Mitsubishi Chemical Holdings
KAITEKI Value for Tomorrow

Sustainability

Health

Comfort

COMPANY HANDBOOK
2019
Our Group at a glance
Who We Are

Message from the Top Management

Realizing THE KAITEKI COMPANY with a truly global recognition

Greetings, I’m Hitoshi Ochi, the CEO.

In today's society, we face a range of issues: climate change, water shortages, resource and energy issues, and increasing medical costs associated with aging populations, to name a few. Meanwhile, scientific and technological developments are occurring at ever-faster rates in areas such as information and communication technology (ICT), artificial intelligence (AI), robotics, mobility, medical and healthcare. These have the potential to bring about significant innovations.

Given this environment, we believe it is our mission to bring together the innovation capabilities possessed by our domestic and overseas group companies so that we can continuously offer solutions to the above social problems.

Designating “Sustainability, Health and Comfort” as our core values, we globally operate a wide range of businesses grouped under three domains: Performance Products, Industrial Materials and Health Care. We work together with some 70,000 fellow co-workers in over 40 countries and regions. Through these operations, we work to continue to merit the trust of society.

Our company slogan, “KAITEKI Value for Tomorrow,” encapsulates our strong will and determination to take the initiative to realize KAITEKI—that is, to achieve the sustainable well-being of people, society and our planet Earth.

In order to merit the trust of our stakeholders, we at Mitsubishi Chemical Holdings Corporation will bring together our Group’s diverse strengths and continue to actively accept the challenges it takes to maximize corporate value and realize KAITEKI.

We therefore ask for your continued support and encouragement.

Hitoshi Ochi
Representative Corporate Executive Officer, President & CEO

Mitsubishi Chemical Holdings Corporation

Established October 3, 2005
Head office 1-1, Marunouchi 1-Chome, Chiyoda-ku, Tokyo 100-8251, Japan
President Hitoshi Ochi
Paid-in capital ¥50.0 billion
Listings Tokyo Stock Exchange
Activities Management of the Group companies (Development of Group strategies and allocation of financial resources, etc.)
Business domains Performance Products, Industrial Materials and Health Care

Consolidated sales revenue (IFRS) ¥3,923.4 billion
Consolidated core operating income (IFRS) ¥317.2 billion
Number of employees (consolidated) 72,020
Website https://www.mitsubishichem-hd.co.jp/english/
*All figures are for the year ended March 2019 (FY2018).

Financial Highlights (consolidated)

<table>
<thead>
<tr>
<th>Year</th>
<th>JGAAP Sales revenue</th>
<th>Operating income (JGAAP) / Core operating income</th>
<th>IFRS Sales revenue</th>
<th>Operating income (IFRS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2014</td>
<td>¥3,923.4 billion</td>
<td>165.7% (317.2 billion)</td>
<td>¥3,923.4 billion</td>
<td>126.5% (317.2 billion)</td>
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<td>FY2015</td>
<td>¥3,823.1 billion</td>
<td>165.7% (298.0 billion)</td>
<td>¥3,823.1 billion</td>
<td>165.7% (298.0 billion)</td>
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<tr>
<td>FY2015*</td>
<td>¥3,823.1 billion</td>
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<tr>
<td>FY2016*</td>
<td>¥3,823.1 billion</td>
<td>165.7% (355.7 billion)</td>
<td>¥3,823.1 billion</td>
<td>165.7% (355.7 billion)</td>
</tr>
<tr>
<td>FY2017</td>
<td>¥3,724.4 million</td>
<td>165.7% (380.5 billion)</td>
<td>¥3,724.4 million</td>
<td>165.7% (380.5 billion)</td>
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<tr>
<td>FY2018</td>
<td>¥3,923.4 billion</td>
<td>165.7% (380.5 billion)</td>
<td>¥3,923.4 billion</td>
<td>165.7% (380.5 billion)</td>
</tr>
</tbody>
</table>

*Figures are recorded without including the discontinued business.
Diverse business lines

Through our three business domains, Performance Products, Industrial Materials, and Health Care, we offer a wide range of solutions, based on the values of sustainability, health, and comfort.

Performance Products

We contribute to realize a sustainable society by providing differentiated, high-performance solutions utilizing the Group’s wide range of products and technologies.

Industrial Materials

Our products and technologies support a variety of industries and societies. We are proceeding with the diversification of raw materials, including renewable resources and strengthening our business structures.

Health Care

Capitalizing on the Group’s comprehensive capabilities and network, we develop businesses for pharmaceuticals, active pharmaceutical ingredients and intermediates, pharmaceutical formulation materials, and advanced medication.

Focus markets / businesses

1. Automobiles, Aircraft (Mobility)
   - Lightweight composites
   - Environment-friendly materials

2. IT, Electronics, Displays
   - FPD materials
   - Semiconductor-related materials

3. Medical, Food, Bio Products
   - Food ingredients
   - Pharmaceutical materials
   - Medical-related products

4. Health Care
   - Pharmaceuticals
   - Regenerative medicine

5. Environment, Energy
   - Battery materials
   - Water treatment systems and devices

6. Packaging, Labels, Films
   - Food packaging films
   - Industrial films

Fundamental Industrial Materials (MMA • Petrochemicals • Carbon Products • Industrial Gases)
What We Do

Main Products

We contribute to realize a sustainable society by providing differentiated, high-performance solutions utilizing the Group’s wide range of products and technologies.

Performance Products

Polyester film
Global expansion in Japan, U.S., Germany, China and Indonesia for a wide array of applications including FPD, electric and electronic parts, industrial use, and packaging.

Poly-vinyl alcohol film for LCD
Special film for polarizing plate that is indispensable for LCD panels to display image.

High performance films
Expand uses in medical & food packaging by high functional films, such as multilayer co-extruded and gas barrier films etc.

Water treatment system & services
Promoting broad ranging projects worldwide, from component sales to system solutions, as a global leading company in water treatment.

Engineering plastic products
Global leader of engineering plastic stock shapes
With promoting metal replacement by high performance engineering plastic, we provide solutions, such as lighter weight, improvement of productivity, for industrial market.

Carbon fiber & composite materials
Expand uses in industries and automobiles by maximizing the capabilities of carbon fiber with composite materials and processing technologies

Alumina fibers
With excellent heat insulation, durability performance, and cushioning properties achieved by our world leading technologies, used globally in automotive exhaust gas treatment devices and heating furnaces in steel industry.

Performance polymers
A broad array of products, such as olefin based thermoplastic elastomers, functional polyolefin, PVC compounds and high gas-barrier resins, which enable customer innovation in applications ranging from medical and industrial use to daily necessities

Engineering polymers
With the increasing demand for various applications including automobiles and electronics, globally expanding the business by integrating our proprietary manufacturing process technologies with polymer design technologies and compound technologies

Sustainable resources
Expanding the lineup of the biobased engineering plastic “DURABIO®” with properties such as excellent transparency, optical properties, and durability, the biodegradable polymer “BioPBS™” and “Nichigo G-Polymer™”
What We Do

Performance chemicals
Chemicals that provide solutions to fields such as coatings, electronic materials, and health care based on polymer design and coating technologies.

Performance materials
Providing products that fulfill diverse needs by combining our original materials and technologies such as organic chemistry based on epoxies and acrylics, and silicon-based inorganic chemistry.

Food ingredients
Providing high level solutions to the food industry with a diverse product lineup, under the motto "Tasty, Healthy & Convenient".

Energy transduction materials
We provide LED phosphors and products of X-ray scintillators, which utilize proprietary technologies, globally.

Others
- Imaging materials
- OLED materials
- Semiconductor materials & services
- Groundwater membrane filtration system
- Artificial spa generator
- Agricultural materials
- Industrial materials, construction and civil engineering materials
- Fibers & Textiles
- Golf shaft
- Composite materials etc.

Main Products

Industrial Materials

Our products and technologies support a variety of industries and societies. We are proceeding with the diversification of raw materials, including renewable resources and strengthening our business structures.

MMA/PMMA
We provide MMA derivatives, acrylic resin (PMMA), and processed products globally through an integrated chain that uses MMA monomer as the raw material. We possess global top-class MMA production capacity that utilizes the three major manufacturing methods.

Polyolefin
High-function, high-quality lineups of products based on proprietary catalyst and process technologies
Supply for variety of grades applying to automotive, medical, food packaging etc.

Coke
Crafted technologies supporting core industries
World-class production capacity as a merchant coke producer

Needle coke/Tar
World-class quality through integrated production

Industrial gases
As industrial gas professionals, we offer powerful support to various industries by providing industrial gases safely in the most appropriate way.

Others
- Ethylene oxide/Ethanol
- Octanol/Normal butanol
- 1,4-butanediol/y-Butyrolactone
- Acrylonitrile/Acrylonitrile derivative etc.
What We Do

Main Products

Health Care

Capitalizing on the Group's comprehensive capabilities and network, we develop businesses for pharmaceuticals, active pharmaceutical ingredients and intermediates, pharmaceutical formulation materials, advanced medication.

Pharmaceuticals
Helping improve quality of life for numerous patients worldwide by developing pharmaceuticals that address unmet medical needs

- **Autoimmune diseases area**
  - Remicade: anti-TNFα monoclonal antibody
  - Simponi: anti-TNFα monoclonal antibody
  - Stelara: anti-IL-12/23p40 monoclonal antibody

- **Diabetes and kidney diseases area**
  - Tenelia: agent for treatment of type II diabetes mellitus
  - Canaglu: agent for treatment of type II diabetes mellitus
  - Canalia: agent for treatment of type II diabetes mellitus
  - Kremezin: agent for treatment of chronic renal failure

- **Allergy treatment diseases area**
  - Rupafin: agent for treatment of allergic disorders

- **Central nervous system diseases area**
  - Lexapro: anti-depressant agent

Vaccines
Periodic vaccines for children and preventive vaccines for influenza and other infectious diseases

OTC products
Gathering and distributing appropriate informations, we contribute to promoting proper use and self-medication of OTC medicines.

- **Main Products**
  - Tanabe ichoyaku urso: digestive medicine
  - Flucort f: agent for treatment of skin conditions

Capsules and pharmaceutical equipment
Providing high-quality, high-function hard capsules along with designing, developing and manufacturing pharmaceutical equipment and offering related technical services

Active pharmaceutical ingredients and intermediates
Providing health care products, including pharmaceutical ingredients and intermediates for cost-competitive, highly safe pharmaceutical products
Number of Subsidiaries and Affiliates

Broad geographical coverage

**Europe**
- 147

**North America**
- 75

**Japan**
- 306

**Asia Pacific**
- 217

**Central-South America**
- 8

**Africa**
- 1

**Total**
- 754

Sales by area

- Overseas **42.4%**
- Japan **57.6%**

*Year ended March 2019*

(As of March 31, 2019)
To achieve early commercialization of next-generation businesses in our focus markets, the Mitsubishi Chemical Holdings Corporation (MCHC) Group takes a multi-dimensional approach to innovation. For current and adjacent technology and business areas, the wide-ranging R&D efforts of our four main Business Companies take the lead. We increasingly leverage synergies between multiple MCHC Group companies to create value.

In addition, MCHC’s Emerging Technology and Business Development Office (ETBDO) is introducing new platform capabilities across the MCHC Group, notably in digital transformation, global venture engagement, and new market development.

Digital Transformation
In order to realize digital transformation, we leverage both digital technology and “digital way of thinking” to solve problems relevant to our business. From the viewpoint of operational excellence, we exploit machine learning, text mining, and optimization techniques in order to improve plant stability, optimize energy usage, and improve product quality. We continuously introduce these capabilities to the operating groups of MCHC.

Corporate Venture Activity
We provide new growth opportunities across the entire MCHC Group through strategic partnership with promising startup companies worldwide. In July 2018, we established Diamond Edge Ventures, a new subsidiary company based in Silicon Valley (U.S.). We created streamlined processes allowing us to move at “startup speed”, while maintaining close collaboration between our Silicon Valley and Japan teams.
**Initiatives for realizing KAITEKI**

**Management Philosophy**

--- **Mission** ---

We create innovative solutions globally based on our core values of Sustainability, Health and Comfort, striving for the well-being of people, society and our planet Earth.

--- **Vision** ---

Realizing KAITEKI

--- **Value** ---

Sustainability, Health, Comfort

**MOS Indices**

Since FY2011, the MCHC Group has used the MOS Indices as the Group’s new management index for visualizing the degree to which our corporate activities contribute to the sustainability of people, society and the Earth.

We aim to achieve all targets of MOS indices by FY2020, the final year of our medium-term management plan.

Please see our website for details of our achievements regarding this matter.

**Promotion of KAITEKI Management**

To realize KAITEKI, we have adopted an approach called “KAITEKI Management”. It is a management approach to enhancing corporate value based on three types of management.

Two of them, Management of Economics (MOE) and Management of Technology (MOT), have been traditionally emphasized. MOE promotes to optimize capital efficiency within our company, and MOT strives to create innovations for society. And the third management approach, Management of Sustainability (MOS), has a new perspective and aims to improve the sustainability of people, society and the Earth.

KAITEKI Management is unique, and we call the value created from the three kinds of management “KAITEKI Value”. We believe that enhancing KAITEKI Value will lead to the realization of KAITEKI. We promote this management approach aiming to generate revenue and develop ourselves sustainably while contributing to solving environmental and social issues as a company.

<table>
<thead>
<tr>
<th>MOS Indices</th>
<th>Initiatives</th>
<th>Related SDGs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Index that need to be achieved</strong></td>
<td>Achieve zero occurrence of serious accidents and compliance violations</td>
<td></td>
</tr>
<tr>
<td><strong>S Index</strong></td>
<td>S-1</td>
<td>Contribute to reducing the environmental impact</td>
</tr>
<tr>
<td></td>
<td>S-2</td>
<td>Efficient use of resources and energy</td>
</tr>
<tr>
<td></td>
<td>S-3</td>
<td>Contribute to the sustainability of the environment and resources through products and services</td>
</tr>
<tr>
<td><strong>H Index</strong></td>
<td>H-1</td>
<td>Contribute to medical treatment</td>
</tr>
<tr>
<td></td>
<td>H-2</td>
<td>Contribute to the prevention and early detection of diseases</td>
</tr>
<tr>
<td></td>
<td>H-3</td>
<td>Contribute to achieving healthy and hygienic lives through products and services</td>
</tr>
<tr>
<td><strong>C Index</strong></td>
<td>C-1</td>
<td>Endeavor to earn greater recognition of corporate trust from society</td>
</tr>
<tr>
<td></td>
<td>C-2</td>
<td>Promote communication and work in concert with stakeholders</td>
</tr>
<tr>
<td></td>
<td>C-3</td>
<td>Contribute to achieving a more comfortable living environment and lifestyle</td>
</tr>
</tbody>
</table>
KAITEKI SQUARE

The showroom of MCHC Group

KAITEKI SQUARE was established in October 2012 at the headquarters in Palace Building as a showroom for the MCHC Group. It is an important platform for communication with our customers and clients, a place where we can exchange ideas about a better future.

KAITEKI SQUARE is comprised of three zones. The first zone is the Special Exhibition Zone, which focuses on the role of science and technology in solving various challenges facing 21st century society. The second zone is the Permanent Exhibition Zone, which introduces the technological capabilities and collective strength of the MCHC Group by showcasing products and technologies that the group is working on to aim at realizing KAITEKI. The last is the KAITEKI THEATER, which introduces video contents that we think about what we can do now for children of the future.

We look forward to welcoming more and more people to our showroom, and having meaningful discussions on how to realize KAITEKI in the future together.

Communicating with customers

Approaching to KAITEKI

The Corporate Message

KAITEKI Value for Tomorrow

The sustainable well-being of people, society and our planet Earth – we call it KAITEKI.

Through our core values of Sustainability, Health and Comfort, we create innovative solutions globally realizing KAITEKI.

Creating KAITEKI Value today we ensure a bright future for tomorrow.

We are THE KAITEKI COMPANY.
Initiatives for realizing KAITEKI

The KAITEKI Institute, Inc.

We established The KAITEKI Institute, Inc. (TKI) on April 1, 2009, as a global institute for research and investigation focused on meeting 21st century challenges in the areas of “healthcare” and “society”. The keywords that guide TKI’s activities are “Vita (Life) and Societas (Society)”, which represent our main research areas. TKI operates with a long-term perspective of 20 to 30 years to address some of the most difficult challenges that future generations of mankind will face. By functioning much like an antenna within the MCHC Group, TKI promotes research and investigation that will contribute to solving global issues and pioneer new business frontiers.

TKI is partnering with a global information networks of scientific and academic institutions, national laboratories, venture companies, and private research institutes to identify potential approaches, execute research programs, and develop science-based solutions.

Learn more about the KAITEKI Institute, Inc. @ http://www.kaikeki-institute.com/english

Initiatives with stakeholders

Contributing to society and earning public trust

Children’s Summer Vacation Science Experiment Event (Mitsubishi Chemical Holdings)

Out-of-school learning activity for junior high school students (Mitsubishi Tanabe Pharma)

Taiyo Nippon Sanso Soccer Class: Sergio Soccer Clinic (TAIYO NIPPON SANSO)

MCC has signed an official partnership agreement with Japanese Para-Sports Association (Mitsubishi Chemical)

Volunteer activities relating to disaster after severe rainfall (July 2018) (Mitsubishi Chemical)

“Kandu”, job experience entertainment-and-education theme park designed to be enjoyed by children and their families, has opened Planet Earth KAITEKI Stadium (Mitsubishi Chemical Holdings)

“Tokyo Greenship Action”, environmental activity (to conserve and restore natural woodlands) (Mitsubishi Tanabe Pharma)
Group Outline

Operating Companies

**Mitsubishi Chemical Holdings**

Company Name: Mitsubishi Chemical Corporation (Established on April 1, 2017)
Head Office: 1-1 Marunouchi 1-chome, Chiyoda-ku, Tokyo 100-8251, Japan
Line of Business: Performance products, industrial materials, and others
Sales Revenue (consolidated): JPY 2,661.7 billion
Number of Employees (consolidated): 40,507

**Mitsubishi Tanabe Pharma**

Company Name: Mitsubishi Tanabe Pharma Corporation
Head Office: 2-10 Dosho-machi, 3-chome, Chuo-ku, Osaka 541-8505, Japan
Line of Business: Ethical pharmaceuticals and other pharmaceuticals
Sales Revenue (consolidated): JPY 424.7 billion
Number of Employees (consolidated): 7,228

**TAIYO NIPPON SANSO**

Company Name: TAIYO NIPPON SANSO CORPORATION
Head Office: 1-3-26 Koyama, Shinagawa-ku, Tokyo 142-8588, Japan
Line of Business: Industrial gases and related equipment/devices, others
Sales Revenue (consolidated): JPY 740.3 billion
Number of Employees (consolidated): 19,229

**Life Science Institute, Inc.**

Company Name: Life Science Institute, Inc.
Head Office: THE KAITEKI Building, 13-4 Uchikanda 1-chome, Chiyoda-ku, Tokyo 101-0047, Japan
Line of Business: Healthcare and Medical ICT, Next Generation Healthcare, Drug Discovery and Development solution
Sales Revenue (consolidated): JPY 131.8 billion
Number of Employees (consolidated): 4,752

*IFRS base*