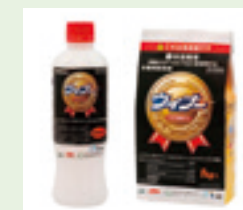
In the 1990s, we jointly developed with Meiji Seika Pharma Co., Ltd. a seedling box formulation using elution control technology that allows the product to be spread on seedling boxes before rice is transplanted and controls pests during the growing season after the rice is transplanted.



Development of ipfencarbazon

We developed ipfencarbazon as the herbicide Winner and launched it in 2014. It demonstrates a high level of safety in paddy rice and residual efficacy against *Echinochloa* sp., which is one of the most noxious weeds in rice paddy fields. We subsequently expanded our lineup to include Kachiboshi, Kimarite, and Gyro herbicide products.

Outside Japan, we registered it in South Korea in 2014 and began sales, and are conducting testing for registration in Asian countries including Taiwan, Vietnam, India, Thailand, and Indonesia.



70th anniversary in 2020

We will be marking our 70th year in business on the anniversary of our founding in 2020.

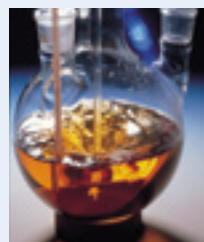
Our group has continued to grow while undergoing many changes. Looking ahead to our 100th anniversary in 30 years, we will tackle every change that comes while mobilizing the manufacturing traditions that have been passed down since our founding and open the doors to our future.

Fine Chemicals Business

Strengthened business development

The Fine Chemicals Business began operating as an independent division in 1969, when it began manufacturing raw materials for vinyl chloride stabilizers.

We began focusing on development of the Fine Chemicals Business in the 1970s, using Grignard reaction technology to grow this business into our second major business unit. In the late 1970s, the business had grown to reach close to 10% of our total sales.



Products for wide-ranging fields

We began manufacturing our leading product Triphenylphosphine (TPP), an organophosphorous ligand for catalysts, in 1968. Later, we entered the fields of raw materials for vinyl chloride stabilizers and industrial and household-use biocides.

From the late 1970s, we began offering raw materials for synthetic fragrances and pharmaceutical raw materials and intermediates. In the 1980s, we began working with raw materials for functional polymers, and in the 2000s, we launched sales of raw materials for catalysts that clean automotive exhaust.



Today, we offer products for the resin, electronics materials, pharmaceutical, and agrochemical fields.

Global production structure

Backed by the steady performance of our business units, in 2002 we established the subsidiary Zhangjiagang HOKKO Chemical Industry Co., Ltd. in Jiangsu, China as a production base for Fine Chemicals products.

We built a second plant there in 2009 to establish a global production structure in coordination with the Okayama Factory in Japan.



History

- **1950**
Feb. Hokko Chemical Co., Ltd. founded, with the Head Office initially established in Chiyoda-ku, Tokyo. Rubeshibe Factory established in Rubeshibe, Tokoro-gun, Hokkaido (currently Kitami City), begin production and sale of crop protection products.
- Dec.** Head Office relocated to Sapporo, Hokkaido.
- **1953**
Nov. Company name changed to Hokko Chemical Industry Co., Ltd. (present name).
- Dec.** Head Office relocated to Chiyoda-ku, Tokyo, and Okayama Factory established in Tamano City, Okayama Prefecture.

- **1954**
Nov. Central Research Laboratories established in Kamakura City, Kanagawa Prefecture.
- **1961**
Mar. Niigata Factory established in Shibata City, Niigata Prefecture.
- **1963**
Apr. Hokko Vardal Co., Ltd. (currently consolidated subsidiary Hokko Sangyo Co., Ltd.) established.
- **1966**
Nov. Central Research Laboratories relocated to Atsugi City, Kanagawa Prefecture (present location).

- **1967**
Dec. Biei Hakudo Industry Co., Ltd. established (currently a consolidated subsidiary).
- **1969**
Jan. Head office relocated to Chuo-ku, Tokyo.
- **1970**
Jan. Hokkaido Factory established in Takikawa City, Hokkaido (present location), relocated from the Rubeshibe Factory.
- **1972**
Jan. Fine Chemicals Department established (currently the Fine Chemicals Business Group).

- **1982**
Mar. Shizuoka Experimental Farm established in Sagara-cho, Haibara-gun, Shizuoka Prefecture (currently Shirai, Makinohara City).
- **1985**
Sept. Hokkaido Experimental Farm established in Naganuma-cho, Yubari-gun, Hokkaido.
- **1987**
May Listed on the First Section of Tokyo Stock Exchange.
- **1989**
Jul. Fine Chemicals Research Laboratories established within the grounds of Central Research Laboratories.

- **1991**
Aug. Hokko Pax, Ltd. established (currently a consolidated subsidiary).
- **2002**
Aug. Zhangjiagang Hokko Chemical Industry Co., Ltd. established in Jiangsu, China.
- **2009**
Dec. Multipurpose synthesis plant (Synthesis Plant No. 8) with a clean room constructed at Okayama Factory.
- **2012**
Jul. Munich Representative Office opens in Munich, Germany. Pilot scale laboratory constructed at Central Research Laboratories.

- **2015**
Jan. Head Office relocated to Nihonbashi-Honcho, Chuo-ku, Tokyo (relocated Head Office registered in August).
- **2016**
May HOKKO Chemical America Corporation established in North Carolina, USA.
- Nov.** Niigata Factory Branch Plant constructed in Seiro-machi, Kitakanbara-gun, Niigata Prefecture.
- **2019**
Mar. Acquired all shares of C. Murata & Co., Ltd. and made it a subsidiary.

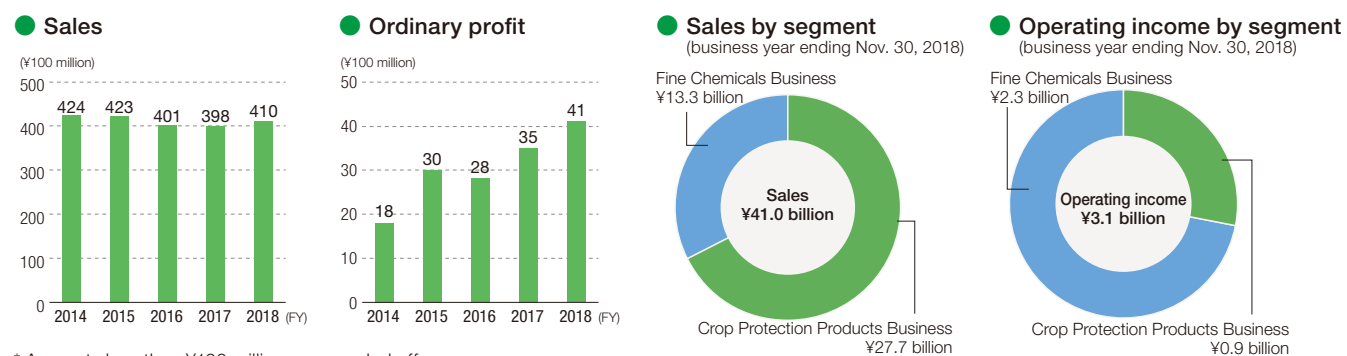
Company Overview

Non-consolidated Data (as of Nov. 30, 2018)

Corporate name: Hokko Chemical Industry Co., Ltd.
Head office: 1-5-4 Nihonbashi-Honcho, Chuo-ku, Tokyo 103-8341 Japan
Established: February 27, 1950
Capital: 3,214 million yen
Listed exchange: First Section of the Tokyo Stock Exchange
President: Yoshikatsu Nakashima
No. of employees: 628
Business description:

Crop Protection Products Business
 Manufacture and sale of insecticides, fungicides, herbicides, plant growth regulators, and related products
Fine Chemicals Business
 Manufacture and sale of pharmaceutical and agrochemical intermediates, raw materials for electronics components, catalysts, raw materials for functional polymers, raw materials for fine ceramics, preservatives*, antifungal agents*, and related products*
 * These products are sold only in Japan.
URL: <https://www.hokkochem.co.jp/english>

Financial Highlights (Consolidated)



Shareholder Information

Stock Information (as of Nov. 30, 2018)

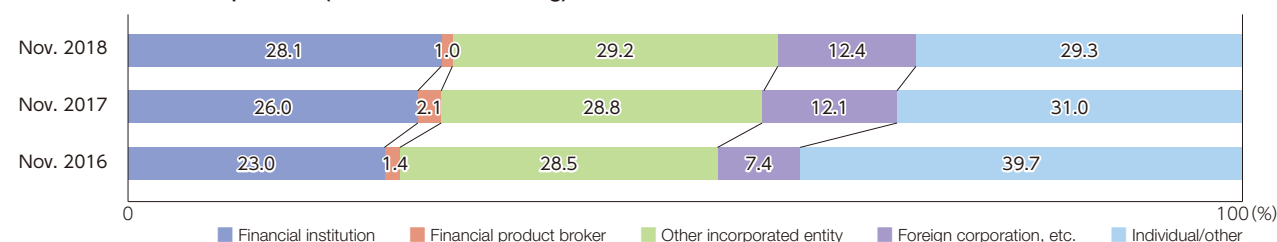
Total no. of issuable shares: 92,000,000
Total no. of issued shares: 29,985,531
No. of shareholders: 4,202

Major Shareholders (as of Nov. 30, 2018)

Shareholder name	No. of held shares (1,000 shares)	Shareholding (%)
Nomura Shokusan Co., Ltd.	2,103	7.77
Sumitomo Chemical Co., Ltd.	1,968	7.27
Resona Bank, Limited.	1,352	4.99
Hokko Chemical Industry Employee Shareholding Association	1,269	4.69
Japan Trustee Services Bank, Ltd. (trust account)	1,142	4.22
The Norinchukin Bank	868	3.21
Nomura Holdings, Inc.	836	3.09
National Federation of Agricultural Cooperative Associations (ZEN-NOH)	801	2.96
The Master Trust Bank of Japan Ltd. (trust account)	788	2.91
Nomura Real Estate Holdings, Inc.	709	2.62

* Hokko holds 2,903,000 shares of treasury stock but is not included in the list of major shareholders. Shares of treasury stock are also not included in calculations of shareholding percentage.

Shareholder Composition (Ratio of Shareholding)



TOPICS

SDGs and Hokko Group activities

The Sustainable Development Goals (SDGs) are international goals to undertake from 2016 to 2030 stated in the 2030 Agenda for Sustainable Development, which was adopted at the United Nations Sustainable Development Summit of September 2015. The SDGs consist of 17 goals and 169 targets to achieve a sustainable world and represent a call to action for governments and companies. At Hokko Group, we are taking steps to achieve the SDGs through our Crop Protection Products Business and our Fine Chemicals Business.



SDGs and main related Hokko Group activities

SDG relevant to our business	Main related activities	Listed page
Goal 2: ZERO HUNGER End hunger, achieve food security and improved nutrition and promote sustainable agriculture	Provide society with safe and reliable crop protection products contributing to a stable food supply.	p.9-10
Goal 5: GENDER EQUALITY Achieve gender equality and empower all women and girls	Declare our respect for diversity in our Basic Compliance Policy and the Hokko Chemical Industry Group Code of Conduct. Take steps to increase the number of women job applicants and percentage of women managers.	p.15 —
Goal 6: CLEAN WATER AND SANITATION Ensure availability and sustainable management of water and sanitation for all	Work to prevent water pollution.	p.20
Goal 7: AFFORDABLE AND CLEAN ENERGY Ensure access to affordable, reliable, sustainable and modern energy for all	Promote energy conservation activities.	p.19
Goal 8: DECENT WORK AND ECONOMIC GROWTH Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	Obtain OHSAS 18001 certification and promote occupational health and safety.	p.21
Goal 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Promote innovation through research and development on Crop Protection products and Fine Chemicals products.	p.13
Goal 12: RESPONSIBLE CONSUMPTION AND PRODUCTION Ensure sustainable consumption and production patterns	Take steps to appropriately manage chemical substances and waste and reduce their discharge. Issue the Hokko Report and publish information related to sustainability.	p.20 —
Goal 13: CLIMATE ACTION Take urgent action to combat climate change and its impacts	Establish a business continuity plan (BCP). Take steps to conserve energy and reduce CO ₂ emissions.	p.16 p.19
Goal 14: LIFE BELOW WATER Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Appropriately treat wastewater and reduce wastewater impacts.	p.20
Goal 15: LIFE ON LAND Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	Conduct greening activities at our factories.	—

Business Description

Crop Protection Products Business

Hokko's products ensure crop protection from seed treatment to harvesting

In our Crop Protection Products Business, we have manufactured and sold safe and effective agricultural chemicals since our founding with the motto "Hokko's products ensure crop protection from seed treatment to harvesting."

Agricultural Chemicals R&D

Crop protection products protect crops from diseases, pests, and weeds to support the safety and affluence of our food supply with the stable supply of agricultural crops. They also offer other benefits such as reducing agricultural labor and are indispensable to agriculture.

Developing crop protection products involves not only tests of agricultural chemicals' efficacy and non-target phytotoxicity, but also many tests related to safety. For this reason, it can take more than 10 years and tens of billions of yen to develop a new agricultural chemical. Of all the new chemical compounds, it is said that 1 in 50,000 gets registered as an agricultural chemical.

Starting with kasugamycin (antibiotic fungicide for paddy rice and horticulture), which is highly effective at controlling the fungus that causes rice blast, a destructive disease found in cultivated rice, our development team has successfully developed many new active

components. Another is ipfencarbazone (paddy rice herbicide), which demonstrates a high level of safety in paddy rice and is effective against the lowland weed barnyard grass. We have earned a reputation for our expertise in chemical formulations that greatly contribute to improving pest and disease control technology and labor savings.



Test location

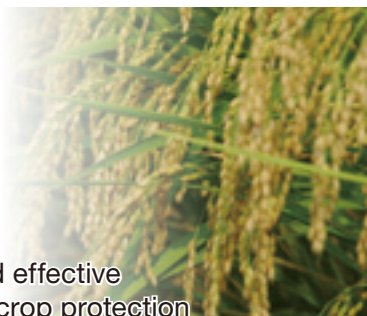
Production Structure

We operate three factories in Japan that are equipped with the latest facilities and technologies to produce high-quality products. We give due consideration to both the surrounding environment and working conditions in our production operations and take all possible measures to prevent water, air, and other forms of pollution.

We also contract the manufacture of formulated products including some insecticides, fungicides, and herbicides as well as repacking.



Niigata Factory Liquid Plant No.1



Business in Japan

Diverse product lineup and support structure

We sell more than 200 products including insecticides, fungicides, and herbicides for paddy rice, vegetable crops, and fruit orchards through JA branches nationwide in Japan.

to ensure that our crop protection products are used safely and effectively.

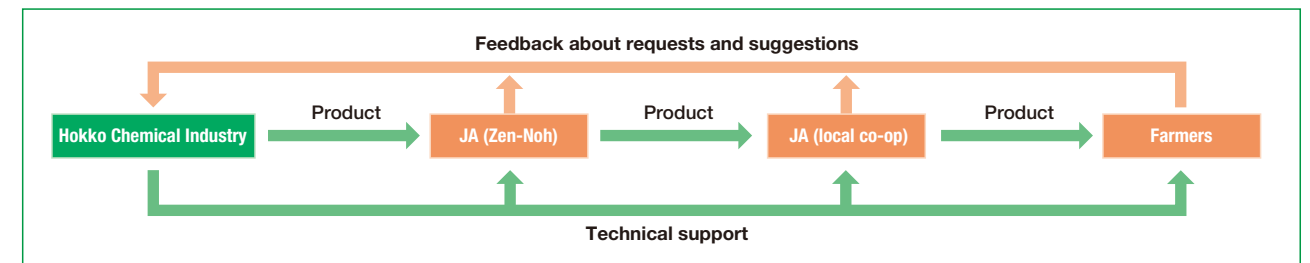
We have seven branches that serve as sales offices in Japan and sales representatives stationed in every prefecture to provide service at the local level.

We offer detailed information to distribution organizations such as JA, experimental farms, agricultural extension centers and other instructional organizations, and to the farmers who use our products



Leading products

Support System



Global Business

Operating business mainly in Asia and the Americas

We sell products that we develop in markets in Asia and the Americas, primarily kasugamycin, a fungicide and bactericide for paddy rice and horticulture, and ipfencarbazone, a paddy rice herbicide. To expand use of these products, we established Hokko Chemical America Corporation in North Carolina, USA, in May 2016. This subsidiary is engaged in sales promotion in the North, Central, and South American markets.



Leading products sold globally

We constructed the Niigata Factory Branch Plant in November 2016 as a production plant exclusively for kasugamycin to build a stable supply structure for expanded exports. In December 2018, we secured an experimental farm in Vietnam to conduct tests on the efficacy and harm of ipfencarbazone for the purpose of developing crop protection products suited to tropical regions.

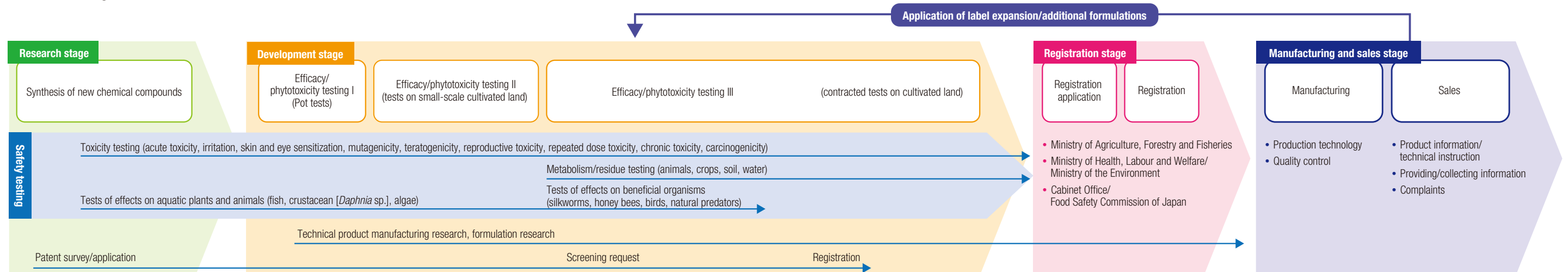


Kasugamycin for the USA



Niigata Factory Branch Plant

Manufacturing and Sales Process Flow from R&D



Fine Chemicals Business

Contributions to the development of industry and society by building upon original technologies

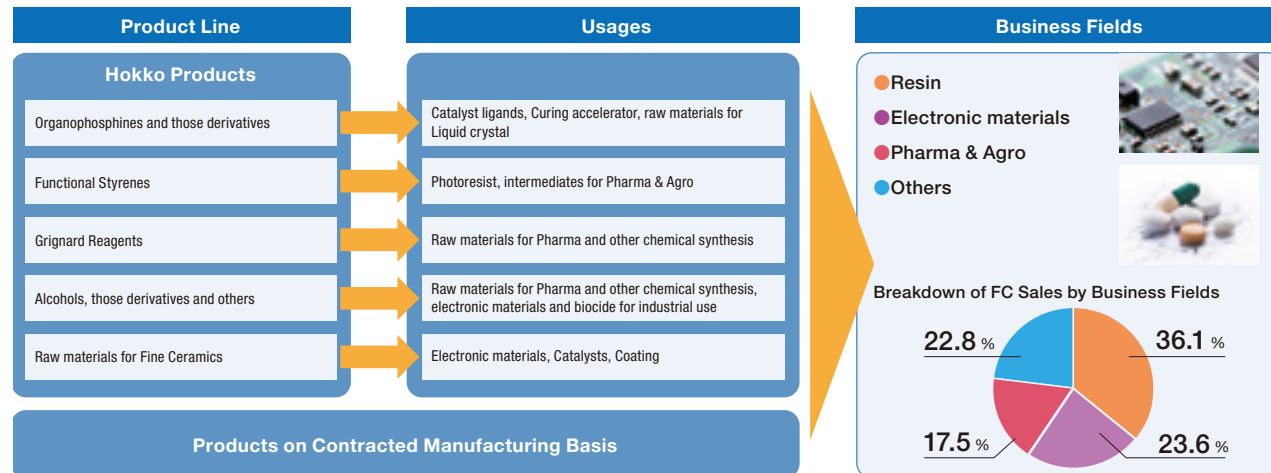
Our Fine Chemicals Business supplies a wide range of business fields with products made using its core technology represented by Grignard reaction.

Hokko Fine Chemicals Products

We use the generic name of "fine chemicals" for highvalue added chemicals produced in small quantities versus mass-produced chemical products. To meet the needs of society and markets, our Fine Chemicals Business Unit supplies high purity, high performance, and high value-added products made using our original

manufacturing technology based on the Grignard reaction. These products are used in resins, electronics components, pharmaceuticals & agrochemicals, and other fields to support the development of industry and affluent living.

Business Description



Hokko Technology Grignard Reaction

The Grignard reaction was developed in 1900 by the French chemist Victor Grignard. It is the generic name for reactions involving an organomagnesium halide compound (Grignard reagent). Grignard reagents are widely used in industry, but reaction temperature control

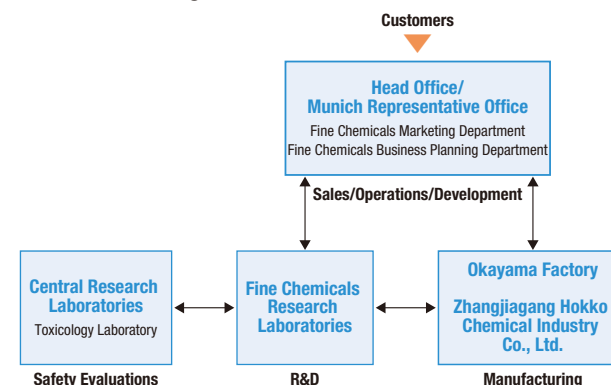
during reagent synthesis is challenging, and few companies conduct large-scale synthesis of Grignard reagents. We meet a wide range of customer needs using our world-leading technologies and production scale.

Fine Chemicals R&D, Manufacturing, and Sales System

We conduct integrated research and development through the coordinated efforts of our Fine Chemicals Marketing Department and Fine Chemicals Business Planning Department at the Head Office and the Fine Chemicals Research Laboratories.

Our Okayama Factory engages in efficient production with a total of eight workshops, including clean rooms able to produce pharmaceutical intermediates and raw materials for electronic materials. We are also developing our international operations, with our subsidiary Zhangjiagang Hokko Chemical Industry Co., Ltd. in China the second fine chemicals production site after the Okayama Factory.

Fine Chemicals Product Research, Development, and Manufacturing Processes

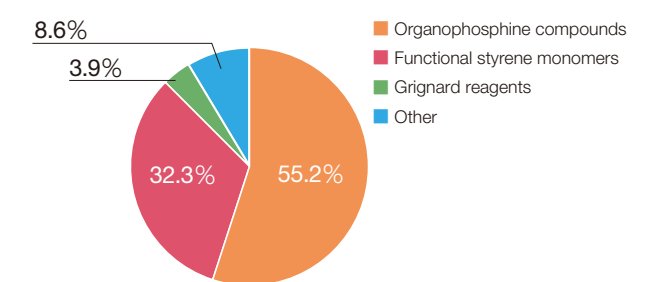


Manufacture and Sale of Hokko Products and Contracted Manufacturing

Hokko Products

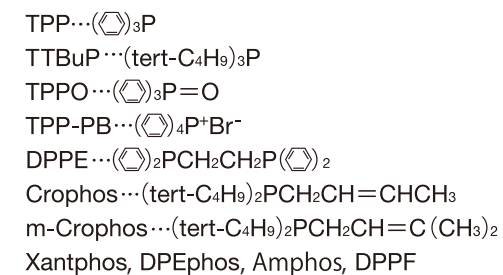
Based on our synthesis technologies and experience in organometallic compounds built up over more than 70 years since our founding, we have developed numerous products using the Grignard reaction as the key technology. Those fine chemical products include electronic materials such as a curing accelerator for epoxy molding compounds, organic catalysts, pharmaceutical raw materials and intermediates, and monomers for functional polymers.

Hokko Product Sales Mix

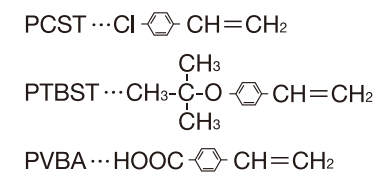


Leading Products

Organophosphine compounds



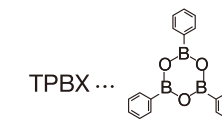
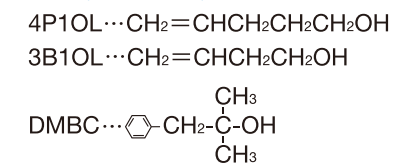
Functional styrene monomers



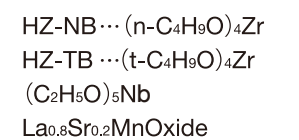
Grignard reagents



Alcohols, derivatives, others



Raw materials for fine ceramics

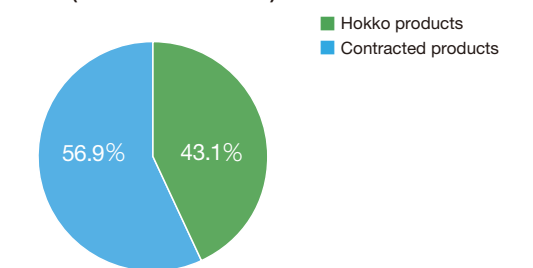


*These products are sold only in Japan.

Contracted Manufacturing

In addition to our own products, we also contract manufacturing based on proposals using Hokko technologies and Hokko raw materials. Leveraging our advanced technologies and know-how built up over many years, we meet customers' detailed needs and requirements using our production system consisting of multipurpose manufacturing units of various sizes equipped with the latest facilities.

Sales Mix (Hokko/contracted)



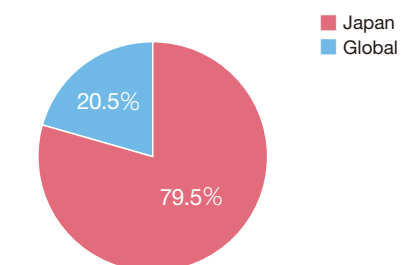
Global Marketing

We opened our Munich Representative Office in 2012 to serve as our new marketing base in Europe. Through this office, we are able to more quickly respond to our customers in Europe and aim to capture new demand.



Munich Representative Office (building housing the office)

Japan and Global Sales Mix



* All graphs on p.11-12 are based on non-consolidated data from FY 2018 actual results.

Research & Development

At our Central Research Laboratory and Fine Chemicals Research Laboratory, we are improving our R&D capabilities and promoting R&D under the slogan of “Continuous Development for New Technology: Challenge to Innovation.”

Crop Protection Products Business

Central Research Laboratories

- Location: Atsugi City, Kanagawa
 - Site area: 22,000 m²*
 - No. of employees: 123* (as of Nov. 30, 2018)
- * Includes the Fine Chemicals Research Laboratories



Central Research Laboratories and Fine Chemicals Research Laboratories

The Central Research Laboratories opened in 1966 after relocating laboratories from Ofuna, Kamakura City, Kanagawa Prefecture. It is involved in creation of new technical products for crop protection products, developing new crop protection products, and providing technical support for sales. In 2016, it obtained certification of compliance with standards for proper testing of toxicity and residues of agricultural chemicals (Good Laboratory Practice [GLP] for Agricultural Chemicals).



Experimental Farms

Hokkaido Experimental Farm

- Location: Yubari-gun, Hokkaido
- Site area: 19,700 m²
- Established: 1985



Shizuoka Experimental Farm

- Location: Makinohara City, Shizuoka
- Site area: 23,800 m²
- Established: 1982



Conducts experiments to develop crop protection products meeting local needs, mainly using cultivated land designated for experiments. The Atsugi Experimental Farm is attached to the Central Research Laboratories.

Fine Chemicals Business

Fine Chemicals Research Laboratories

The Fine Chemicals Research Laboratories was established in 1989 on the grounds of the Central Research Laboratories to augment the R&D team at our Atsugi research facilities in conjunction with expansion of our Fine Chemicals Business. It conducts research and development on fine chemicals, raw materials for fine ceramics, and antifungal agents.



Manufacturing

We are adding to our production facilities and increasing efficiency at our factories, building a robust production structure.

Crop Protection Products Business

Hokkaido Factory

- Location: Takikawa City, Hokkaido
- Site area: 53,000 m²
- No. of employees: 50 (as of Nov. 30, 2018)

Our Rubeshibe Factory, located in Rubeshibe, Hokkaido, where we first got our start, was not located near the main rice-producing region of Hokkaido. We relocated the Hokkaido Factory to the major rice-producing region of Takikawa and completed the factory in 1970. The Hokkaido Factory is our leading crop protection product manufacturing facility in Hokkaido.



Crop Protection Products Business

Niigata Factory

- Location: Shibata City, Niigata
- Site area: 128,000 m²
- No. of employees: 90 (as of Nov. 30, 2018)

We established the Niigata Factory in 1961 in one of the leading grain-growing regions in Japan as the first crop protection product factory located along the Japan Sea. We built the Niigata Factory Branch Plant in 2016 for the purpose of creating a stable supply structure to expand exports of Kasugamycin, our original product.



Crop Protection Products Business

Fine Chemicals Business

Okayama Factory

- Location: Tamano City, Okayama
- Site area: 184,000 m²
- No. of employees: 245 (as of Nov. 30, 2018)

As the first factory attracted by Okayama Prefecture, the Okayama Factory was constructed in 1953 for the purpose of integrated production of crop protection products starting from synthesis of agricultural chemical technical products. In addition to crop protection products, the factory currently produces raw materials for electronics components and fine chemical products including pharmaceutical intermediates.



Fine Chemicals Business

Zhangjiagang Hokko Chemical Industry Co., Ltd.

- Location: Industrial Park in Zhangjiagang, Jiangsu, China
- Site area: 165,000 m²
- No. of employees: 93 (as of Nov. 30, 2018)

We established the wholly owned subsidiary Zhangjiagang Hokko Chemical Industry in 2002 as a manufacturing facility exclusively for fine chemical products. A new plant was added in 2009. In cooperation with the Okayama Factory, Zhangjiagang Hokko Chemical Industry is part of our global production structure.



Corporate Governance

At Hokko Group, we are taking steps to further improve corporate governance with the aim of achieving sustained growth and improving our corporate value.

Basic Approach

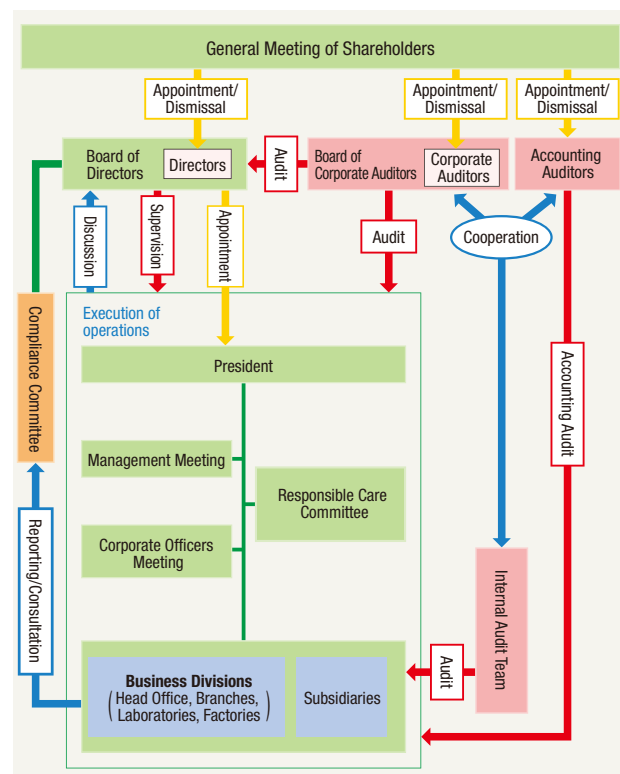
Through implementation of our corporate philosophy and basic management policy, we are pursuing the best model of corporate governance for our company to achieve sustained growth and improved mid- to long-term corporate value.

We are taking steps to improve our corporate governance based on our understanding that working together with stakeholders and maintaining a strong awareness of compliance are vital to achieving sustained growth and improving our corporate value in the mid- to long term.

Overview of Corporate Governance Structure

We adopt the form of a company with corporate auditors. The Board of Directors supervises the execution of duties of directors, and corporate auditors conduct audits. We adopt a corporate officer system for the execution of operations. Corporate officers are tasked with this execution under the supervision of the Board of Directors. In addition to outside corporate auditors with a high level of expertise appointed to conduct audits, we work to strengthen our audit function through the integrated efforts of corporate auditors, an internal audit team independent of divisions in charge of execution of operations, and accounting auditors.

● Corporate Governance System



Compliance

We position compliance as a management issue of the highest priority. To ensure that operations are conducted both fairly and efficiently, we have established our Basic Basic Compliance Policy, the Hokko Chemical Industry Group Code of Conduct, and our Basic Regulations on Legal Compliance. Executives and staff base their conduct on laws and regulations as well as on common sense and propriety.

We have set up the Compliance Committee to propose our basic policy on compliance, conduct standards, and related matters as well as to implement education and training on compliance. Corporate auditors and the internal audit team conduct audits of compliance at business divisions and Group companies.

We have set the month of September as Compliance Month for the purpose of increasing employee awareness of compliance with laws and regulations and hold trainings in business divisions and departments. On our intranet system, we publish four-panel comic strips illustrating examples of compliance violations and a quiz-type compliance newsletter that can be used as compliance education materials in workplaces.

In addition to an internal hotline we have set up for reporting and seeking advice related to compliance, we have also set up an external reporting center to encourage consultations and reports related to compliance.

Basic Compliance Policy

Compliance with Laws and Regulations

We conduct our activities in compliance with Japanese and international laws, regulations, and rules as well as with our internal regulations, and with strong ethical values and social propriety.

Respect for Diversity

We respect the human rights, character, and individuality of all people irrespective of nationality, gender, age, or belief system, and strive to prevent harassment and other unfair treatment in the workplace.

Fair Company Activities

We conduct business under fair, transparent, and free competition based on reasonable conditions.

Proper Handling of Information

We appropriately manage information including that received from our business partners, and release information to our stakeholders and investors as appropriate.

Exclusion of antisocial and criminal elements

We have no relationships with anti-social forces with the resolve to eliminate their influence in society.

Protection of the Global Environment

We strive to prevent environmental pollution to protect the global environment and reduce environmental impacts.

Prevention of Misconduct

We enhance the effectiveness of systems to prevent misconduct in order to prevent damage to our corporate value.

Integrity in Responding to Misconduct

When misconduct does occur, we conduct an investigation, identify the causes, and take the appropriate action.

We have established explicit internal regulations for the hotline and reporting center to protect the privacy and confidentiality of people making reports or seeking advice, and ensure that people are not disadvantaged due to seeking advice or making a report.



Compliance Newsletter

Business Continuity Plan (BCP)

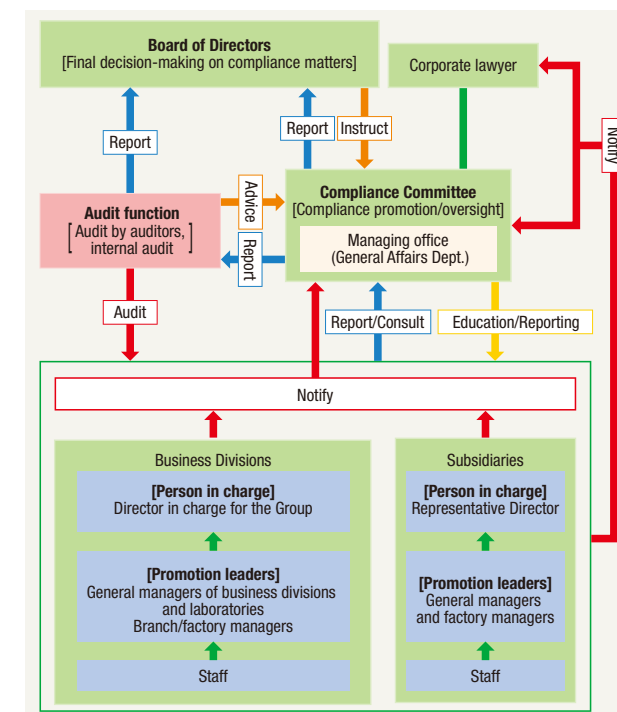
We have drafted a business continuity plan (BCP) in the event of a large-scale disaster such as an earthquake striking directly under the Tokyo region for the purpose of minimizing the damage to our business assets, continuing our core business operations, and quickly recovering from the disaster.

This BCP defines the necessary policy, the structure, and other basic matters for sustaining a stable product supply, and aims to fulfill our supply responsibility as a manufacturer by continuing our business operations even in the event of a major disaster.

In addition, to ensure the effectiveness of our BCP, every year we conduct education and drills, and make revisions where issues are identified to enhance the content of our BCP and review new potential issues. In FY 2018, we drafted BCP for the event of a factory fire.

We have also introduced a safety confirmation system to quickly confirm the safety of all of our employees in the event of a major earthquake or other disaster. We conduct regular tests of this system and make other preparations for unforeseen events to foster an awareness of crisis management among employees on an ongoing basis.

● Compliance Promotion Structure



Complaint Response Team

We seek to improve our quality management system in manufacturing divisions to prevent the occurrence of product complaints. We believe that in the event of a product complaint, responding promptly, accurately, and with integrity and striving to prevent recurrences is of utmost importance to remain a company that is trusted by society.

We define complaints as the spectrum of expressions of dissatisfaction with our company, from complaints about our products to dissatisfaction with our sales, technologies, and other services, complaints related to our factories and laboratories, and other complaints from our stakeholders. We have put in place a response team to deal with complaints.

We use the PDCA cycle to investigate the causes, process complaints, and devise prevention measures. A robust system to deal with complaints facilitates improvements in our business activities, quality, and operations as well as improvements in our service to our customers and all other stakeholders.

Responsible Care Management

As a company that handles chemical substances, internally we prioritize ensuring safety, health and the protection of the environment from product development through to product disposal, publicly releasing the results of these efforts, and deepening understanding through mutual dialogue.

Basic Policy on the Environment, Safety and Health

We conduct Responsible Care (RC) activities, a voluntary management initiative of the chemical industry to protect the environment and ensure safety and health, based on our Basic Policy on the Environment, Safety and Health and our Responsible Care Activity Policy. These activities encompass the areas of environmental protection, occupational health and safety, process safety and disaster prevention, distribution safety, chemical products safety, and communication with the public.

Basic Policy for the Environment, Safety and Health



Revision date: August 1, 2012
(Established in September 1996)

We are committed to giving the highest priority to the following initiatives for environment protection, safety and health throughout our business activities, including R&D, manufacturing and sales.

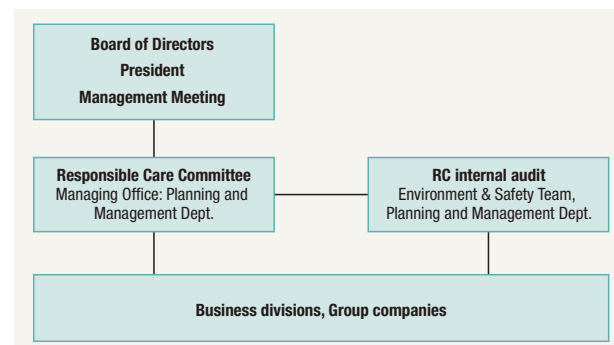
1. We ensure the safety of local communities and of our employees by keeping our operations free of occupational incidents and accidents.
2. We ensure the safety and health of our stakeholders, including our customers, general consumers, our logistics partners and our employees, through our gathering and organizing of the latest safety information on chemical substances and products, and by providing it to the parties concerned.
3. We provide products that can be used by our customers with satisfaction and assurance.
4. We strive to reduce our environmental impact throughout the product life cycle, from development to disposal.

The personnel at all of our divisions recognize the importance of our basic policy and strive to make improvements in a continuous way, as well as complying with laws and regulations.

Yoshikatsu Nakashima
President

HOKKO CHEMICAL INDUSTRY CO., LTD.

Responsible Care Promotion Structure



ISO 9001, ISO 14001, OHSAS 18001 Certifications

Location	Certification Date			
	ISO 9001	ISO 14001	OHSAS 18001	
Hokko factories	Hokkaido Factory	Dec. 1995	Jan. 2000	Apr. 2006
	Niigata Factory	Jan. 1995	Mar. 1999	Feb. 2006
	Okayama Factory	Jan. 1995	Jan. 2000	Apr. 2006
Group companies	Hokko Pax, Co., Ltd., Okayama Office	—	Jan. 2000	Apr. 2006
	Zhangjiagang Hokko Chemical Industry Co., Ltd.	Nov. 2007	Dec. 2007	—

RC Internal Audits (Environment & Safety Audits)

The Environment & Safety Team in the Head Office Planning and Management Department regularly conducts RC internal audits of our factories, laboratories, and Group companies. The locations carry out systematic improvements based on the guidance and instructions received in audits.



Responsible Care Committee (Head Office)



RC internal audit (Hokkaido Factory)

Responsible Care Promotion Structure

We have established the Responsible Care Committee, with the President serving as committee chair and officers in charge of business groups and others serving as committee members, to oversee our companywide RC activities.

The Responsible Care Committee deliberates on our Basic Policy on the Environment, Safety and Health and related targets and plans. Business locations and group companies also conduct RC activities and establish a system corresponding to their operations.

Our factories have obtained certifications in quality management (ISO 9001), environmental management (ISO 14001) and occupational health and safety management (OHSAS 18001).

Targets and Results of Responsible Care Activities

We set targets for environment and safety issues and conduct an ongoing cycle of improvement activities. We also conduct and publicly release environmental accounting reports to evaluate the costs and benefits of our environmental protection measures.

FY 2018 Responsible Care Activity Results and FY 2019 Targets

Item	FY 2018 Target	Result	Self-evaluation	FY 2019 Target
Environmental protection	Reduce environmental load Companywide energy management and energy conservation	Unit energy consumption YoY: -2.2% (p. 19)	○	Reduce environmental load Companywide energy management and energy savings
	Manage wastewater at or below our voluntary management criteria	COD emissions YoY: -14.1% (p. 20)	○	Manage wastewater at or below our voluntary management criteria
	Reduce and properly treat waste	Total waste produced YoY: +11.0% (p. 20)	×	Reduce and properly treat waste
Occupational health and safety	Eliminate occupational accidents Improve work environments	Lost time injuries: 3 (p. 21)	×	Eliminate occupational accidents Improve work environments
Process safety and disaster prevention	Eliminate plant accidents	Plant accidents: 0	○	Eliminate Plant accidents
Distribution safety	Ensure distribution safety	Accidents in distribution: 0	○	Ensure distribution safety
Chemical Product Safety	Ensure the chemical product safety	Serious product accidents: 0	○	Ensure the chemical product safety
Social dialogue	Public release of information Exchanges with local communities	Publishing HOKKO REPORT 2018 Community exchanges at business locations (p. 24)	○	Public release of information Exchanges with local communities

Environmental Accounting Scope: Non-consolidated Reporting period: Dec. 1, 2017–Nov. 30, 2018

Environmental conservation cost

Unit: ¥1M

Category	Key Activity and the Outcome	Investment amount	Cost amount
1	Environmental conservation costs to control environmental impacts that result from key business operations within the business area (business area costs)	121	288
Breakdown	Pollution prevention costs	48	117
	Global environmental protection costs	65	0
	Resource circulation costs	8	171
2	Environmental conservation costs to control environmental impacts that result from key business operations upstream or downstream (upstream/downstream costs)	0	10
3	Environmental conservation costs stemming from administration activities (administration costs)	6	72
4	Environmental conservation costs stemming from R&D activities (R&D costs)	0	63
5	Environmental conservation costs stemming from societal activities (societal activity cost)	0	1
6	Costs incurred for dealing with environmental degradation (environmental remediation costs)	0	0
Total		127	434

* Investment amount: Capital investment for environmental conservation

* Cost amount: Depreciation expenses, maintenance and administration expenses for environmental conservation

* Totals may not match due to rounding.

Environmental Conservation Benefit

Environmental conservation benefit categories	Environmental performance indicators (units)	FY 2017	FY 2018	YoY Change
Environmental Conservation Benefit Related to Resources Input into Business Activities	Total energy input (kl)	11,698	11,738	40
	Amount of input water resources (clean water) (1,000 m ³)	361	398	37
Environmental Conservation Benefit Related to Waste and Environmental Impacts Originating from Business Activities	CO ₂ emissions (t-CO ₂)	32,302	31,943	-359
	COD emissions (t)	14.9	12.8	-2.1
	Total amount of discharged waste, etc. (t)	5,539	6,228	688
	Recycled amount (t)	4,113	3,969	-143
	Amount of final waste disposal (t)	434	547	113

Economic Benefit Associated with Environmental Conservation Activities

Unit: ¥1M

Benefit Details	Amount
Sale of valuable articles	9

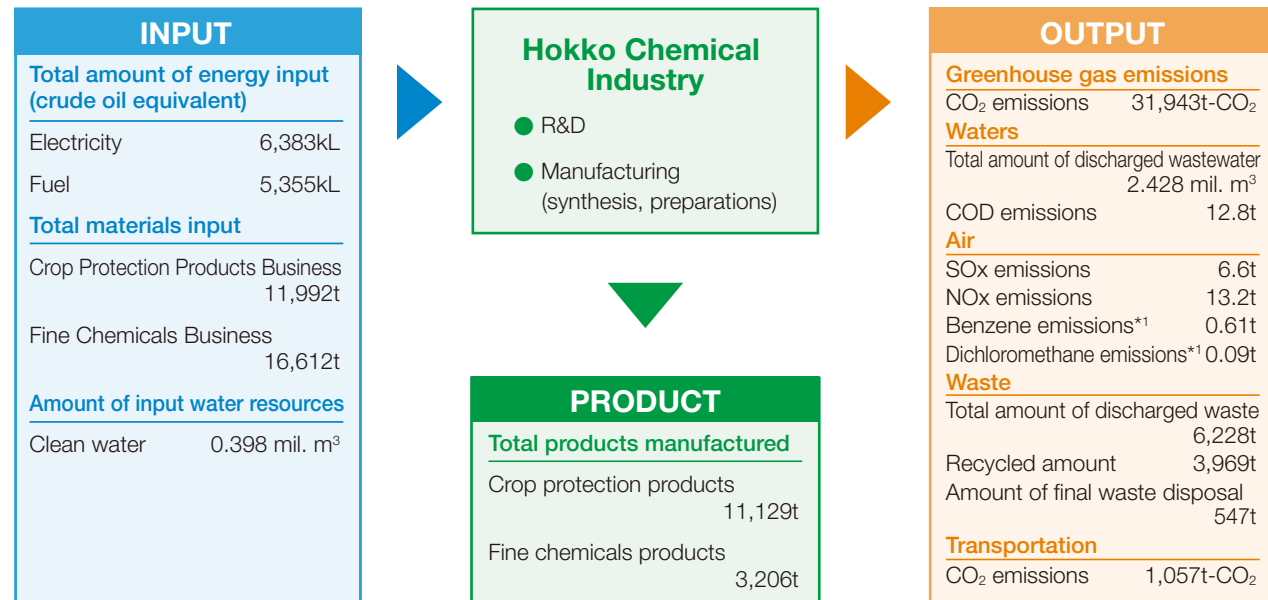
* Calculated in conformance with the Environmental Accounting Guidelines 2005 published by the Japanese Ministry of the Environment and the Environmental Accounting Guidelines for Chemical Companies published by the Responsible Care Committee of the Japan Chemical Industry Association.

Environmental Protection

We calculate the amounts of energy and resources we use, product production volumes, and emissions of substances with environmental load as part of our business activities, and proactively work to save energy, reduce chemical substance emissions, and properly manage waste to protect the environment.

Hokko Chemical Industry Business Activities, Input, and Output

(Reporting scope: Non-consolidated Reporting period: Dec. 1, 2017–Nov. 30, 2018)



*1 Of the hazardous substances that contaminate the air (substances requiring priority action), only substances we emit in large amounts are listed.

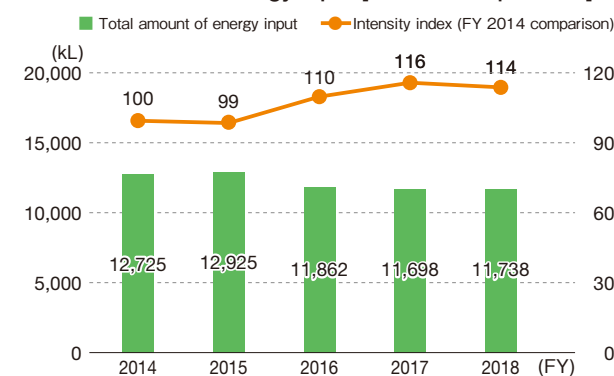
Conserving Energy

We have put in place a companywide energy management organization, revised our facilities and manufacturing processes, and installed LED lights and other energy-conserving facilities as part of our energyconserving activities.

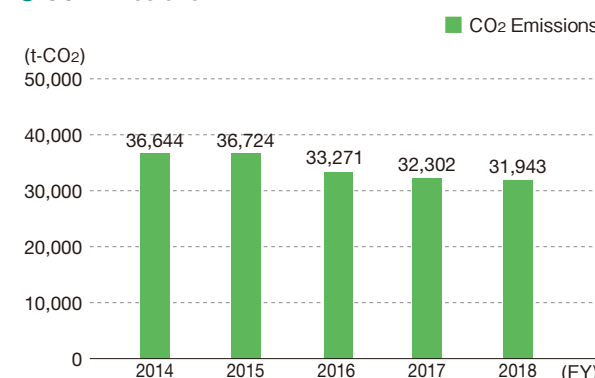
Although our total energy input in FY 2018 increased 0.3% compared with FY 2017, our unit energy consumption*² decreased 2.2%.

*2 Unit energy consumption expresses the intensity index against the FY 2014 baseline of 100 by calculating the total intensity rate of change from the weighted average of the intensity rate of change of each location.

Total Amount of Energy Input [Crude Oil Equivalent]



CO₂ Emissions



Reducing Greenhouse Gas Emissions

The greenhouse gas CO₂ is emitted when using energy and incinerating waste. We are working to reduce our CO₂ emissions by taking actions to conserve energy. We reduced our CO₂ emissions in FY 2018 by 1.1% compared with FY 2017.

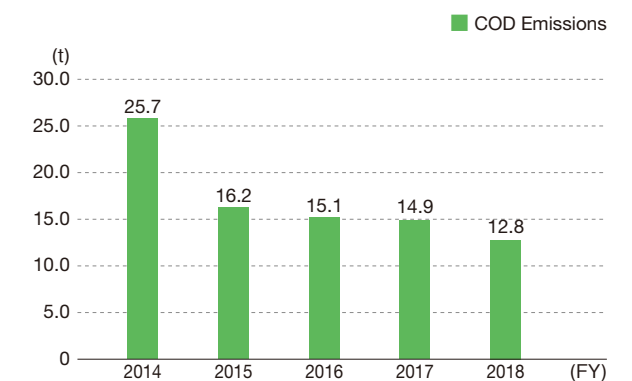
Fluorocarbon refrigerants used in air conditioning and refrigeration equipment are a cause of ozone layer destruction and global warming. We inspect these types of equipment to help prevent leaks of fluorocarbon refrigerants.

Preventing Water Pollution

Wastewater generated in manufacturing processes is discharged to river and ocean waters after removing water contaminating substances through such treatment processes as neutralization, use of activated sludge, flocculation, and precipitation. We appropriately monitor and measure emissions based on laws and other regulations. COD*¹ emissions in FY 2018 were 14.1% lower than in FY 2017.

*1 COD: Chemical Oxygen Demand
One measure of wastewater contamination by organic matter, with a higher number indicating higher organic matter pollution. COD emissions are calculated by multiplying average COD by annual wastewater emissions.

COD Emissions



Appropriate Waste Management

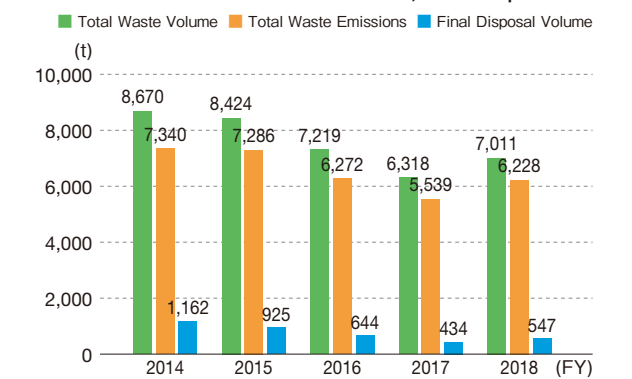
We appropriately treat waste and promote the 3 R's (Reduce, Reuse, Recycle).

Of the waste that we generate, we incinerate waste able to be incinerated at our locations in accordance with disposal standards. We contract treatment of waste that cannot be treated at our locations to treatment providers, and select reliable providers by conducting local inspections and other measures.

Our total volume of generated waste*² in FY 2018 increased 11.0% compared with FY 2017, due to increased production volumes of high-load products.

*2 Waste, etc.: Waste and secondary materials generated during productmanufacturing (including materials with value such as waste paper and metal)

Total Waste Volume/Total Emissions, Final Disposal Volume



Data by Location

FY 2017 & FY 2018 Environmental Load Data by Location

Item	Hokkaido Factory		Niigata Factory		Okayama Factory		Central Research Laboratories/ Fine Chemicals Research Laboratories		
	2017	2018	2017	2018	2017	2018	2017	2018	
Total energy input (crude oil equivalent)	(kl)	213	214	915	782	9,940	10,147	630	595
Waterworks consumption	(1,000 m ³)	3.7	3.8	16.9	16.1	333	370	7.7	8.3
CO ₂ emissions	(t-CO ₂)	534	554	1,881	1,576	28,530	28,585	1,356	1,228
SOx emissions	(t)	0.3	0.4	0.0	0.0	5.9	6.2	0.0	0.0
NOx emissions* ³	(t)	0.0	0.1	0.1	0.1	12.9	12.1	1.0	0.9
Total wastewater	(1,000 m ³)	3.7	3.8	12.5	13.2	2,546	2,398	12.8	12.7
COD emissions	(t)	0.02	0.02	0.01	0.02	14.9	12.7		
Total waste emissions	(t)	111	92	357	397	4,782	5,537	97	96

*3 The method for calculating NOx emissions has been revised and changed.

Occupational Health and Safety, Process Safety and Disaster Prevention

With safe operations and elimination of occupational accidents given highest priority, we conduct independent health and safety activities as part of our efforts to create workplace environments that are safe and easy to work in.

Occupational Health and Safety Initiatives

With safe operations and elimination of occupational accidents given highest priority, we have put in place a health and safety management system and conduct a range of activities related to health and safety including activities to predict risk (called "KY") and 5S (translated as "Sort, Set in order, Shine, Standardize, Sustain") activities. All of our factories have also obtained OHSAS 18001 certification, the international standard for occupational health and safety management systems.

In FY 2018, we conducted a safety awareness questionnaire for all employees at Okayama Factory. Based on the factory's strengths and weaknesses and trends by employee position, years of service, and division revealed through analysis of the survey results, we are conducting new activities to enhance employees' safety awareness aimed at cultivating a safety culture*1.

*1 Safety culture: The mindset of individuals and atmosphere of organizations that give safety the highest priority.

Education and training

We provide education on the health and safety information employees need to know in operations, including our basic approach to safety and safe handling of chemical substances, and promote obtaining of qualifications required in operations. To prepare for emergency situations, we conduct disaster preparedness drills and education in the unlikely event of a fire, chemical substance leak, natural disaster, or other type of disaster. In addition to the health and safety education we have conducted to date, we also conduct trainings on sensing danger using simulations of actual dangers to improve employees' ability to perceive danger.



Risk prediction training ("KY" training) (Laboratories)



Emergency drills (Hokkaido Factory)



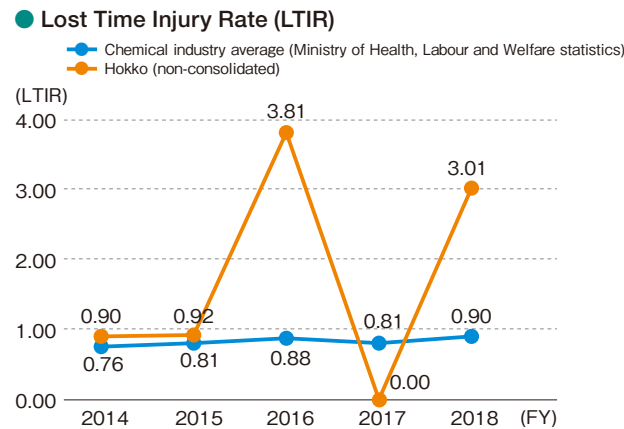
Emergency drills (Niigata Factory)



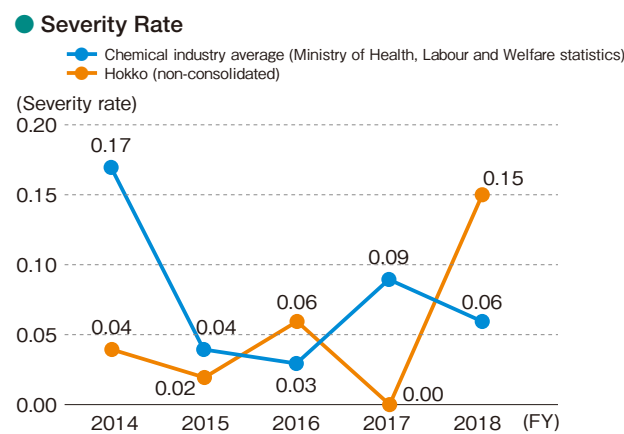
Emergency drills (Okayama Factory)

Occurrence of Occupational Accidents

In FY 2018, there were three incidents of lost time injuries, resulting from falls, getting caught in equipment, and cuts or scrapes. We have improved the facilities, revised the work methods, and put in place countermeasures to prevent recurrences of these incidents. We also share information within the Hokko Group on accidents and disasters to prevent similar accidents or disasters from occurring.



LTIR: Indicator of the frequency of lost time injuries
 $(\text{Number of lost time injuries}) \div (\text{Total working hours}) \times 1 \text{ million}$



Severity rate: Indicator of the severity of occupational accidents
 $(\text{Number of work days lost}) \div (\text{Total working hours}) \times 1,000$

Chemical Product Safety, Distribution Safety

Each business location takes measures to properly handle and manage chemical substances. We clearly specify the product properties and handling methods for the relevant parties and update information as necessary.

Chemical Substances Management

Chemical substances are useful and indispensable to our way of life, but their improper management can lead to environmental contamination and accidents, and carries the risk of adversely affecting human health and ecosystems.

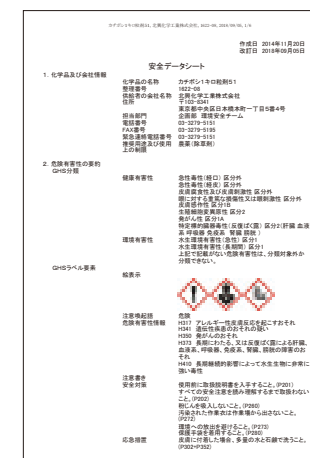
We comply with laws and regulations in handling chemical substances. We also collect safety information, conduct safety tests and risk assessments, and implement appropriate management of chemical substances corresponding to the product stage (R&D, manufacturing, etc.).

Safety Data Sheets (SDSs)

We prepare Safety Data Sheets (SDSs), which list important information for the safe handling of chemical products, for all of our products, and use them when providing information to customers and conducting employee education. SDSs for our leading crop protection products can be found on our website and can also be provided upon emergency request.



<https://www.hokkochem.co.jp/business/pesticide/product-sds>



Safety Data Sheet (SDS)

Management of Electrical Machinery Containing PCBs

Based on the Act on Special Measures for Promotion of Proper Treatment of Polychlorinated Biphenyl (PCB) Wastes, transformers and condensers containing polychlorinated biphenyl (PCB) stored at our facilities are reported to the authorities and strictly managed as industrial waste requiring special management. We are disposing of these electrical devices containing PCB in accordance with legislation.

Distribution Safety

Our factories periodically hold consultations with shipping companies to mutually coordinate and implement environmental and safety initiatives in distribution. To prepare for the unlikely event of an accident while products are being shipped, drivers carry Yellow Cards*1 with them listing information such as who to contact and what measures to take in an emergency. To complement the Yellow Card system, we have introduced the Container Yellow Card labelling system*2, which lists the guide number*3 and UN number*4 on cardboard boxes.



Yellow Card



Container Yellow Card (example on cardboard box)

*1 Yellow Card (emergency contact card): Yellow paper printed with instructions for the driver, fire fighters, police, and other relevant parties to take in the event of an accident. The instructions are given the name "yellow card" because they are printed on yellow paper to make them easy to find in an emergency.

*2 Container Yellow Card (labelling system): To supplement the Yellow Card system, cardboard boxes and product labels list the guide number and UN number.

*3 Guide number: In the emergency response guidelines published by the Japan Chemical Industry Association, chemical substances are classified into 62 groups and assigned numbers based on their common hazards and emergency response measures. In an emergency, information about the emergency response measures to take can be obtained from the guide number.

*4 UN number: Four-digit numbers that identify hazardous materials, assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods and published in the Recommendations on the Transport of Dangerous Goods (Orange Book).

With Stakeholders

Our corporate activities would not be possible without the understanding and support of our stakeholders. Through various forms of engagement with stakeholders, we aim to build upon our trustworthy relations.

With Customers

We work to ensure safety and product quality in all the stages of research and development, manufacturing, logistics, and sales. We listen to feedback from customers and strive to improve our technologies and quality.

Quality Assurance Structure

To stably supply products of excellent quality able to satisfy customers, our factories have obtained ISO 9001 certification, the international standard for quality management systems. After rounds of examinations for maintenance and updates by the certifying body, we obtained the 2015 version of the certification in 2018. We conduct an internal quality audit once a year to confirm whether the management system at our factories is being appropriately and effectively implemented, and factory managers periodically make revisions to the system.

In the Fine Chemicals Business group, we have set up the Quality Inspection Team and the Quality Assurance Team independent from the Production Department to augment our quality assurance structure.

Communication with Customers

Sales staff in the Crop Protection Products Business group in Japan have obtained the JGAP*1 instructor qualification to better propose products that meet customer requests.

The Fine Chemicals Business group actively exhibits at trade fairs and other events to introduce our products and technologies.

*1 JGAP: Japan Good Agricultural Practice. An agricultural production management method for the purpose of ensuring the safety of agricultural crops.



At an exhibition

With Shareholders and Investors

We disclose information appropriately and in a timely manner, and strive to hold constructive dialogue with shareholders and investors looking to achieve sustained growth and improved corporate value.

General Meeting of Shareholders

We position the general meeting of shareholders as an important opportunity to engage in direct communication with all of our shareholders. At the general meeting of shareholders, we use visuals to supplement explanations of our business situation, business plans, and strategy. The notice of convocation of the general meeting of shareholders is released and sent at an early date. We also set up the “Hokko Now” corner, where we introduce our business performance over the last year as well as new products and other topics of note as another way to expand our information sharing.

Management Plan and Financial Closing Briefings

We hold briefings for institutional investors and analysts to discuss our three-year management plan and financial closing. We also aim to build good trustworthy relations with investors through regularly held IR meetings.

Expanding Our Website

We release timely and appropriate IR-related information, including about our management policy and strategy, business performance, and financial information, on our website to deepen understanding for the Hokko Group.

In July 2018, we launched the “Quick and Easy HOKKO” website (in Japanese) to promote understanding of our origins, the Crop Protection Products Business, and the Fine Chemicals Business using easy-to-understand graphics and photos.



<https://www.hokkochem.co.jp/iir/>

With Local Communities

Through offering tours and hands-on workshops and participating in volunteer activities, our business locations seek out opportunities for communication with local residents.

Offering tours and hands-on workshops

Our locations give tours and hands-on workshops and seminars for students. Our factories provide briefings on product manufacturing processes, safety and health, and environmental conservation efforts. Our laboratories provide briefings on a range of tests to validate safety and efficacy that are required in the development of crop protection products.



Receiving university students for a seminar (laboratory)



Receiving high school student interns (Hokkaido Factory)

Social Contribution Activities, Communication with Communities

Our locations open their facilities such as baseball grounds to the community. We participate in cleanups around our business locations, collect waste materials from the community, and participate in various community events.

We also take part in blood drives, with a mobile blood drive visiting our factories each year. Our laboratories have concluded memorandums with local governments to provide use of our sites as emergency shelters in the event of a disaster.



Cleanup campaign (Niigata Factory)



Cleanup campaign (Okayama Factory)

With Employees

We are developing human resources to tackle new fields and creating workplaces where employees can demonstrate their talents to achieve sustained growth for our group.

Human resource development

To develop human resources who think for themselves and work with autonomy to tackle challenges in new fields, we implement various educational programs including rank-based trainings and practical workshops and sending employees to language schools. We also support employees to improve their skills by encouraging and subsidizing obtaining certifications (PhD, JGAP, etc.) and distance learning directly and indirectly related to business.



New employee training



Manager training

Work-Life Balance

As part of realizing a work-life balance, we believe it is important to create workplaces where employees feel it is easy to work.

In addition to child care and family care leave programs, we also aim to realize work-life balance through other leave programs offering half-day paid leave, hourly paid leave, and planned paid leave. Promoting changes to how employees work from multiple angles will lead to increased productivity by individual employees, reductions in long working hours, and a higher rate of employees taking annual paid leave.

Physical and mental health management

We conduct annual health checkups and stress checks at all of our locations for the purpose of managing employees' physical and mental health. We also offer health consultations and in-person guidance with an industrial physician as necessary. We are working to expand our support system, such as by setting up a hotline where employees and their families can receive consultations on health and medical treatment and mental health counseling in cooperation with a contracted outside party.

Financial Data

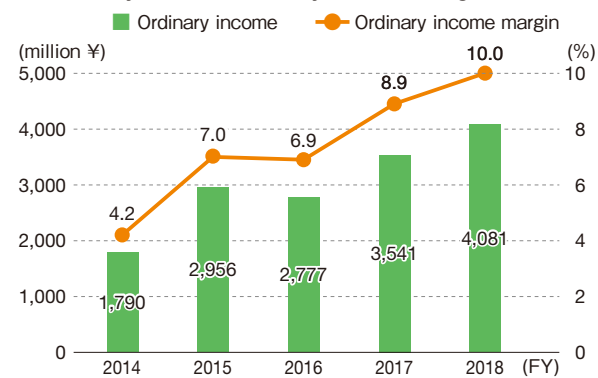
● Consolidated management indicators

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Sales	(million ¥)	42,416	42,251	40,117	39,826	41,015
Ordinary income	(million ¥)	1,790	2,956	2,777	3,541	4,081
Current net income attributable to parent company shareholder	(million ¥)	997	1,900	1,965	1,989	2,944
Comprehensive income	(million ¥)	1,460	2,567	1,612	3,642	2,604
R&D expense	(million ¥)	1,619	1,557	1,578	1,484	1,495
Depreciation cost	(million ¥)	1,609	1,462	1,444	1,505	1,349
Capital investment	(million ¥)	603	1,199	1,880	1,236	2,257
Net assets	(million ¥)	15,289	17,528	18,877	21,926	24,179
Total assets	(million ¥)	42,284	44,204	39,974	40,438	40,628
Net assets per share	(¥)	554.54	636.01	685.04	809.61	892.77
Current net income per share	(¥)	36.17	68.93	71.30	72.51	108.69
Diluted net income per share	(¥)	—	—	—	—	—
Capital adequacy ratio	(%)	36.2	39.7	47.2	54.2	59.5
Return on equity (ROE)	(%)	6.7	11.6	10.8	9.8	12.8
Price-earnings ratio	(ratio)	10.8	6.8	5.2	9.9	5.1
Cash flow from sales activity	(million ¥)	3,336	1,189	3,628	5,161	3,360
Cash flow from investment activity	(million ¥)	(1,096)	(816)	(1,694)	(1,294)	(2,142)
Cash flow from financial activity	(million ¥)	(1,903)	(372)	(2,353)	(3,397)	(1,391)
Final balance of cash and cash equivalents	(million ¥)	1,577	1,612	961	1,454	1,259
No. of employees [Average number of temporarily hired workers besides regular employees]		796 [185]	771 [161]	765 [157]	751 [147]	739 [147]

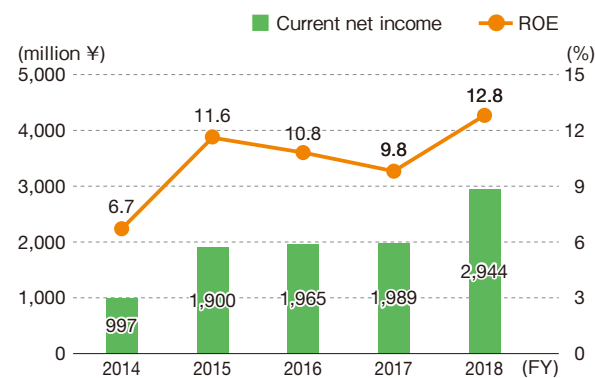
(Notes)

- Sales do not include consumption tax.
- Diluted net income per share is not listed since there are no dilutive shares.

● Ordinary income/Ordinary income margin



● Current net income attributable to parent company shareholder/ROE



● Consolidated balance sheet

(Unit: million ¥)

	FY 2017 (November 30, 2017)	FY 2018 (November 30, 2018)	FY 2017 (November 30, 2017)	FY 2018 (November 30, 2018)
Assets				
Current assets				
Cash and deposits	1,454	1,259		
Bills and accounts receivable	9,949	10,529		
Products and finished goods	10,486	9,908		
Products in progress	344	354		
Raw materials and stored goods	4,690	4,574		
Deferred tax assets	250	210		
Other	308	336		
Total of current assets	27,480	27,170		
Fixed assets				
Tangible fixed assets				
Buildings and structures (net)	3,815	3,908		
Machinery and vehicles (net)	2,071	2,065		
Land	985	976		
Construction work-in-progress	28	716		
Other (net)	404	563		
Total of tangible fixed assets	7,303	8,228		
Intangible fixed assets	471	300		
Investments and other assets				
Investment securities	4,948	4,702		
Long-term loans	12	11		
Deferred tax assets	7	6		
Other	229	223		
Allowance for doubtful accounts	(12)	(12)		
Total of investments and other assets	5,183	4,930		
Total of fixed assets	12,958	13,457		
Total of assets	40,438	40,628		
Liabilities				
Current liabilities				
Bills and accounts payable			6,104	4,920
Short-term debts payable			134	136
Long-term debts payable within one year			1,040	984
Accounts payable			1,901	1,936
Income taxes payable			468	690
Consumption taxes payable			113	247
Accrued expenses			3,328	3,176
Reserve for product returns			44	35
Other			114	52
Total of current liabilities			13,247	12,175
Fixed liabilities				
Long-term debts			1,940	950
Liabilities related to post-employment benefits			2,700	2,869
Deferred tax liabilities			407	251
Asset retirement obligations			3	—
Other			214	205
Total of fixed liabilities			5,264	4,274
Total of liabilities			18,511	16,449
Net assets				
Shareholder's equity				
Capital			3,214	3,214
Capital surplus			2,608	2,608
Earned surplus			14,007	16,598
Treasury stock			(1,310)	(1,310)
Total of shareholder's equity			18,520	21,111
Accumulated other comprehensive income				
Valuation difference on other available-for-sale securities			2,792	2,540
Foreign currency translation adjustment			148	102
Accumulated adjustment related to post-employment benefits			466	426
Total of accumulated other comprehensive income			3,407	3,068
Total of net assets			21,926	24,179
Total of liabilities and net assets			40,438	40,628

● Consolidated Income Statement

(Unit: million ¥)

	FY 2017 (From December 1, 2016 to November 30, 2017)	FY 2018 (From December 1, 2017 to November 30, 2018)
Net sales	39,826	41,015
Cost of goods sold	29,828	30,138
Gross profit margin	9,998	10,877
Reversal of provision for sales returns	164	129
Provision for sales returns	129	102
Gross profit - net	10,032	10,904
Selling expenses and general administrative expenses	7,746	7,763
Operating income	2,286	3,141
Non-operating income		
Interest received	10	197
Dividends received	867	330
Foreign exchange gain	10	19
Commission received	407	426
Other	92	102
Total of non-operating income	1,386	1,075
Non-operating expenses		
Interest paid	70	55
Compensation paid	—	23
Litigation-related expenses	—	37
Other	60	20
Total of non-operating expenses	130	134
Ordinary income	3,541	4,081
Extraordinary income		
Fixed asset disposal income	18	12
Insurance proceeds	69	—
Total of extraordinary income	87	12
Extraordinary loss		
Fixed asset disposal loss	90	123
Impairment loss	649	24
Losses from disasters	38	24
Total of extraordinary loss	778	171
Current net income before taxes	2,851	3,922
Corporate tax, resident tax, and business tax	670	964
Adjustment for corporate tax, etc.	191	14
Total of corporate tax, etc.	861	978
Current net income	1,989	2,944
Current net income attributable to parent company shareholder	1,989	2,944

● Consolidated cash flow statement

(Unit: million ¥)

	FY 2017 (From December 1, 2016 to November 30, 2017)	FY 2018 (From December 1, 2017 to November 30, 2018)
Cash flow from sales activity		
Current net income before taxes	2,851	3,922
Depreciation cost	1,505	1,349
Change in liabilities related to post-employment benefits [() notes a decrease]	(66)	110
Change in reserve for product returns [() notes a decrease]	(35)	(27)
Received interest income and received dividends	(877)	(528)
Interest paid	70	55
Fixed asset disposal profit and loss [() notes a gain]	73	111
Impairment loss	649	24
Insurance proceeds	(69)	—
Casualty loss	38	24
Change in trade receivables [() notes an increase]	858	(591)
Change in inventory assets [() notes an increase]	(641)	672
Change in accounts payable [() notes a decrease]	1,053	(1,183)
Change in consumption tax payable [() notes a decrease]	(320)	134
Other	(250)	(513)
Subtotal	4,839	3,560
Interest and dividends received	877	528
Interest paid	(78)	(56)
Insurance received	69	—
Corporate tax, etc. paid	(547)	(694)
Corporate tax, etc. refunded	0	23
Cash flow from sales activity	5,161	3,360
Cash flow from investment activities		
Expenditures from obtaining securities investments	—	(117)
Expenditures from obtaining tangible fixed assets	(1,160)	(1,955)
Revenue from disposal of tangible fixed assets	37	21
Expenditures from obtaining intangible fixed assets	(84)	(33)
Other	(87)	(58)
Cash flow from investment activities	(1,294)	(2,142)
Cash flow from financial activities		
Change in short-term debt [() notes a decrease]	(1,463)	—
Expenditures from repayment of long-term debt	(1,341)	(1,040)
Expenditures from obtaining treasury stock	(303)	(0)
Dividends paid	(289)	(351)
Cash flow from financial activities	(3,397)	(1,391)
Translation difference related to cash and cash equivalents	22	(22)
Change in cash and cash equivalents [() notes a decrease]	493	(195)
Opening balance of cash and cash equivalents	961	1,454
Final balance of cash and cash equivalents	1,454	1,259

Business Locations

● Head Office

1-5-4 Nihonbashi-Honcho, Chuo-ku, Tokyo 103-8341, Japan (Sumitomo Fudosan Nihonbashi Building)
Phone: +81-3-3279-5151 Fax: +81-3-3279-5195

■ Central Research Laboratories

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Phone: +81-46-228-5881 Fax: +81-46-228-0164

■ Fine Chemicals Research Laboratories

2165 Toda, Atsugi-shi, Kanagawa 243-0023, Japan
Phone: +81-46-230-2916 Fax: +81-46-229-7058

■ Experimental Farms

Hokkaido Experimental Farm

1-13 Nishi Sansen Minami, Naganuma-cho, Yubari-gun, Hokkaido 069-1473, Japan
Phone: +81-123-88-3587 Fax: +81-123-88-0418

Atsugi Experimental Farm

2165 Toda, Atsugi-shi, Kanagawa 243-0023, Japan
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Shizuoka Experimental Farm

665 Shirai, Makinohara-shi, Shizuoka 421-0502, Japan
Phone: +81-548-54-1156 Fax: +81-548-54-0729

● Branch Offices

Sapporo Branch Office

6-2-2 Nishi, Kita-Gojo, Chuo-ku, Sapporo-shi, Hokkaido 060-0005, Japan (Sapporo Center Building)
Phone: +81-11-231-1610 Fax: +81-11-231-0124

Sendai Branch Office

1-1-10 Kakyoin, Aoba-ku, Sendai-shi, Miyagi 980-0013, Japan (Aioi Nissay Insurance Sendai Building)
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Akita Office, Sendai Branch

191-5 Aza Shimo-Yabase, Yabase, Akita-shi, Akita 010-0975, Japan
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Tokyo Branch Office

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Niigata Branch Office

4-4-27 Bandai, Chuo-ku, Niigata-shi, Niigata 950-0088, Japan (NBF Niigata Telecom Building)
Phone: +81-25-240-3777 Fax: +81-25-247-2255

Toyama Office, Niigata Branch

387-2 Uwano, Tateyama-machi, Nakanikawa-gun, Toyama 930-0200, Japan
Phone: +81-76-463-1133 Fax: +81-76-462-1477

Osaka Branch Office

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Okayama Branch Office

9-18 Togiya-cho, Kita-ku, Okayama-shi, Okayama 700-0826, Japan (Okayama-ken Nogyo Kaikan)
Phone: +81-86-224-0388 Fax: +81-86-233-5112

Fukuoka Branch Office

2-14-8 Tenjin, Chuo-ku, Fukuoka-shi, Fukuoka 810-0001, Japan (Fukuoka Tenjin Center Building)
Phone: +81-92-714-3821 Fax: +81-92-713-7607

■ Factories

Hokkaido Factory

1470 Kitatakinokawa, Takikawa-shi, Hokkaido 073-0001, Japan
Phone: +81-125-24-7261 Fax: +81-125-24-1669

Niigata Factory

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Phone: +81-254-27-3111 Fax: +81-254-27-8388

Niigata Factory Branch Plant

6-1923-10 Higashiko, Seiro-machi, Kitakanbara-gun, Niigata 957-0101, Japan

Okayama Factory

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● Representative Office

Munich Representative Office

Parking 11, 85748 Garching bei München, Germany
Phone: +49-89-307 48 14 16

● Our Group (Affiliated Firms)

HOKKO Sangyo Co., Ltd.

Head Office

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Biei Hakudo Industry Co., Ltd.

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Biei Factory

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HOKKO Pax Co., Ltd.

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Okayama Office

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Zhangjiagang HOKKO Chemical Industry Co., Ltd.

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C. Murata & Co., Ltd.

Head Office

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Tokyo Branch

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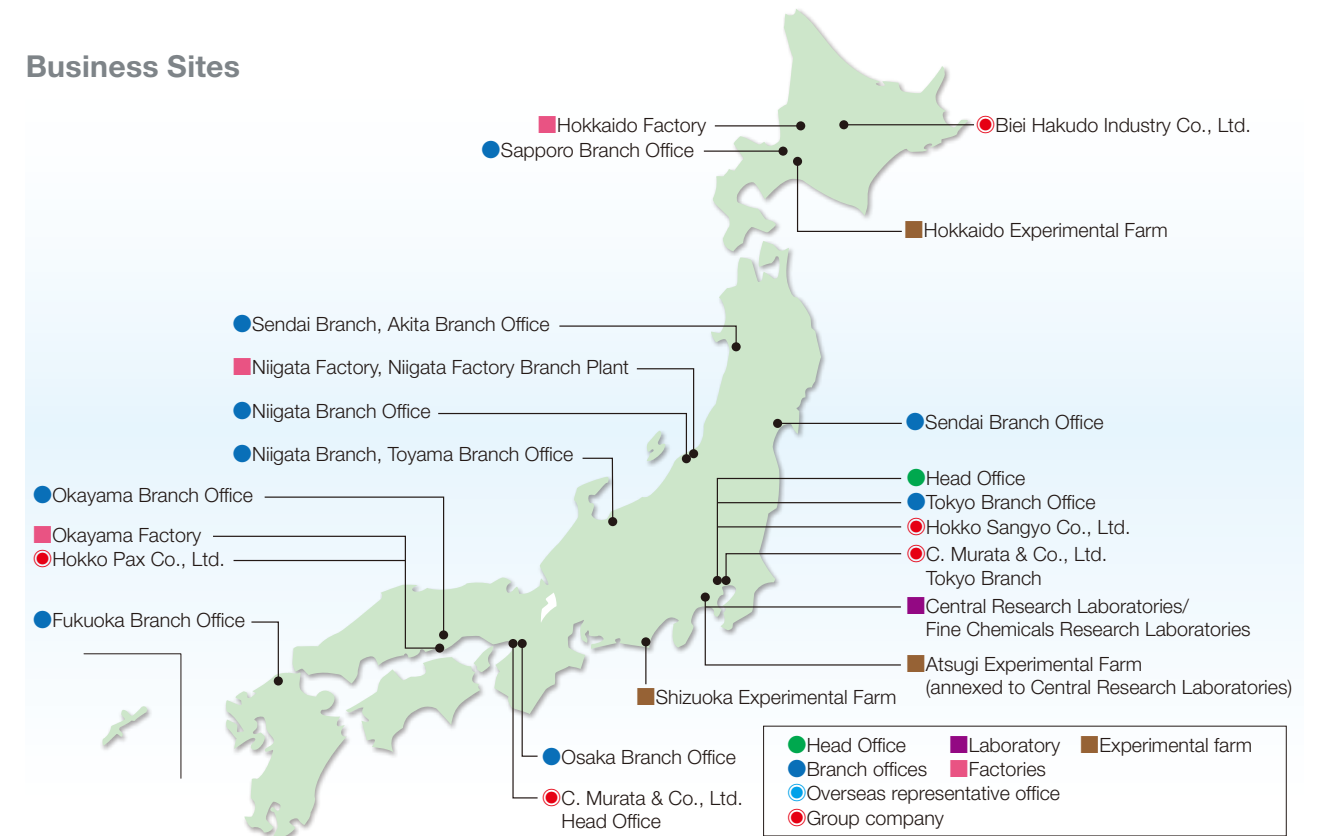
Shanghai Office

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HOKKO Chemical America Corporation

15401 Weston Parkway Suite 150, Cary, NC 27513, USA
Phone: +1-919-678-2138

Business Sites



Fine Chemicals Business: Marketing base



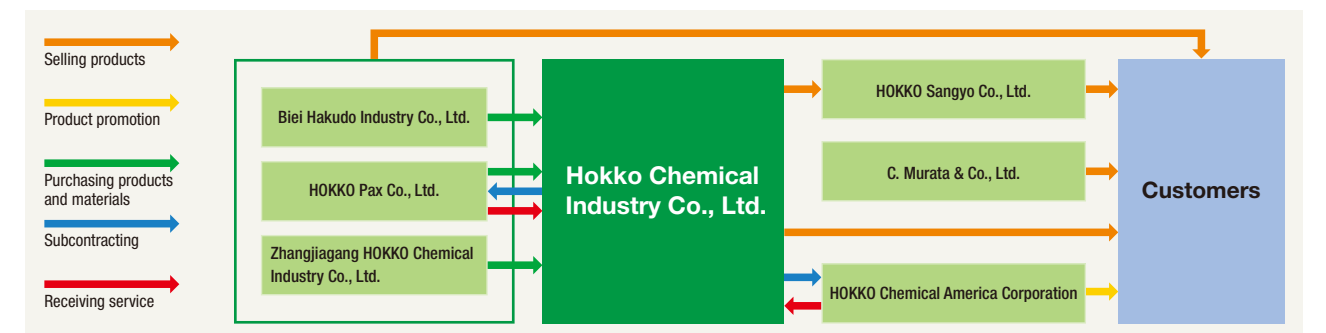
Fine Chemicals Business: Production base



Crop Protection Products Business: Develop, register, and market crop protection products in the Americas

● Group companies

	Company name	Location	Main business activities
Consolidated subsidiaries	HOKKO Sangyo Co., Ltd.	Tokyo	Sales of Fine Chemicals products, etc.
	Biei Hakudo Industry Co., Ltd.	Tokyo / Hokkaido	Manufacture and sales of copper substrates, clay, Balloon (white clay firing sphere), etc.
	HOKKO Pax Co., Ltd.	Tokyo / Okayama	Sales of petroleum products, etc., Hokko company benefits program administration
	Zhangjiagang HOKKO Chemical Industry Co., Ltd.	Jiangsu, China	Manufacture and sales of Fine Chemicals products
	C. Murata & Co., Ltd.	Osaka / Tokyo / Shanghai, China	Sales of industrial textile materials, bag and shoe textile materials, apparel textile materials
Non-consolidated subsidiaries	Hokko Chemical America Corporation	North Carolina, USA	Survey of crop chemical protection market, promotion of crop protection products





HOKKO CHEMICAL INDUSTRY CO., LTD.

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