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# **CORPORATE REPORT** KH Neochem Co., Ltd.

# " Taking on New Challenges"







**CORPORATE MISSION** 

# Realizing a brighter tomorrow for society through the power of chemistry



KH Neo

#### **Editorial Policy**

In this report, we aim to provide our stakeholders with an understanding of the initiatives that KH Neochem takes for creating medium- to long-term value, as well as our corporate social responsibility (CSR) activities. Our goal is to promote an honest exchange of opinions that will drive us toward further progress.

#### Scope of Report

Reporting period: January 1 to December 31, 2018

\* However, environmental report data and other statutory information is for the period from April 1, 2018 to March 31, 2019. Some portions of the report also include activities for 2019. Organization covered:

KH Neochem Co., Ltd. (nonconsolidated) (Some portions also include consolidated information)

Date of publication: October 2019

#### Note on Forecasts

Among the information contained in this report, information aside from historical facts includes forecasts that are based on certain assumptions and rely on judgments made by KH Neochem's management using the information available at that time. For this reason, actual business results may differ. depending on various factors.

# Value Creation by KH Neochem

In accordance with our Corporate Mission of *Realizing a brighter tomorrow for society through the power of chemistry*, KH Neochem will contribute to building a more prosperous and sustainable society by providing added value, primarily in three strategic domains: the environment, healthcare, and electronics.



We will support the spread of AI and IoT through strategic investments in materials for displays and semiconductors. We are also developing new materials in anticipation of the mobility revolution.



- Improved production of cosmetic ingredients and more high-valueadded products
- Development of new materials that contribute to improvements in QOL

Raw material supplier

Cosmetics nanufacture

#### Added value for society

#### Enriching people's lives and improving QOL

We will contribute to enriching people's lives by increasing the supply of high-quality cosmetic ingredients and high-value-added detergent and toiletry products. In the future, we will continue to develop new materials that support improvements in QOL.



#### **Electronics**

Raw material suppliers

Photoresist manufacturer

• Strategic investment in materials for displays and semiconductors

 Development of mobilityrelated materials

d value for society

#### Contributing to an AI/ IoT society

society through the power of chemistry for brighter tomorrow Π ealizing 2

# CORPORATE MISSIO

# KH Neochem Strengths

ENGTH

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Since our founding in 1948, we have worked to build on our unique strengths. By maximizing and refining these strengths, we aim to become *a leading global specialty chemical company*.



# Relationships of trust with customers

Our main customers are leading companies in their industries and companies with a unique presence for whom we have created new value under a long-standing, strong relationship of trust. Our policy is to establish a face-to-face relationship with customers, regardless of whether they are in Japan or overseas. This strengthens the relationship of trust with our customers, and allows us to quickly and precisely grasp industry trends, such as requirements and market demand, in turn helping to develop our businesses. We also strive to take a flexible approach when interacting with customers, earning us praise for sales and logistics. We build relationships not only with customers' purchasing divisions, but with a wide range of other divisions including technology, logistics, and sales. We value across-theboard communication that is not limited to particular points of contact.





# Production facilities ranking among the world's foremost

RENGTH

ST

KH Neochem has plants in Yokkaichi and Chiba. The Yokkaichi Plant has two sections for oxo-related products with a production scale and product lineup at the very top domestically. Our Chiba Plant has a high-pressure oxo reaction process capable of supplying specialty alcohols and synthetic fatty acids, such as isononyl alcohol, tridecyl alcohol, and isononanoic acid.

In VISION 2030, we have plans for large-scale investments in production plants, with the aim of further increasing our production capacity and improving productivity.

GТН

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# Roadmap for Realizing VISION 2030

Our roadmap for realizing VISION 2030 is illustrated below. By making strategic investments that capture social needs, we aim to achieve sustainable growth and increase our corporate value.

# **VISION 2030**



#### **Outline of 3rd Medium-Term Business Plan**

#### Strategies

1	Profit Increase by New Facilities	<ul> <li>Start up of new facilities for refrigeration lubricant raw materials and marketing of new products</li> <li>Operate new facilities for the next generation semiconductor materials</li> </ul>
II	Active Investment for the Future Expansion of Performance Chemical Business	<ul> <li>Further increase in production capacity for performance chemicals</li> <li>Creation of new business through the new research hub</li> </ul>
111	Improvement of business framework	<ul> <li>Further introduction of facility control system with latest technologies (AI and IoT)</li> <li>Improvement of work environment and encouragement of diverse work styles</li> </ul>

#### Numerical Management Targets\*

	2018	2021
Net Sales	101.2bnJPY	110.0bnJPY
Operating income	10.9bnJPY	13.5bnJPY
ROE	20%	18%
Equity ratio	38%	47%
Exchange rate	110 JPY/US \$	110 JPY/US \$
Domestic naphtha	50,900JPY/KL	46,000JPY/KL



# Specialty Chemical Company

- Providing specialty chemicals that contribute to the reduction of global warming and a better quality of life
- Expansion of products with the largest global share and new businesses in three strategic domains
- Top-class profitability in the chemical industry

	Financial Targets					
Net sales	180 bnJPY	Corporate growth at 5% annually on average				
Operating ncome	Over 25 bnJPY	Expansion of profits at 7% annually on average				
ROE	Over 12%	Maintaining high capital efficiency				
Equity atio	50%	Construction of a financial structure that is immune to the external environment				

#### Capital Investment Plan\*



\*These figures are targeted as well as planned values (consolidated).

## Message from the President and CEO



Michio Takahashi KH Neochem Co., Ltd. President and CEO

# Our aim is to become a leading global specialty chemical company by maximizing our competitive advantages.

KH Neochem's chemical materials support different aspects of people's lives in a variety of fields, including the environment, healthcare, and electronics. We formulated our ambitions for 2030 in VISION 2030 to further clarify the value we intend to provide to society over the long term. With this vision, we have taken a new step toward achieving sustainable growth.

# Clarifying our ambitions under VISION 2030

I was appointed President and CEO of KH Neochem in March 2019. In 1987, I joined Kyowa Hakko Kogyo Co., Ltd.,\* assigned to the chemical department, the predecessor to KH Neochem, and built up extensive experience in the sales division before going on to work in such areas as management planning, accounting and finance, general affairs and human resources, purchasing, and overseas projects. I was also a manager on two projects that shaped the capital structure of the Company in a short time period: KH Neochem was spun off from the Kyowa Hakko Kirin\* Group as an independent entity through outside equity capital in 2011 and we were listed on the First Section of the Tokyo Stock Exchange in 2016.

Against the backdrop of a global economic environment marked by increasing uncertainty, the goals of our management team, including myself, are to take a strong leadership position, to focus on objectivity and transparency, and to explore the best policies for adapting to the requirements of the moment. In addition, we are accountable for the condition of the business and for our future intentions.

KH Neochem has developed two competitive business advantages over the years. First, our core products have secured a top share in the global market and our products overall have high growth potential. Second, many of our key customers are leading global companies in different fields as well as companies with a unique presence, and our strong relationships with these customers provide a platform to drive mutual growth. To create new value and realize sustainable growth, it is important to determine our ambitions from a long-term standpoint, and where we can make the most of our particular competitive advantages. To reach these long-term goals, we formulated VISION 2030, a compass for management going forward.

In the process of creating our vision, full-time directors and members of the management planning team conducted discussions and a broad examination of the Company that included an intensive study based on interviews with younger employees and that took into account the opinions of outside directors and independent auditors. The diverse nature of the backgrounds of our executive officers led to intense debate, with different ideas being combined and refined to form the new vision. Under VISION 2030, we state our aim of becoming a leading global specialty chemical company by 2030 with ambitions to provide specialty chemicals that contribute to the reduction of global warming and a better quality of life for people. We have positioned our core domains as the environment, healthcare, and electronics. These are the domains where we will maximize our competitive advantages and prioritize the allocation of management resources.

\*Now Kyowa Kirin Co., Ltd.



# Evaluation of the previous medium-term business plan and positioning of the third Medium-Term Business Plan

Under our second Medium-Term Business Plan (that ran until fiscal year 2018), we easily cleared our targets for the three-year period with strong performance on the back of a favorable external environment. In the focus area of performance materials, we grew profitability by around 1.6 times compared with fiscal year 2015, an impressive result. We also achieved a positive level of performance in basic materials and electronic materials, the result of initiatives to improve production efficiency that took advantage of an encouraging business environment. Nonetheless, we are still left with the challenge of strengthening our structural

> competitiveness and we recognize the need to continually improve production efficiency into the future.

Our 3rd Medium-Term Business Plan starting in fiscal year 2019 has been positioned as the three-year period for "Taking on New Challenges," setting us on the road to achieving our goals under VISION 2030. In concrete terms, we will make strategic investment in the amount of 12.5 bnJPY over the three-year period to expand earnings primarily through operation of new facilities mainly for performance chemicals. We will also invest ¥10.5 billion in existing production facilities and the workplace environment in an effort to bolster foundations and streamline operations. Investment decisions aimed at driving growth over the three years are an extremely important aspect of the plan. Since it will be difficult to increase production capacity straight away (to meet demand due to our business characteristics as a chemical materials manufacturer), we must look ahead to investments for the future. In addition, significant initial investment will be required to build a plant on an economic scale. There will be a time lag until we reach full operation at the plant, which may result in negative profitability over the short term. From a long-term perspective, however, we need to be resolute in making large investments that will create a future pillar for earnings.

Investment decisions are only made upon in-depth discussion by the management team in such settings as investment evaluation meetings in light of a detailed analysis of business feasibility. The final decision is made by the Management Committee or the Board of Directors with due consideration given to capital costs.



# KH Neochem's approach to preserving the environment

We view environmental preservation as a critical management challenge as a manufacturer providing distinctive high-quality chemical materials in a variety of industrial fields. To give an example, CO<sub>2</sub> emissions will of course increase as production volume grows when plant capacity goes up. Therefore, we will work to both improve efficiency in terms of energy consumption and keep in check any increase in CO<sub>2</sub> emissions. In addition, the chemical materials we provide play a considerable role in contributing to environmental preservation. For instance, one of our core products, refrigeration lubricant raw materials used in environmentally friendly air conditioners,

# Building an organization that makes governance more effective

KH Neochem believes that adopting an ESG (environment, social, and governance) perspective will be vitally important to corporate management going forward. As part of our ESG initiatives, we understand that improving the effectiveness of corporate governance is essential to fostering a corporate culture that respects the rights of stakeholders, as well as ethics, as we conduct business.

In particular, we have reaffirmed the importance of deepening discussion aimed at boosting corporate value over the medium and long term, which includes driving sustainable growth, as a way to enhance the effectiveness of the Board of Directors. We are strengthening governance and other ESG initiatives to become more effective. For details, please see page 28.

Additionally, every division is hiring mid-career workers, in this way boosting employee diversity. Currently, mid-career workers make up approximately 40% of all employees who have entered the Company since April 2011, when we became independent from the Kyowa Hakko Kirin\* Group. We believe that ensuring employee diversity, in which there is a large number of human resources with differing backgrounds and specialized is helping to protect the ozone layer and mitigate global warming. Moreover, our technology for oxo reactions, another one of our core technologies, is extremely rare in that it enables the production of products that have CO<sub>2</sub> as their raw material.

KH Neochem is committed to moving full steam ahead with our aim of contributing to the preservation of the environment through our business activities by leveraging our technological expertise based on our Corporate Mission, "Realizing a brighter tomorrow for society through the power of chemistry."

skills, will be a source of growth and a strength of the Company.

At the same time, a serious accident is a major risk of the petrochemical industry where we operate with the potential to affect corporate survival. We will therefore continue actively striving to minimize this risk by prioritizing safe operations at all times. We also recognize the importance of compliance at the same level. Over the years, we have done our utmost to strengthen compliance in many ways, and we are dedicated to making further advances as we move into the future.

We understand the need to explain our operations in a way that is easy to grasp so that we can continue raising corporate value, and we intend to focus on doing so even more going forward. With that in

mind, KH Neochem will strive to meet the expectations of our stakeholders as we forge ahead.

\*Now Kyowa Kirin Co., Ltd.



# History of KH Neochem

At KH Neochem, we have leveraged our unique technical capabilities, along with the changing times, to continually manufacture products that meet the needs of society. Going forward, we will always rise to the challenge of creating new value.

# 1948~



Expansion

1988

#### Foundation

#### 1948

Began Japan's first mass producer of acetone and butyl alcohol by fermentation

Provided new value by looking beyond the times





1961

Converted to

petrochemical





Established a two plant

system: the Yokkaichi

Expanded our product lineup,

and Chiba Plants

The Yokkaichi Plant extended accident-free record Our proud safety and stability record: accident-free for

2008

record: accident-free for 23.95 million man-hours



# 2011~

## New start

#### 2011-2012

Became independent and changed name to KH Neochem

#### Listed on the First Section of the Tokyo Stock Exchange

Took new steps forward as a

2016

listed company

Became independent from Kyowa Hakko Kirin Group (at that time), marking the start of KH Neochem





# Consolidated Financial Highlights



Profit attributable to owners of parent





Net interest-bearing debt



Equity ratio/ROE (%) 50 38 39 40 33 28 30 29 28 20 20 20 10 0 2015 2017 2018 (fiscal year) 2016 --- Equity ratio --- ROE



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# 2018 ~

#### Toward further growth

#### 2018

#### VISION 2030 announced

The vision of KH Neochem for continuing to create new value and striving for sustainable growth

#### 2019

Announced Taking on New Challenges, our 3rd Medium-Term Business Plan

A new step toward the realization of VISION 2030









# **Business Overview**



#### **Business Overview and 2018 Results by Segment**

This business area was developed from the synthetic technologies associated with basic chemicals. We manufacture and sell lubricant raw materials used for refrigerating equipment in air conditioners, as well as cosmetic ingredients, and other items.

Due to the increasing use of environmentally friendly refrigerants in air conditioners, as well as the increasing consumption of cosmetics in China and other emerging nations, our refrigeration lubricant raw materials and cosmetic ingredients have continued to enjoy higher demand, as was the case in the previous fiscal year. By making the product sales prices more appropriate for market conditions (in response to tight supply and demand and rising raw material prices), we achieved net sales that exceeded the previous fiscal year. However, profit fell year

### 01 Refrigeration Lubricant Raw Materials



#### **Future Strategy**

Recently, we focused on the safe and timely construction of new facilities at our Yokkaichi Plant (see TOPICS below). Looking ahead, we will consider the next large-scale investment in Refrigeration lubricant raw materials, work on developing products compatible with air conditioners using next-generation refrigerants with extremely low global warming potential (GWP), and build an informationgathering system through joint research with organizations such as universities and research institutions.

#### TOPICS

# New Facility for Refrigeration Lubricant Raw Materials at the Yokkaichi Plant

Demand for Refrigeration lubricant raw materials has been growing due to growth in the air conditioner market in China and other emerging nations, as well as a shift to refrigerants that are effective against ozone layer depletion and global warming. In response to these global trends, we are building a new facility in Yokkaichi, with a planned investment of approximately 7.5 bnJPY. We are aiming to start operations in early 2020. Once complete, we expect an increase of 50% in capacity for these products.



## 02 Cosmetic Ingredients



#### **Future Strategy**

To respond to growth in the skincare market, especially in Asia, we will actively invest in cosmetic ingredients such as 1,3-butylene glycol (BG). In addition to improving quality and upgrading equipment, we are also considering a large-scale capital investment. Changes are expected in the lifestyle associated with the advancement of women in society.

#### TOPICS

#### Rare Ingredients with Few Global Suppliers

We are one of a handful of companies worldwide that are capable of manufacturing cosmetic grade BG. Our ingredients are of the highest quality, and are used in many high-end cosmetics.

Every cosmetic has an ingredients label. If it says "BG" or "1,3-butylene glycol," there is a good chance our materials have been used.

on year, mainly due to a drop in sales volume resulting from large-scale periodic maintenance. Net sales amounted to 39,364 mnJPY (up 5.5% year on year), while gross profit was at 11,812 mnJPY (down 4.7% year on year).

#### **External Environment**

#### Growth in the skin care market

- Expansion of Asian middle income groups
- Social advancement of women
- Increasing interest in high-end and natural products
- Spread of e-commerce

By anticipating these changes, we will work to develop new cosmetic ingredients that enrich people's lives and to expand into product markets aimed at detergents and toiletries. We will also promote downstream development and increase our presence as a manufacturer of materials that supports an improved quality of life (QOL).





#### **Business Overview and 2018 Results by Segment**

We sell products such as high-purity solvents with an extremely low impurities (dust and metal fragments) used for the manufacturing process of displays and semiconductors. These solvents are manufactured by utilizing the technologies that we have cultivated over many years, such as distillation and quality control technologies.

Net sales exceeded those of the previous fiscal year, mainly due to continued strong demand for semiconductors in Japan and overseas, as in the previous year. However, rising raw material prices and other factors caused profit to fall below that of the previous fiscal year. Net sales were 11,782 mnJPY (up 7.0% year on year), while gross profit was 3,033 mnJPY (down 4.6% year on year).

#### **Representative Products External Environment** Growing electronic materials market associated with development of IT and PMA-P electronics industries

PM-P

Spread and development of AI & IoT

- Improvements in the speed and functionality of electronic equipment
- The mobility revolution

#### **Future Strategy**

Displays

Areas of Use

Semiconductors

We expect demand for high-quality electronic materials to increase due to the spread and development of AI and IoT, and the associated mobility revolution, and other factors. In this business environment, we will make strategic investments in electronic materials, including extremely

high-purity solvents for displays and semiconductors. Specifically, we will respond to needs, such as the material used for cutting-edge semiconductors, and will develop new materials for sensors and lenses, etc., where demand is expected to increase in the future.

#### TOPICS

#### **High-Purity Solvents Contributing to Greater Miniaturization**

Extremely fine semiconductor circuits are formed at the nanometer level, and the adherence of even slight impurities (dust and metal fragments) could result in short circuits or other malfunctions. For this reason, the chemical solvents used in manufacturing processes have to be extremely pure. In the near future, quality control is expected to require a tolerance for impurities that is equivalent to a few small one-yen coins inside Tokyo Dome (a huge stadium about 12 acres in area and 184 feet high). We are continually taking on the challenge of providing solvents with this ultra-high level of purity.



#### **Business Overview and 2018 Results by Segment**

49.5

2015

These products are manufactured using our core technologies, and are sold for many uses, including coatings, inks, and wire harnesses in industrial fields such as automobiles, houses, and electrical machinery.

Although the sales volume fell due to large-scale periodic maintenance, we steadily made the sales prices of our products more market appropriate reflecting rising raw



#### **Future Strategy**

We will continue to streamline operations and reduce costs, enabling us to safely and consistently provide high-quality products at low cost and to bolster our presence in the domestic market.

We will also increase our competitiveness through structural reforms, such as introducing plant control

#### TOPICS

#### **Diverse Lineup of High-Quality Materials Supporting People's Lives**

KH Neochem operates an oxo plant, among the largest of its type in Japan, to produce an wide variety of high-quality products that support people's lives in a broad range of fields. Our solvents are turned into coatings, inks, and adhesives used in automobiles, houses, food packaging materials, bridges, roads, and so on. Our plasticizer raw materials are used in fabricating vehicles, houses, greenhouses, electric wires, and so on. They are also used as raw materials in plasticizers for making plastics more malleable.



material prices amid strong domestic demand, mainly due to automobile production remaining at a high level, as in the previous year. Along with other factors, this resulted in an increase in both net sales and profit relative to the previous fiscal year, with net sales of 49,344 mnJPY (up 8.1% year on year) and a gross profit of 6,985 mnJPY (up 2.2% year on vear).

#### **External Environment**

#### Market maturing in Japan but expanding in the rest of Asia.

- Maturing domestic market
- Population growth in emerging nations
- Economic growth centered in Asia

systems that employ advanced technologies (AI and IoT), and restructuring our Company-wide maintenance strategy. See page 22-23 for more details.



Special Feature

# **Prospects for Refrigeration Lubricant Raw Materials**

Focusing on the Environment

One of KH Neochem's main products is refrigeration lubricant raw materials. In this special feature, we look at the prospects for these ingredients, while reflecting on the global trend for increasing concern for the environment.

#### What are refrigeration lubricant raw materials?

Air conditioners make rooms cool by taking in hot indoor air and moving just the heat to the outside. Moving the heat to the outside is performed by a refrigerant, which functions by being compressed in a compressor inside an air conditioner's outdoor unit. The compressor needs a lubricant, specifically a refrigeration lubricant raw materials to operate efficiently and smoothly, without breaking down over a long working life.

Currently, the shift toward environmentally friendly air conditioners is accelerating, and demand for refrigeration lubricant raw materials that are compatible with the refrigerants used in these air conditioners is also growing rapidly. KH Neochem holds an extremely high share globally for the raw materials used in refrigeration lubricant raw materials.



#### Transition to Refrigerants and Refrigeration Lubricant Raw Materials with Low Environmental Impact

#### From Controlled CFCs to CFC Substitutes

In 1987 the Montreal Protocol was adopted, establishing the regulatory measures for CFCs, including the gradual reduction and ultimate elimination of controlled CFCs, which cause ozone layer depletion. As a result of this Protocol being enacted, a global shift to CFC substitutes that do not harm the ozone layer has developed rapidly since around 2000.

#### Shift to Low GWP\*1 Refrigerants

Since its adoption, the Montreal Protocol has undergone several revisions, as they are required. In the 2016 Kigali Amendment,\*<sup>2</sup> it was agreed to gradually reduce refrigerants with high GWP to suppress global warming. This is accelerating the shift to new refrigerants such as R32, a CFC substitute with low GWP.

#### Transition in Refrigerant and the Raw Materials for Refrigeration Lubricant



\*1 GWP (global warming potential): the greenhouse effect of a refrigerant, expressed as a value with carbon dioxide standardized at 1.

\*2 Kigali Amendment: A new international agreement reached at the 28th Montreal Protocol Conference (MOP28) held in Kigali, Rwanda on October 15, 2016.

International Regulations on Refrigerants Concerning Climate Change (Kigali Amendment) and the Future of Refrigeration Lubricant Raw Materials

#### Advanced Nations

Obliged to Reduce the CO<sub>2</sub> Equivalent Value, based on the Kigali Amendment and Growing **Demand for Synthetic Refrigeration Lubricant** Raw Materials

Although CFC substitutes do not harm the ozone layer, 18 types of CFC substitutes with high GWP were added as regulated substances in the Kigali Amendment, with a view toward preventing global warming.

The gradual reduction of CFC substitutes outlined in the Kigali Amendment uses CO<sub>2</sub> equivalent values obtained by multiplying the quantities of CFC substitutes by GWP as an index. Average values for the production and consumption of CFC substitutes from 2011 to 2013, among other data were used as standard values.\*3 For advanced nations, including Japan,\*4 a gradual reduction in CO<sub>2</sub> emissions from the standard values is required from 2019 to 2036, with the ultimate target of an 85% reduction by 2036.

As a result, this regulation is expected to further raise demand for air conditioners that use low GWP refrigerants, such as R32.

#### Advanced Nations and Refrigerant GWP Reduction Schedule\*<sup>3</sup>



\*3 For more details, please refer to the Montreal Protocol on Substances that Deplete the Ozone Layer on the website of the Ministry of Economy. Trade and Industry. (Japanese documents only) https://www.meti.go.jp/policy/chemical\_management/ozone/law\_ozone\_

laws html

\*4 Regulatory measures differ in some advanced nations, such as Belarus and Russia

#### KH Neochem's Strategy

Due to the Kigali Amendment and the growing economic strength of emerging nations, we foresee an increase in demand for air conditioners using low GWP refrigerants, such as R32. We will further strengthen our capacity to supply refrigeration lubricant raw materials used in these air conditioners.

With an eye on the future, we will also conducting research and development into refrigeration lubricant raw materials that will be compatible with next-generation refrigerants for extremely low GWP.



## **Emerging Nations**

#### **Different Reduction Schedules for Advanced and Emerging Nations**

Under the Montreal Protocol, advanced nations are required to eliminate ozone layer-depleting controlled CFCs by 2020, while emerging nations are working on initiatives toward elimination by 2030.

In the measures against global warming laid out in the Kigali Amendment, emerging nations<sup>\*5</sup> are obliged to reduce the  $CO_2$  equivalent value by 10% of the standard value by 2029. The regulations become stricter in steps, ultimately reaching the requirement for an 80% reduction by 2045.

In addition to the above, as emerging nations grow in economic strength, a significant increase in demand is expected for environmentally friendly air conditioners (see the diagram below).





# Drivers for Growth

# Technology / Information

#### Basic policy to realize VISION 2030

#### Active use of the latest technology

Utilization of information technologies to improve data management by digitization

- Establish the system for passing down technologies/know-how
- Improve operations/maintenance processes
- Significant reduction of lead time for the development of new products

KH Neochem has set Technology and Information, Human Resources, and Corporate Culture as the drivers for becoming a leading global specialty chemical company, our ambition stated in VISION 2030. Regarding Technology and Information, we aim to achieve the three goals shown above by digitizing the vast amount of information at our research centers and manufacturing plants by employing the latest technologies, such as AI and IoT. In this way, we will establish a technical foundation for sustainable growth.

#### New Initiatives Aimed at New Business Development Triggering New Chemical Reactions through Collaborative Innovation

In January 2019, KH Neochem established a new Innovation Strategy Office as an initiative aimed at new business creation in the R&D office.

In October 2019, we established new office, originally based in our corporate headquarters, as KH Neochem innovation Laboratory (KH i-Lab) a new incubation center within Shin-Kawasaki Sozo no Mori , a center for industryacademia exchange and R&D, to work on innovation.

By focusing in this way, more than ever before we will build on external networks and work on collaborative technical innovation with external partners through crossindustry exchanges, business matching, and other forms of open innovation. We intend to swiftly create new businesses.



KH i-Lab (Kawasaki) Established within Shin-Kawasaki Sozo no Mori (AIRBIC) R&D System

#### Introduction of an Advanced Process Control System for Plants

A chemical plant is a maze of pipework, and safe plant operations are ensured through continual, precise adjustments in the flow rates of raw materials and products. Extensive experience and highly specialized knowledge are necessary to acquire the techniques for operating plants. Furthermore, the manual adjustment of flow rates unavoidably involves losses.

To minimize these manufacturing losses, an Advanced Process Control system, or a state-of-the-art system that employs technologies such as AI, controls the plant by automatically estimating the appropriate settings, based on temperature, pressure, and other conditions.

The introduction of this system, which automatically adjusts settings to the right values, has allowed us to minimize manufacturing losses. In addition, reducing the burden on operators also frees them up to focus on further improvements in operational efficiency and to promptly discuss and study plant design.

We will further expand the introduction of this Advanced Process Control system to dramatically increase our production efficiency.





#### **Restructuring Business Processes Related to Equipment Management**

More specifically, we are focused on maintaining equipment based

As a petrochemical manufacturer, maintaining safe and stable production is one of our biggest targets. Effectively repairing and updating our plants and equipment is a vital role of our equipment management department. Equipment breakdowns stop production, lowering efficiency and resulting in missed manufacturing opportunities. For this reason, we are restructuring our business processes for equipment management to prevent potential drops in the quality of equipment management work, such as a rapid generational change of employees due to the retirement of veteran staff. on risk assessments, obtaining estimates of the frequency and impact of breakdowns in advance, while considering the level of risk and by performing preventive maintenance. In these ways, we aim to effectively direct our limited management resources (human resources and capital), helping to reduce missed manufacturing opportunities as much as possible.





# Human Resources / Corporate Culture



#### Initiatives for Human Resource Development



We are working to enhance our training systems and human resource development, as one way to nurture the character described in Human Resources and Corporate Culture as a driver for achieving VISION 2030. Our training programs are systematized and tailored to the growth stages of our employees, supporting both proactive skill acquisition and career development based on a nurturing policy of raising the base competence in the first five years of employment, giving a hand up to leaders, and identifying future managers. As one example, we have identified the first five years of employment as the Basic Skills Training Period, and take responsibility as a company to systematically use training so that employees can participate in their own training through

#### Initiatives to Improve Engagement

To bolster our strengths in management, since 2018 we have held teamwork engagement training for department managers throughout the Company. This training program uses the results of an engagement survey held in advance for all employees as themes, and spends two days communicating management skills that will increase performance by enhance engagement in the workplace and in the Company as a whole. Following this training, action plans are drawn up for each workplace, and then implemented over roughly the following six months. Workplaces whose efforts have been especially successful are introduced in the Company newsletter as best practices. Going forward, we will continue to work toward



Page for My Statement

To actualize VISION 2030, it is important for every employee to fully understand its goals and actively work toward reaching them. At the beginning of 2019, and during the period from May to June, top management visited our production plants and held briefing sessions. In July, the *Vision Book for You* booklet was distributed to all employees. Along with a message from top management, this booklet includes the background and aims of establishing VISION 2030 as well as the thoughts of representative employees in various departments and age groups regarding VISION 2030. In October, we will hold meetings in each department, where employees will commit to the vision of their department, as well as their own My Credo,\* through the My Statement page at the end of the booklet.

\* We enacted the 5C Credo program in September 2018 (see the bottom of p. 1). This is a distillation of the KH Neochem Statement of Basic Behavior into five important keywords that start with the letter C, with examples of model conduct. Among these five C's, the keyword that each employee identifies as being the most important will become the My Credo of that employee.



a planned schedule. In this way, new employees acquire the basic skills necessary to become full-fledged staff members. We have also introduced a trainer system, where senior employees act as trainers, providing guidance and advice on problems, as well as assisting in the systematic acquisition of skills by new employees.

Finally, by providing e-learning programs to all of our employees, we support those with a desire to learn on their own.

maximizing the performance of our organization through various training programs.



Engagement training

#### Initiatives for Realizing VISION 2030

# Corporate Governance

#### **Corporate Governance**

#### Basic conceptual approach

Guided by the Corporate Mission of "Realizing a brighter tomorrow for society through the power of chemistry," the KH Neochem Group is committed to realizing sustained growth, medium to long-term heightening corporate value, and sound management that assures transparency and fairness.

#### **Overview of Corporate Governance Structure**



#### **Corporate Governance Structure**

We are building a corporate governance structure that takes the following points into consideration and we are working to put that system into place:

- To strive for substantive assurance of the rights and equality of our shareholders and engage in constructive dialogue with them.
- To disclose accurate financial information and non-financial information that is useful in constructive dialogues with our shareholders and other such purposes, with appropriate timing and in a readily understandable form.
- To strive toward appropriate cooperation with stakeholders other than our shareholders.
- For corporate executives and the Board of Directors to provide leadership toward the formation of a corporate climate of respect for the rights and perspectives of our various stakeholders and for ethics in business activities.
- For the Board of Directors to fulfill its responsibility to exercise effective supervision from an independent perspective over the execution of duties by corporate executives, to make every effort to develop an environment that supports corporate management risk-taking, and so on.

#### Board of Directors

The Board of Directors of KH Neochem functions as a decisionmaking body on items in legal statutes and the corporate charter as well as important management matters. It also functions as a supervisory body over the execution of duties by the executive directors. As a rule, the Board of Directors meets regularly once a month and once each quarter to approve the financial statement. Extraordinary meetings of the Board of Directors can be convened as necessary in order to allow management decisions can be made without delay.



#### Composition of the Board of Directors

The Board of Directors at KH Neochem comprises seven executive directors, including two outside directors (one is female) who are independent officers. We believe this is an appropriate size for promoting diversity, including gender issues, and for swift decision-making. There is a balanced composition overall of full-time directors possessing expertise and knowledge in business, production, R&D, management planning, finance and accounting, and other areas. The outside directors actively express their opinions and raise questions based on their broad perspective and experience in corporate management. The term of service of the executive directors is set at one year in order to promote prompt responses to change in the management environment, as well as to make clear that the management responsibility of the executive directors lies within the business year.

#### Corporate auditors and the Board of Corporate Auditors

Corporate auditors meet with the Board of Directors, the Management Committee, and other important committees, where they audit the execution of duties by executive directors by stating their views as required, by examining important documents under consideration for approval, and so on. They also take steps for mutual coordination with the Auditing Department and accounting auditors by regularly exchanging views and information, holding discussions with them, and so on.

The KH Neochem Board of Corporate Auditors has three members, including two outside corporate auditors. As a rule, the Board of Corporate Auditors holds regular meetings once a month and also holds extraordinary meetings as necessary. They take steps for mutual information sharing with corporate auditors, formulating auditing plans, examining audit implementation status and audit results, and engaging in related activities.

#### Message from outside director

#### Leveraging the potential of a chemical company

Chemistry can be used to create new materials and has the potential to contribute to solving the social and environmental issues facing humankind. Leveraging the potential of a chemical company, KH Neochem has introduced many useful products. I will continue to take advantage of my many years of experience in this industry to provide feedback at meetings of the Board of Directors and to share opinions with all involved so that KH Neochem can promote the development of new products with the chemical and commercial technologies that have been developed up to now.

#### Message from outside director

#### Developing people and an organization to support the growth of KH Neochem

I recently had the honor of becoming the first female outside director at KH Neochem. Up to now, I have been involved in consulting work on the reform of organizational climates and the development of corporate culture at many companies and organizations. This work has been based on the concept of supporting the creation of environments at organizations to develop self-directed human resources and on achieving organizational visions through dialogues. Going forward, I hope to contribute in whatever way I can to developing people and an organization capable of supporting the Company's growth, ensuring that every employee, including females, is able to maximize their potential and enjoy a sense of job fulfillment through personal growth.

#### Nomination and Compensation Committee

KH Neochem has acted to heighten the transparency and fairness of the decision-making processes regarding the nomination and compensation of executive directors and executive officers by establishing a discretionary Nomination and Compensation Committee with an outside director as the chair and more than half of the membership composed of outside directors. In March 2018, we decided to abolish the executive directors' retirement benefits system and introduce a performance-linked, share-based compensation plan for executive directors, excluding outside directors, as a system to heighten the linkage with performance and the share price. This was approved at the eighth regularly scheduled general meeting of KH Neochem shareholders. These revisions of the compensation system for executive directors were realized as a result of proposals that this committee made to the Board of Directors.

#### Outside directors and outside corporate auditors

All outside directors and outside corporate auditors satisfy the requirements for independence set out by the Tokyo Stock Exchange. The outside directors make use of their abundant work experience and high level of professionalism to express their views actively and directly from an objective and broad standpoint to ensure that management judgments are not biased by internal points of view. They also offer constructive advice and oversight. Outside corporate auditors do not have voting rights at meetings of the Board of Directors, so they conduct audits from an even more independent standpoint than corporate auditors, who also conduct objective audits of the execution of duties by executive directors.



Manabu Fujise Outside Director



Sayoko Miyairi Outside Director

#### Initiatives to Increase the Effectiveness of the Board of Directors

#### Strengthening the governance structure



#### Evaluation of effectiveness of the Board of Directors

The effectiveness of the Board of Directors is evaluated once a year with advice from a third-party agency. The members of the Board of Directors consider specific improvements based on the results, and ongoing efforts are made to improve the functioning of the Board by implementing those measures.

	2018	2019						
Issue	Enhancing important discussions, including those on medium- to long-term management strategies							
Action	→ Narrow reports down to matters requiring management decisions	→ Work to improve discussions contributing to important projects and continuous improvement of corporate value						
Issue	Enhancement of officer training	Mechanism for continuous monitoring						
Action	→ Provide regular opportunities for training and workshops	→ Implement monitoring based on the Medium-Term Business Plan						
lssue	Utilization of outside directors and improved diversity	Further utilization of (voluntary) Nomination and Compensation Committee						
Action	→ Appoint female director	→ Report about annual schedule and result of activities to the Board of Directors						

#### Training of members of the Board of Directors/ Board of Corporate Auditors

In July 2019, an internal seminar was provided by specially appointed professor Kunio Ito of Hitotsubashi University on the topic of "The Current Status of Governance Reform and Future Challenges." He touched on everything from formal governance frameworks to actual issues that need to be addressed, changes required for sustainable growth, improving dialogues with investors, succession plans, and management training. After the seminar, a discussion session was held with Professor Ito, and KH Neochem officers engaged in a lively discussion with him on achieving further sustainable growth of our corporate value based on specific topics.



#### **Basic Approach and Status of Internal Control System**

KH Neochem has a structure in place to facilitate the effectiveness of internal controls, including the "Basic Policy on the Internal Control System" that was established by a resolution of the Board of Directors. This control system ensures the appropriateness of operations. The content and details on the status of implementation are provided within the "Report on Corporate Governance" on the Company website. The main recent initiatives are as follows. We conducted a compliance awareness survey, identified the issues requiring education and awareness-raising based on the results, and carried out various training programs for employees. We also established the 5C Credo and distributed credo cards (including compliance cards) to officers and employees to thoroughly familiarize them with our credo. Additionally, we send loan officers and employees to important subsidiaries to serve as representative directors or outside officers in order to promote improved operational management throughout the corporate group.

#### Compliance

#### Basic conceptual approach

At KH Neochem, we consider compliance to be one of the essential and crucial components of CSR. We formulate our rules and regulations, then inspect our legal compliance status on the basis of Compliance Guiding Principles and compliance regulations, and we make every effort for strict implementation. We also make every effort to ascertain the status of compliance promotion in the KH Neochem Group, and we are taking appropriate measures.

#### **Measures for Compliance**

#### Compliance structure

KH Neochem has revised compliance rules and established the compliance structure shown on the right to both strengthen the structure and further increase the effectiveness of the implementation.

The position of compliance officer has been established to assign responsibility for these matters, and at compliance promotion meetings, compliance officers promote compliance measures, carry out educational activities, and conduct training.

#### Hotlines

KH Neochem has established hotlines for executives and employees to answer questions about compliance. Specifically, the Compliance Officer Hotline, the Full-time Corporate Auditor Hotline, and the Compliance Hotline have all been established within the Company, and the Corporate Attorney Hotline has been established outside the Company.

#### **Risk Management**

#### **Risk Management System**

All of our business divisions conduct inventories of risks that could affect management and business activities of companies in the KH Neochem Group. We calculate risk levels according to the impact and likelihood of the listed risks, and draft proposals for measures to prevent risks from materializing as well as to reduce their impact. The Risk Management Office examines the appropriateness of proposed measures and assigns risk levels based on the results of the risk inventories, then provides management with notifications and reports regarding risks of high priority.

#### **Cybersecurity Measures**

At KH Neochem, we operate information systems based on internal management rules and their importance. In this way, we make every effort to prevent improper access to the Company information and information leaks caused by the loss of recorded data media and so on.

In addition to periodically distributing information on data security, we educate employees to improve their data security literacy.



\*A Compliance Secretariat has been established to assist compliance officers

Compliance Structure



#### Action Plan for Industrial Safety

In response to a requirement from the Ministry of Economy, Trade and Industry, the Japan Petrochemical Industry Association put together an action plan for industrial safety intended to prevent industrial accidents. KH Neochem is taking measures to reduce the risk of accidents of all types based on that action plan.

(For more details, please refer to our website: http://www.khneochem.co.jp/en/csr/rc/)

## Members of the Board (as of September 1, 2019)

#### Directors



#### Michio Takahashi President & CEO

Apr. 1987 Joined Kyowa Hakko Kogyo Co., Ltd. Jul. 2011 President of Basic Chemicals Division of Kyowa Hakko Chemical Co., Ltd. (now the Company)

- Mar. 2013 Director and Executive Officer of the Company Mar. 2016 Managing Director and Executive Officer of the Company
- Mar. 2017 Executive Vice President & Executive Officer of the Company Mar. 2019 President & Chief Executive Officer of the

Officer in charge of Corporate (Accounting, Finance,

Apr. 1978 Joined Nissan Diesel Motor Co., Ltd. (now UD Trucks Corporation)

Jan. 2008 Vice President of Nissan Diesel Motor Co., Ltd.

Apr. 2012 Vice President of UD Trucks Corporation Volvo

Group Trucks Operations Japan Controlling

CFO of Volvo Powertrain Japan

Jan. 2016 Director & Executive Officer of the Company

Mar. 2018 Managing Director & Executive Officer of the

Company (to present)

Public Relations, and Investor Relations)

Company (to present)



#### Toshihiro Matsuoka

Managing Director General Manager of Production & Technology Office

- Apr. 1987 Joined Kyowa Hakko Kogyo Co., Ltd. Apr. 2008 General Manager of Production Administration Division of Kyowa Hakko Chemical Co., Ltd. (now
- the Company) Jun. 2011 General Manager of Yokkaichi Plant of the Company Apr. 2013 Executive Officer of the Company
- 2014 Director and Executive Officer of the Company
- Mar. 2018 Managing Director and Executive Officer of the Company (to present)



- Apr. 1988 Joined Kyowa Hakko Kogyo Co., Ltd. Jul. 2013 General Manager of Chemical Sales & Marketing
- Division, Business Headquarters Office of the Company Jan. 2016 Executive Officer of the Company
- Mar. 2017 Director & Executive Officer of the Company Mar. 2019 Managing Director & Executive Officer of the Company (to present)

Apr. 1968 Joined Mitsui Petrochemical Industries, Ltd. (now Mitsui Chemicals, Inc.) Jul. 2001 Director of Mitsui Chemicals, Inc.

- Jul. 2005 President of Mitsui Chemicals Singapore, Ltd. (now Mitsui Chemicals Asia Pacific, Ltd.)
- President of Mitsui Chemicals Asia Pacific, Ltd. President of Mitsui Chemicals India, Pvt. Ltd. Apr. 2011 Auditor of Kunitachi College of Music Jul. 2012 Outside Director of Torishima Pump Mfg. Co., Ltd.
- Jan. 2016 Outside Director of the Company (to present) Jun. 2017 Outside Director of MORIROKU HOLDINGS
  - COMPANY, LTD. (to present)

# **Responsible Care**



#### Basic conceptual approach

Responsible Care (RC) refers to the autonomous management activities that business operators who manufacture or handle chemicals carry out to implement and take steps to improve environmental, safety, and health measures throughout all processes involving chemicals, from development through manufacturing, physical distribution and use, to final consumption and disposal. KH Neochem has adopted an RC Program Policy and is implementing Responsible Care.

#### **RC Program Policy and System**

#### **RC Program Policy**

KH Neochem has established an RC Program Policy and pursues business activities with commitment first and foremost to fulfilling responsibility to society as a corporation. We do this in order to continue being a chemical manufacturer that provides distinctive products in a variety of sectors and that supports the global environment, as well as comfortable lives for people around the world. What is required of chemical manufacturers, above all, is to operate their plants safely, and so we have formulated a Fundamental Policy for Safety Management to implement a thoroughgoing response to that requirement, and we are making every effort to assure the security and safety of our operations.

#### RC Program Policy

- Compliance
- In addition to international regulations and domestic laws and regulations. we will comply with KH Neochem rules and regulations.
- 2 Env We will make every effort to reduce the environmental impact of our products at every stage from development to disposal.
- B Safety and disaster prevention and occup onal safety and health We will maintain our record of zero accidents and disasters, making every effort to assure safety, peace of mind, and health for regions and communities, as well as for everybody who works at KH Neochem.
- Physical distribution safety and chemical and product safety We will acquire the most up-to-date safety information on the chemical substances and products that we handle, and we will provide the correct information to customers, to the people involved in physical distribution, and to the people who work at KH Neochem
- G Dialogue with society We will contribute to regions and communities by engaging in dialogue and communication with them regarding the environment, safety, and health.

#### Fundamental Policy for Safety Management

- In addition to safety-related laws and regulations, we will act in unfailing compliance with the decisions made by KH Neoch
- 2 We will always continue maintaining awareness of sources of danger and making every effort to prevent safety-related accidents
- 8 We will continue improving our safety management systems and seeking to upgrade safety management levels.
- 4 We will make every effort to conduct training and consciousness-raising in order to encourage employees and other people involved to take the initiative in accident prevention activities.



#### Yukihiro Isogai

Coordinatio

Kenichi Hirai

Managing Director

Director General Manager of R&D Office and Head of Innovation Strategies Office

Apr. 1987 Joined Toaboshoku Co., Ltd.

- Aug. 2000 Joined YIC Co., Ltd. Oct. 2001 Joined Kyowa Hakko Kogyo Co., Ltd.
- Jan. 2016 General Manager of Yokkaichi Research Laboratories, R&D Office of the Company Dec. 2017 General Manager of R&D Office (to present)
- and General Manager of Yokkaichi Research Laboratories, R&D Office of the Company
- Jan. 2018 Executive Officer of the Company Mar. 2019 Director & Executive Officer of the Company (to present)



#### Sayoko Miyairi **Outside Director**

Apr. 1979 Joined Hitachi, I td. Jul. 1982 Joined Bank of America, N.A., Asia Headquarters Mar. 1986 Joined Pasona Inc. and seconded and then transferred to Edu Consult Co., Ltd. (now Scholar Consult Co., Ltd.) Apr. 2000 Partner of Scholar Consult Co., ltd. (to present)

Apr. 2000 Assistant Professor of Nihonbashi Gakkan University (now Kaichi International University Jan. 2005 Director of Scholar Consult Co., ltd.

Apr. 2008 Professor of Nihonbashi Gakkan University (to Mar. 2019 Outside Director of the Company (to present)

#### Audit & Supervisory Board Members

Tokuo Oodo Audit & Supervisory Board Member

Atsuo Inagaki Audit & Supervisory Board Member (Independent Auditor)

# Kenii Ito

Audit & Supervisory Board Member (Independent Auditor)

#### **Executive Officers**

Masava Hamamoto\* Corporate Functional Officer

Seiji Saito Production & Technology Office

Toshiaki Ogata President of Kurogane Kasei Co., Ltd.

Koji Matsuda Corporate Functional Officer, Human Resources, General Affairs. Information Technology

#### \*Senior Executive Officer

Akio Nakahashi Plant Manager (Chiba)

Yoshiaki Kondo Plant Manager (Yokkaichi)

#### Hideki Shimizu

Corporate Functional Officer, Corporate Planning, Project Development, Purchasing



Apr. 2008

Manabu Fujise **Outside Director** 

#### **RC Program System**

KH Neochem has established an Environmental and Safety Committee with the President as chair and the executive officer in charge of safety management as vice chair, and the Company is implementing an RC program. Activities are being pursued at every operating facility in accordance with the RC Program Policy and the Fundamental Policy for Safety Management determined by the Environmental and Safety Committee.



#### **Status of Certification Acquisition**

The Yokkaichi Plant and the Chiba Plant have acquired certification in quality management systems (ISO 9001) and environmental management systems (ISO 14001). They are maintaining their certification and promoting RC programs in line with those systems, and both have made the transition to the new ISO 9001 and ISO 14001 standards (2015 versions).

Plant Certification acquired		Certification body	
Yokkaichi	ISO 9001	January 1999	Japan Chemical Quality Assurance Ltd.
Plant	ISO 14001	July 2000	International Standards Certification Center
Chiba	ISO 9001	December 1998	Japan Chemical Quality Assurance Ltd.
Plant	ISO 14001	November 2000	Japan Chemical Quality Assurance Ltd.

#### Fiscal Year 2018 RC Program Objectives and Results Together with Fiscal Year 2019 Objectives

©: Achieved ○: Almost achieved △: Unachieved

PC code		Fiscal year 2018		
RC Coue	Objective	Actual results	Evaluation	Objective
Environmental conservation	<ul> <li>Environmental accidents: 0</li> </ul>	<ul> <li>Environmental accidents: 0</li> </ul>	O	<ul> <li>Environmental accidents: 0</li> </ul>
Safety and disaster prevention	y and disaster evention • Safety-related accidents: 0 • Safety-related accidents: 5		$\bigtriangleup$	<ul> <li>Safety-related accidents: 0</li> </ul>
Occupational safety and health	• Work-related accidents: 0	<ul> <li>Employee accidents resulting in lost workdays: 0</li> <li>Employee accidents not resulting in lost workdays: 2 (Yokkaichi Plant, Chiba Plant)</li> <li>Accidents at cooperating companies resulting in lost workdays: 1 (Yokkaichi Plant)</li> <li>Accidents at cooperating companies not resulting in lost workdays: 3 (Yokkaichi Plant)</li> </ul>	Δ	• Work-related accidents: 0
	• Compliance violations: 0	Compliance violations: 0	O	Compliance violations: 0
Others	<ul> <li>Trouble reduction five-year average (27 cases) or lower</li> </ul>	• Trouble: 31 cases	Δ	<ul> <li>Trouble reduction five-year average (28 cases) or lower</li> </ul>

#### Inspections and Audits

#### Environment safety inspections and quality audits

At KH Neochem, periodic environment safety inspections of the Yokkaichi Plant, Chiba Plant, and Sakai Logistics Center are conducted by the Environment Safety & Quality Assurance Division at corporate headquarters under the direction of the executive officer in charge of safety management. Periodic quality audits are also similarly conducted under the direction of the executive officer in charge of quality assurance. The environment safety inspections and quality audits involve evaluation of RC activities at our operating facilities.

#### Internal audit of plants

The Yokkaichi Plant and the Chiba Plant conduct internal audits for ISO 9001\*1 and ISO  $14001^{*2}$  as well as for accreditation as high-pressure gas inspection executors (completion inspection and safety inspection)\*<sup>3</sup> based on safety management systems.

#### External audits

The Yokkaichi Plant and the Chiba Plant undergo external audits (maintenance audits and renewal audits) based on ISO 9001<sup>\*1</sup> and ISO 14001<sup>\*2</sup> and are maintaining their certification.

KH Neochem is taking continuing steps to improve RC programs by incorporating the results of these environment safety inspections, quality audits, internal audits of plants, and external audits as feedback.

\*1 See page 31 \*2 See page 31 \*3 See page 36

#### Inspections underway



Environment safety inspection (Yokkaichi Plant)



Environment safety inspection (Chiba Plant)

#### **Environmental Conservation**

#### Flow of Environmental Impact Results

This shows an overall image of inputs and outputs that occur when manufacturing our products.

INPUT		OUTPUT
	KH Neochem	Product
Eporav (crudo oil oquivalant)		81,733t
		Released into the atmosphere
Fuel 178,297kL	12.	
Purchased electric power 14 973kl	* T+	S0x
	1 in the	NOx 268.9t
		Dust 6.6t
Water	Yokkaichi Plant	PRTR substances 4.6t
City water18kt		Released into the water
Ground water	0.00	Total amount released 4,673kt
Industriat water	ALC: NO	COD 23.3t
		T-N 10.6t
Paw materials		T-P 1.8t
		PRTR substances 7.3t
		Waste material
	Chiba Plant	Amount generated
		Disposed of as landfill 7.3t
		Scope of aggregation: Yokkaichi Plant and Chiba Plant Period covered: April 1, 2018 to March 31, 2019

#### **Environmental Accounting**

Environmental accounting quantitatively determines and evaluates the amounts of investment and expenses for environmental conservation.

#### Environmental conservation costs

			Unit: Million yen	
	Classification	Substance of main measures	Investment amounts	Expense amounts
Cos	ts within business area		114	2,603
۲V	Pollution prevention costs	Air pollution prevention, water pollution prevention, etc.	(25)	(885)
akdov	Global environmental conservation costs	Global warming prevention, energy conservation measures, etc.	(55)	(394)
Bre	Resource recycling costs	Efficient use of resources, recycling of waste, etc.	(33)	(1,325)
Upstream and downstream costs		Purchase of recycled stationery (eco-label goods), etc.	0	2
Management program costs		Environmental management system maintenance, operation, etc.	0	31
Research and development costs		Research and development, etc. for products contributing to environmental conservation, etc.	0	251
Social program costs		Contributions to groups engaging in environmental conservation, support, etc.	0	0
Env	ironmental remediation costs	Oil spill liability insurance, levies on pollution loads	0	7
		Total	114	2,894

\* Some totals may not tally due to rounding.

#### Economic impact

	Unit: Million yen	
	Description	Amount
Profit	Sales of waste material (waste catalyst, scrap, etc.), sales of recovered containers	17

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Scope of aggregation: Yokkaichi Plant and Chiba Plant Period covered: January 1 to December 31, 2018

#### **Global Warming Prevention**

#### Energy consumption, specific consumption, and CO<sub>2</sub> emissions volume

As a designated business operator under the Energy Saving Law,\*<sup>1</sup> KH Neochem makes every effort to promote rational uses of energy. As a specified emitter under the Global Warming Law,\*<sup>2</sup> we are also working diligently to reduce  $CO_2$  emissions. In fiscal year 2018, our energy consumption and  $CO_2$  emissions volume as percentages from the previous year were 95.4% and 94.7%, respectively, showing a decrease. At the same time, specific energy consumption increased 5.2% compared with the previous fiscal year due the impact of such factors as product lineup differences and production problems. Going forward, the whole company will act together to improve the specific energy consumption and reduce  $CO_2$  emissions.

\*1. Energy Saving Law: the Law relating rational usage of energy
 \*2. Global Warming Law: the Law relating promote of the measure against global warming

#### Energy consumption and specific consumption



#### CO<sub>2</sub> emissions



# Energy consumption and specific consumption in physical distribution

As a designated shipper under the Energy Saving Law,<sup>\*1</sup> KH Neochem also promotes the rationalization of energy use during physical distribution. Specific energy consumption during distribution rose 0.7% in fiscal 2018 due to using more ground transportation, but we are continuing to reduce our energy consumption in several ways, such as increasing lot sizes and using improving additives for ship fuel, so that the rise in ground transportation can be kept to a minimum.

#### Energy consumption and specific consumption in physical distribution

Energy consumption (crude oil equivalent) (kL)



# Reduction of Amount Released into the Environment

#### Chemical substances

KH Neochem makes reports to the Japanese government in accordance with the PRTR Act<sup>\*3</sup> on the amount of Type 1 designated chemical substances manufactured, or used annually, that is released into the environment and on changes in those amounts. The amounts released are shown in the figure below.

This year, the amount of water-soluble zinc compounds released into the water was 1 tonne and was recorded in the amounts released, resulting in a sharp increase. To keep this from happening again, we have changed the method of calculation so that even those chemical substances for which the amount is less than a tonne and that do not require notification under the PRTR Act are included in the total.

\*3 PRTR Act: Act on Tracking the Amounts of Specific Chemical Substances Released into the Environment, and Promoting Improvement in the Management of these Substances

#### Amounts released



## Amount of PRTR Act Type 1 designated chemical substances released (fiscal year 2018)

[Top five substances by amount released]

					Unit. t
Ordinance	Substance name	Amount released			
number		Air	Water	Soil	Total
20	2-aminoethanol	1.4	1.3	0.0	2.6
12	Acetaldehyde	1.4	1.0	0.0	2.3
35	Isobutyl aldehyde	0.4	1.7	0.0	2.1
1	Water-soluble zinc compounds	0.0	1.6	0.0	1.6
300	Toluene	0.8	0.0	0.0	0.8

\* Some totals may not tally due to rounding.

Scope of aggregation: Yokkaichi Plant and Chiba Plant Period covered: April 1, 2018 to March 31, 2019

#### Air pollutants

For the sulfur oxides (SOx), nitrogen oxides (NOx), and dust discharged from boilers, liquid waste incinerators, sludge incinerators, and other such equipments, KH Neochem of course complies with emissions standards based on the Air Pollution Control Act, and we additionally comply with levels that have been agreed upon with local communities.

#### Amounts released (SOx, dust)



#### Amount released (NOx)



#### Levels agreed upon with local communities and annual maximum values

	S0x		NOx		Dust*1	
	Agreement level	Maximum value	Agreement level	Maximum value	Agreement level	Maximum value
Yokkaichi Plant	1.0 Nm <sup>3</sup> /h	0.0 Nm <sup>3</sup> /h	53.0kg/h	24.3kg/h	0.025 g/Nm <sup>3</sup>	0.001 g/Nm <sup>3</sup>
Chiba Plant	9.0 Nm <sup>3</sup> /h	0.1Nm <sup>3</sup> /h	12.0Nm <sup>3</sup> /h	2.3Nm <sup>3</sup> /h	4.5kg/h	0.6kg/h

\*1 Dust: At the Yokkaichi Plant, density controls are set per item of equipment. Here, the generator boiler figure is shown as a typical example.

#### VOICE

#### Employees speak out



Yokkaichi Plant Umaokoshi Product division 1

#### Maintaining safe and steady manufacturing plant operations

Through the end of 2018, I worked as an deputy manager for four and a half years in Yokkaichi Plant. I am currently in charge of manufacturing operations management. Our section manufactures 11 products at five plants and is engaged in various ways to maintain safe and steady operations. One of our initiatives was preparing a place where experienced workers can communicate with mid-level and young employees that have not yet dealt with certain problems to discuss how these problems were handled in the past. This was done to increase awareness of safety and security. In addition, to maintain a good environment around the plant, we have taken the initiative by, for example, reviewing ways to optimize cleaning procedures for equipment to prevent offensive odors and to ensure a thorough implementation. We will continue these initiatives so that people in nearby communities can have peace of mind.

Finally, I would like to say that I am very grateful for receiving a commendation at the Japan Petrochemical Industry Association's award ceremony\* in October 2018. It was a great encouragement for the future.

\*As a result of selection by the Plant Safety and Industrial Hygiene Committee of the Japan Petrochemical Industry Association, a letters of commendation from Chairman Morikawa to 13 people from 13 companies that were judged to have outstanding skills and that have produced excellent safety results at their worksite or division.

#### Water pollutants

KH Neochem complies with emissions levels based on the Water Pollution Prevention Act as well as with levels agreed upon with local communities for chemical oxygen demand (COD), total nitrogen (T-N), and total phosphorus (T-P) in wastewater.

(kt) 6,000 4,000 2,000 0 2014 2015 2016 2017 2018 (Fiscal year)

Amount released (total effluent discharged)

# Amount released (COD, T-N, T-P)

#### Levels agreed upon with local communities and annual maximum values

	COD		T–N		T-P	
	Agreement level	Maximum value	Agreement level	Maximum value	Agreement level	Maximum value
Yokkaichi Plant	201.2	137.1	46.0	36.5	13.0	9.6
Chiba Plant	124.0	79.3	90.0	52.3	12.5	3.2

Unit: kg/dav

#### Waste material

At KH Neochem we implement thoroughgoing separation of waste materials and engage in the 3 R's of waste, reduce, reuse, and recycle. We are moving forward to reuse acid waste and alkaline waste in our plants as well as to reduce their volume, to contract recycling treatment of waste catalysts, and to reuse incinerator waste as aggregate. For waste material that cannot be reused or recycled, we are making every effort to treat it to reduce its volume and to reduce the amount that goes to a landfill.

### Amount of waste generated, amount released, and amount treated as final landfill



#### Recycled amount and recycling rate



#### Waste material treatment flow



Scope of aggregation: Yokkaichi Plant and Chiba Plant Period covered: April 1, 2018 to March 31, 2019

#### **Safety and Disaster Prevention**

#### **Safety and Disaster Prevention Measures**

The Yokkaichi Plant and Chiba Plant each define their own Safety Management Policy in accordance with the Fundamental Policy for Safety Management (see p. 30). They carry out a variety of activities to secure the safety of their plants, including safety and environmental assessments, disaster preparedness training, and so on.

#### Safety and environmental assessment (SEA)

At KH Neochem, we conduct an SEA in advance to assess the environmental, safety, and health impact when introducing new technology, new processes, new facilities, new machinery, and new chemical substances. By using the SEA assessment results for feedback, we make every effort to heighten the safety of processes and equipment.

#### Emergency training

KH Neochem conducts periodic disaster preparedness training for emergency scenarios, as well as training in initial firefighting response and emergency reporting. We prepare so that we can respond promptly and appropriately, keeping damage to a minimum in the event of an emergency.



Disaster prevention comprehensive drill (Yokkaichi Plant)



Independent disaster prevention drill Disaster evacuation drill for tsunami (Chiba Plant) (Chiba Plant)

#### Accreditation as high pressure gas inspection executors (for both completion inspection and safety inspection)

This system, instituted by the High Pressure Gas Safety Act, enables companies that are recognized to have high standards for safety management, operations management, and equipment management, to conduct their own completion inspections and safety inspections in accordance with the High Pressure Gas Safety Act.

The Yokkaichi Plant has acquired this accreditation for six manufacturing facilities and the Chiba Plant has acquired it for one manufacturing facility. Both plants take steps for continuing improvement by implementing the Plan-Do-Check-Action (PDCA) cycle.

#### **Occupational Safety and Health**

#### **Occupational Safety and Health Measures**

KH Neochem conducts risk assessments<sup>\*1</sup> in order to assure the safety of employees and personnel engaged in work at our plants, as well as to take preventive action against disaster. We also conduct case studies on accidents and disasters that have occurred in the past, whether in the Company or elsewhere, and we make every effort to prevent the occurrence of similar accidents or disasters. We also engage in risk prediction activities using "hiyari hatto," close call recognition, and "kigakari memo," memos on matters of concern, improvement suggestion programs, and other everyday health and safety activities.

A revision of the Industrial Safety and Health Act has also made it mandatory to conduct risk assessments<sup>\*2</sup> of chemical substances. We began administration of these assessments when the amended law went into effect on June 1, 2016.

#### \*1 Risk assessment:

This refers to a series of techniques for identifying the risks and hazards in work, determining the seriousness and likelihood of work-related accidents arising from them, combining that information to estimate the risks, deciding on a priority for countermeasures based on the magnitude of those risks, studying measures to eliminate or reduce the risks, and keeping a record of the results.

#### \*2 Chemical risk assessment:

This refers to the identification of the risks and hazards of chemical substances and products, estimation of the likelihood of risk to workers or damage to their health, and studying measures to reduce the risks.

#### **Status of Work-related Accidents**

There have been zero accidents resulting in lost workdays at the Yokkaichi Plant since October 11, 2008, and at the Chiba Plant since September 3, 2010. In the 2018 fiscal year, however, there were accidents at each plant one by one that did not result in lost workdays. We are making every effort to examine the root causes of these accidents and to devise countermeasures, including safety education and equipment improvements, to prevent a reocurrence.

In 2004, the Yokkaichi Plant set the Japan Industrial Safety and Health Association record (for that time) for the longest accident-free period classified by industry and the record has been kept to date. Domestically, the plant is holding the position among the top record holders for accident-free working hours classified by industry (organic chemical product manufacturing industry: 23,953,235 hours, as of October 2008). In 2005, the plant celebrated reaching 10,000 continuous days of accident-free work, and erected a commemorative monument.



Monument commemorating continuous accident-free days

#### Number of work-related accidents



#### Frequency rate (accidents resulting in lost workdays)



Frequency rate: Indicator of the frequency of accident occurrence (Number of fatalities and injuries)  $\div$  (Cumulative number of actual work hours)  $\times$  1,000,000

#### Severity rate



Severity rate: Indicator of the seriousness of an accident (Cumulative number of lost work days)  $\div$  (Cumulative number of actual work hours)  $\times$  1,000

# Social Contribution Activities

#### Physical Distribution Safety and Chemical and Product Safety

#### Yellow cards\*1

For preparedness in the event of an accident while transporting KH Neochem products, we have created yellow cards that set out the measures to take in case of an emergency, who to contact, and so on. We make certain that these cards are always carried by the drivers of tanker trucks or other vehicles during transportation.

\*1 Yellow cards: Cards in line with Japanese law that are attached only to products shipped to locations within Japan

#### Chemical substance management

KH Neochem gives first priority to providing correct information so that our products can be used safely, and the Company is taking measures to put this into practice. Inside Japan, we create SDS<sup>\*2</sup> and labels displaying risk and hazard information and safety measures according to JIS standards, which are GHS<sup>\*3</sup> compliant. In other countries, we implement measures as necessary in accordance with that particular country's GHS system.

\*2 SDS: Safety data sheets \*3 GHS: Globally Harmonized System of Classification and Labelling of Chemicals

#### Container labels

We affix labels to our product containers as cautionary notices to people who handle KH Neochem products.\*4

For products exported to other countries, we provide information and other support of every kind to the local importers who are responsible for affixing container labels.

\*4: For products we ship for use in Japan, we affix labels to all containers.

#### Safety data sheets (SDS)

At KH Neochem, we create a safety data sheet (SDS) for all products that we guarantee the quality of, and we provide these sheets to customers and distributors. For export products, we prepare and provide an SDS using the official language of the country in line with the legal framework of the exporting country.

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#### Container labels (KH Neochem Americas Version)



SDS (general-nurnose English-language version

Safety Data Sheet	(06-08) Page 1 (
	First issue: 22.08.15
TRADE NAME: ISONO	NANOIC ACID (KYOWANOIC-N) Revised: 07.05.20
1. CHEMICAL PROD	DUCT AND COMPANY IDENTIFICATION
Trade Name	SDS No.: 06-08
	ISONONANOIC ACID (KYOWANOIC-N)
Company Name: KH	Neochem Co., Ltd.
Address: 2-3-1, Niho	nbashi-Muromachi, Chuo-ku, Tokyo, 103-0022, Japan
Department for inten	TEL +81,3,3510,3581 EAX +81,3,3510,3571
Emergency Contact	Number:
	TEL +81-3-3510-3561 FAX +81-3-3510-3571
	N COMPOSITION
Chemical Name	3,5,5-TRIMETHYLHEXANOIC ACID
Synanym	KYOWANDIC-N, NDIC-N
Content Structural Formula	15 TUP CH-COOH
Molecular Formula	CiH+rO:
Molecular Weight	158.2
UN No.	Not requiated.
EINECS No.	221-975-0
ENCS No.	(2)-608
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KH Neochem is working to contribute to society through business and communications activities for the sustainable development of society. We are strengthening our approach to community service by emphasizing activities with deep local roots in Yokkaichi City, Mie Prefecture and Ichihara City, Chiba Prefecture in particular, where our plants are located.



#### Donation and Painting of Benches at a Sports Field (Ichihara City, Chiba Prefecture)



Painting work

#### Background

On this occasion, when considering what to do, we talked with people at Ichihara City Hall about activities that would make the community happy. After that, we received proposals from the city hall, and we carefully reviewed them to see which ones were in line with our five guidelines for social contribution activities. The one that most closely aligned with these guidelines was the donation and painting of benches at Ichihara Sports and Recreation Park.

#### Activity Report

With the paint we use on our products, our employees and officers hand-painted 84 benches at Ichihara Suporeku Park. The work was performed by 96 volunteers from the whole company. Being unfamiliar with this type of work, the volunteers had expected it to take some time, but they all worked quietly and with serious faces, finishing in an hour-half

Strengthening Social Contributions
<ul> <li>Conducted in-house questionnaire (survey) for all employees regarding social contribution activities</li> <li>*573 responded, approximately 90% of employees (non-consolidated)</li> </ul>
• Decided on substance of social activities after reviews and discussions that included management based on the results of the employee survey
<ul> <li>Touched up paint at a sports field in Yokkaichi City, Mie Prefecture</li> </ul>
Touched up paint at a sports field in Ichihara City, Chiba Prefecture

the time they had planned on. For that reason, they decided on the spot to give the benches a second coat, which had not been planned. The work was still finished quickly, and they were able to complete everything within the time allotted. Ichihara City Mayor Joji Koide came to see the painting work, and he watched with admiration as the employees painted the benches. At the closing ceremony, there was an unveiling of a commemorative plaque describing the social contribution activity. Mayor Koide then made some remarks and presented the volunteers with a letter of appreciation. At the end, Akio Nakahashi, manager of the Chiba Plant, gave the closing remarks saying, "I'm very glad that we were able to perform an activity that will make the people of Ichihara City happy."

Ichihara Sports and Recreation Park is the practice field for Japan's representative rugby team, the Sunwolves, who play in the international Super Rugby league. The KH Neochem name can now be seen in a place that attracts attention, so the activity was also very meaningful for our company. We plan to continue with this type of activity next year and beyond. Our hope is to continue making contributions to local communities and various other stakeholders on an active and ongoing basis.



Mayor Koide (second from left) watching the work



Letter of appreciation from Ichihara City

# Measures Taken at Plants



# 🏙 Yokkaichi Plant, R&D Center

• Umaokoshi Plant, R&D Center 2-3 Daikyo-cho, Yokkaichi City, Mie Prefecture • Kasumigaura Plant 1-4 Kasumi, Yokkaichi City, Mie Prefecture

Number of Employees 380 (as of June 2019)

Location

# Yoshiaki Kondo Executive Officer Plant Manager

#### Environmental and safety topics

- Participated in a volunteer cleanup of the Takamatsu shoreline at Kawagoe-cho
- Participated in a volunteer cleanup at Mitaki Park
- Participated in a volunteer cleanup of Route 23 pedestrian crossings
- Participated in *satoyama* (wood lands) conservation in the southern part of Nanbukyuryo Park
- Participated in a volunteer cleanup of Kyohoku-dori Avenue
- Cleaned safety mirrors at road curves in Kyohoku area
- Employee received a commendation from the Japan Petrochemical Industry Association
- Employee received a commendation from a director of the Mie Prefecture High Pressure Gas Safety Association

#### Initiatives at R&D Center, Yokkaichi Plant

Cleaning safety mirrors at road curves



This activity was planned out of a desire for local elementary and junior high school students to be able to commute to school safely and with peace of mind at the start of the new school year. In cooperation with the area's civic center, residents' association, and other groups, we cleaned the safety mirrors at road curves in the area. Employee volunteers cheerfully cleaned mirrors in 51 locations in the balmy spring weather when the cherry trees were in bloom.

#### Plant tour for elementary school students



Cooperating with a local nonprofit organization, we held a plant tour to deepen understanding of petrochemical complexes and create fun summer break memories. We invited 20 elementary school students from the city to learn about and tour the plant, and they made handicraft objects from sheets of plastic.

#### **Chiba Plant** Щњ,

🔵 11-1 Goi Minami-kaigan, Ichihara City, Chiba Prefecture Location Number of Employees 120 (as of June 2019)

#### Environmental and safety topics

- Cosponsored Goi Rinkai Festival • Held plant tour for local children and students
- Participated in a volunteer cleanup of Route 16
- Carried out traffic safety exercise on Route 16

#### Chiba Plant Initiatives

#### Goi Rinkai Festival



We ran a refreshment booth at the Goi Rinkai Festival, which was mainly organized by the local companies, including KH Neochem and the neighborhood associations from the Goi area. The event was a great success, with many local people, Ichihara Mayor Koide, and the Ossa-kun mascot paying visits. We will set up booths in the future to contribute to the community.



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Responsible Care related data for our plant is available on our website: http://www.khneochem.co.jp/en/csr/rc/



Akio Nakahashi Executive Officer Plant Manage

 Participated in volunteer activities at the Kazusa Ichihara Kokufu Festival • Helped conserve and protect Japanese white pine trees, an endangered species





We hosted a field trip for local high school students in cooperation with Ichihara City and the Ichihara Chamber of Commerce and Industry. The students toured the plant on a large bus and learned about the jobs performed by young employees.

This was the first activity of this kind by the Chiba Plant, but we believe that everyone got a sense of both the difficulty and excitement of working, which was the objective.

# Communication with Shareholders and Investors

#### Introduction to IR Activities in 2018

No.	Month	Description of activity	Reference
1	Jan.	Plant tour for institutional investors	Chiba Plant
2	Feb.	Financial results briefing	2017 financial results
3	Mar.	Overseas Investor Conference (Tokyo)	European and American institutional investors
4	May	Financial results briefing (telephone conference)	1Q 2018
5	June	Overseas IR	London and Edinburgh
6	June	Individual Investor Briefing	Ichihara City, Chiba Prefecture
7	Aug.	Financial results and business briefings	2Q 2018
8	Aug.	Individual Investor Briefing	Tokyo
9	Sept.	Overseas Investor Conference (Tokyo)	Overseas and Japanese institutional investors
10	Nov.	VISION 2030 and financial results briefing	3Q 2018
11	Dec.	Individual Investor Briefing	Tokyo

#### **Communication with Shareholders**

KH Neochem holds a regularly scheduled general meeting of shareholders in March every year. The general meeting of shareholders is our highest decision-making body. We also consider it a valuable opportunity for us to engage directly in dialogues with our shareholders, and we make every effort to schedule the meeting for a time and place that will make it easy for shareholders to attend. We communicate the details of our business activities and our work in an easyto-understand way by using videos and setting up exhibit booths to introduce our business. Moreover, we aim to make reading our semiannual business reports twice a year more worthwhile and to incorporate special features on VISION 2030 and the Third Medium-Term Business Plan as well as other business topics.

#### **Communication with Investors**

Our corporate executives actively communicate with investors in order to deepen their understanding of the substance of our business and our performance. For example, in 2018, we held four financial results briefings, as well as long-term vision and business overview briefings, plant tours, individual investor briefings, and other events (shown in the table above) where investors were able to learn about our management policies, business performance, safety and environmental efforts, and other aspects of our business. Additionally, in February 2019, we participated in the TSE IR Festa, an extremely meaningful occasion for KH Neochem executives to field questions from many individual investors and hear their thoughts and impressions.



[Top left] General meeting of shareholders [Bottom left] Exhibit area introducing our businesses [Top and bottom right] Our business report



[Top left] Financial results briefing [Bottom left] TSE IR Festa [Right] Our investor relations website

#### Included in the 2019 SNAM Sustainability Index

KH Neochem was selected for inclusion in the 2019 SNAM Sustainability Index (around 300 companies with outstanding environmental, social, and governance [ESG] performance) established by Sompo Japan Nipponkoa Asset Management (SNAM).



# Support of Athletes

#### Sponsorship Agreement with Short Track Speed Skating Athlete

On October 9, 2018, we signed a sponsorship agreement with short track speed skating athlete, Moemi Kikuchi. Ms. Kikuchi is working tirelessly with her sights set on a medal at the 2022 Winter Olympics in Beijing and is actively competing on the global stage. We are impressed with her motivation and will fully support her as she works toward her goals.



#### Corporate Overview (as of June 30, 2019)

Establishment	December 2010 (Our predecessor Kyowa Yuka, was established in November 1966)
Capital	8.8 bnJPY
Head Office	2-3-1, Nihonbashi-Muromachi, Chuo-ku, Tokyo 103-0022, Japan
Affiliations	Kurogane Kasei Co., Ltd. Kurogane Fines Inc. J-Plus Co., Ltd.* *Joint venture with Mitsubishi Chemical Corporation



2016

2017



#### Athlete profile

		-Office -	
Name:	Moemi Kikuchi		
Date of birth:	April 6, 1992	Photo: Afle	o Sport
Height:	158 cm		
Birthplace:	Minamiaiki Village, Minamisaku Distr Nagano Prefecture	ict,	
Education:	Nozawa Kita High School, Waseda University, Waseda University Gradua School (currently enrolled)	ate	
Favorite food:	Udon noodles		
Hobbies:	Cooking dashi-based dishes, making sweets, photography with a single-le reflex camera, studying languages	ns	

Started short track at the age of eight.

- Debut at the World Junior Championships Fourth 2009 place in the 3000 m relay
- 2010 Overall winner of the All Japan Junior Championships
- Represented Japan at the Sochi Olympics 2014 First place in 500 m and 1000 m races at All Japan Short Track Speed Skating Championships
  - Third place in 3000 m relay at World Cup in Germany
  - Overall winner of All Japan Championships
- Third place in 3000 m relay at World Championships 2018 New Japanese record in 3000 m relay at Word Cup in Canada
- Third place in 3000 m relay at World Cup in USA 2019 JOC-certified athlete

#### Company events

Ms. Kikuchi contributes to employee unity and the challenge of achieving further heights.

#### Cheering tour

Company volunteers gather together at major competitions in Japan to cheer her on



