

Denka Group

## CSR REPORT

# 2016

## Site Reports

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# Omi Plant



## Overview

**Operations** Since our establishment in 1921, we have maintained unique carbide chemical operations that exploit in-house assets. These include Mount Kurohime, which has five billion metric tons in limestone reserves, and an in-house power generation capacity of 180,000kW. Our broad product range includes calcium cyanamide, chloroprene rubber and cement. Having expanded into the fields of inorganic fine chemicals and pharmaceuticals in recent years, we are continuously taking on diverse challenges in the field of chemistry.

**Products**

- **Elastomers & Performance Plastics:** Chloroprene rubber, POVAL, etc.
- **Infrastructure & Social Solutions:** Cement, special cement additives, calcium carbide, calcium cyanamide, ALCEN, etc.
- **Electronics & Innovative Products:** Monosilane gas
- **Life Science & Environment Products:** Macromolecular sodium hyaluronate
- **Others:** Eel farms

**Address** 2209, Oaza Omi, Itoigawa, Niigata Telephone: +81-25-562-6105

**Employees** 851 (as of March 31, 2016)



**Toshiharu Kano**  
Senior Managing Executive Officer,  
General Manager of Omi Plant

## Message from the General Manager

The Omi Plant is Denka's main plant and utilizes a range of resources to manufacture goods essential to society. Our activities sometimes entail the handling of hazardous substances in a high-temperature environment. Accordingly, we have made the careful handling of such substances and the prevention of their release into the environment our most important mission as a chemical company and recognize said practices as key to continued production activities.

In addition, we view the payment of corporate income taxes and the creation of employment as essential aspects of our contribution to the local economy. Therefore, it is important to maximize profitability and create job opportunities in the community. In the face of growing calls for business initiatives aimed at revitalizing rural regions, we have committed ourselves to dialogue with the local community while securing sustainable profit, thereby creating a plant deserving of society's trust.

## CSR Policies

### General Manager's Policies

#### 1 Occupational Safety and Health

- Putting the utmost priority on occupational safety and health
- Achieving zero accidents and disasters
- Ensuring managers are prepared to deal with worst case scenarios and conducting hazard prediction
- Ensuring each operator is aware of their responsibilities regarding safe behavior

#### 2 The Environment and Facility Security

- Complying with environmental and facility security standards
- Securing the safety of neighboring areas
- Stepping up security measures
- Thoroughly removing dangerous materials while getting rid of combustible materials from high-temperature worksites

#### 3 Initiatives for the Next 100 Years

- Enhancing productivity
- Reducing inventories
- Creating an optimal production system attuned to sales circumstances

#### 4 Production Technologies

- Resolving fundamental issues related to the improvement of in-house power generation facilities
- Achieving the full utilization of thermal power generation facilities
- Realizing low-cost processes
- Reducing facility failures

#### 5 R&D

- Releasing new products as early as possible
- Accurately assessing customer requests
- Conducting profit-oriented R&D
- Enhancing technical services

## Fiscal 2015 Achievements under the CSR Policies

### The Himekawa Port Comprehensive Emergency Drill



Assuming a major earthquake, we participate in joint fire drills with representatives from Himekawa Port and relevant government agencies. Using a fire hoses to put out an oil fire (September 29, 2015)

### Comprehensive Emergency Drills



We carry out comprehensive emergency drills on our premises in tandem with the Itoigawa City Fire Department and other local fire brigades. Fire extinction practice (June 30, 2015).

### The Himekawa River Cleaning Mission



We take part in annual cleanup activities hosted by the Sekikawa and Himekawa River Systems Water Pollution Countermeasure Liaison Council in conjunction with national "River Protection Month." Our activities include cleaning areas around the Himekawa River, a class A river. Cleaning the river bank (July 3, 2015)

### Beach Cleanup Campaign



Every year, we engage in beach cleanup campaigns on the Omi coast. Plant staff who participated in the beach cleanup campaign around the mouth of the Tomigawa River (August 28, 2015).

### Itoigawa Omanta Festival



A number of plant staff participate in this summer festival held in Itoigawa City. A grand festival parade (August 1, 2015)

### The First Denka Big Swan Football Festival



In collaboration with Itoigawa City and other relevant organizations, we held a football event at the DENKA BIG SWAN STADIUM to which we invited approximately 800 children and their parents from local and surrounding communities. With athletes from the ALBIREX NIIGATA football club providing instruction, children took part in football clinics while interacting each other through games. Children lining up at the pitch at the event (October 18, 2015)

## Future Initiatives

We will ensure that every employee places the utmost priority on safety. We will also continuously promote safety assurance activities that leverage the strength of each department. Proactively engaging in environmental conservation and social contribution initiatives undertaken both inside and outside the plant, we will create a facility deserving of the trust of the local community.

# Omuta Plant



## Overview

**Operations** Established in 1916, the Omuta Plant is Denka's oldest plant and the first to manufacture carbide and calcium cyanamide. Since that time, as an inorganic chemical product manufacturing base boasting proprietary electric furnace, high-temperature control and nitride technologies, the Omuta Plant has introduced a number of unique products. Currently, we are strengthening our operations related to fine ceramics and electronic materials in order to contribute to the development of the electronics, automotive and numerous other industries.

**Products**

- **Infrastructure & Social Solutions:** Calcium carbide, calcium cyanamide, fire resistant materials for steel making, alumina cement and special cement additives
- **Elastomers & Performance Plastics:** Acetylene black
- **Electronics & Innovative Products:** Fused silica filler, spherical alumina, silicon nitride, boron nitride, ceramic electronic circuit substrates, thermally conductive sheets, ceramic composite and LED phosphors

**Address** 1, Shinkai-Machi, Omuta, Fukuoka Telephone: +81-944-52-1055

**Employees** 605 (as of March 31, 2016)



**Hideki Hirano**  
Executive Officer,  
General Manager of Omuta Plant

## Message from the General Manager

In 2016, we celebrate a landmark year, the centennial of the Omuta Plant's founding. We have carefully maintained some of the original 100-year-old plant buildings, and some structures are still being used now. Looking at it today, these representations of our heritage speak to our predecessors' outstanding technological capabilities and their unwavering commitment to precise manufacturing. We are the beneficiaries of a rich legacy. At present, amid a rapidly changing business environment, the outlook is becoming increasingly unclear. However, we believe that a key to creating a plant that thrives over the next generation is realizing a vibrant workplace environment where no one is in danger of accident or injury. Paying close attention to social trends as well as the plant's distinctive strength, we will maintain a high awareness of what must be preserved and what must be changed. In these ways, we will tackle the challenges presented by evolving trends, decisively moving toward our future.

## Fiscal 2016 CSR Policies

### General Manager's Policies

#### 1 Encouraging every worker to freely share his/her opinions and thereby creating a vibrant plant that thrives over the next 100 years

1. Initiating structural reforms to ensure our ability to move forward over the next 100 years while maintaining our mental flexibility
2. Realizing greater organizational strength through collaborative action backed by a sense of unity among all workers, including those from subcontractors, by cultivating a sense of ownership in each worker along with an awareness of overall plant operations
3. Placing the utmost priority on the safety of people and implementing a multi-faceted initiative to realize this priority in all aspects of our operations
4. Assessing the current status of our technological and on-site capabilities and thereby determining what needs to be preserved and what needs to be changed

#### 2 Promote R&D in tandem with customers by clarifying development timelines

1. Increasing contact points with markets to analyze customer needs and when they need it
2. Pursuing untouched technological development themes in order to deliver inspiring and innovative solutions

#### 3 Creating a vibrant workplace with a strong safety-oriented culture while giving due consideration to the environment

1. Managers are responsible for implementing the first three of the following policies and frontline operators the remainder.
  - Making sure that activities of workplace under his/her supervision are compliant with legal regulations and in-house rules
  - Executing facility and equipment inspections, providing sufficient employee education and preparing operational procedure documents without any shortfalls

- Reaching out to operators on-site and communicating with them to assess and improve their handling of issues
- Practicing the "pointing and calling" technique immediately prior to commencing an operation
- Maintaining a strong determination to comply with rules
- Protecting colleagues and yourself from danger through the practice of "Sorting," "Setting-in-Order" and "Shining"

#### 4 Engaging in facility maintenance and process improvement activities to stabilize quality and reduce cost

1. Stepping up facility management given the fact that plant conditions directly affect output
2. Achieving lower production costs and higher quality through process improvement and more stringent operational management, thereby enhancing our competitiveness
3. Boosting product quality through the introduction of a new quality management system in preparation for entry into new markets

#### 5 Creating a company deserving of society's trust and employees' pride while contributing to the creation of a better society

1. Society's trust is earned only through the actions of individuals
2. Therefore, everyone at the plant is encouraged to continuously develops his/her competencies while maintaining legal compliance and engaging in sincere dealings

## Fiscal 2015 Achievements under the CSR Policies

### Chemistry Classes for Children



We held special one-day chemistry classes aimed at providing fun learning experiences for students and their parents at local community facilities and elementary schools (August 1, 2015; at Ecosanc Center in Omuta City). We also participated in Omuta City's Omuta Ecotown Fair, offering experimental science classes that opened the eyes of many attendees to the possibility of chemistry (November 15, 2015).

### Omuta Daijaya Festival



We participated in the Omuta Daijaya Festival, the most popular of the area's festivals, with approximately 100 employees joining the main attraction of the festival, the "10,000 Person Dance." (July 25, 2015)

### Plant Tours



We invited high school and university students as well as members of agricultural associations to tour the plant, with the aim of facilitating their understanding of our business operations (May 29, 2015: Students from Miike Technical High School; June 8, 2015: Students from Omuta High School; December 2, 2015: Students from Saga University; March 8, 2016: Students from Kyushu University; a total of four occasions)

### Blood Donation Campaigns



We cooperated with blood donation campaigns on two occasions, with a cumulative total of 269 employees donating blood (June 12 and December 8, 2015).

### Volunteer Cleanup Activities



In collaboration with people from neighborhood, we undertook cleanup activities covering areas around the plant. (June 29 and November 4, 2015)

### Internships



We invited students from various high schools, vocational high schools and universities within and outside the prefecture to participate in a workplace experience program at the plant (a total of nine students; August 2015: Students from Miike Technical High School, Yame Technical High School, National Institute of Technology Kagoshima College and National Institute of Technology Sasebo College; January to February 2016: Students from Toyohashi University of Technology).

## Future Initiatives

Following the celebration of the centennial of Denka's founding, in 2016 the Omuta Plant marks the landmark 100th year of its inception. Going forward, we will proactively engage in volunteer cleanup activities, host chemistry classes for children and take part in charity fund raising for communities. With everyone at the plant embracing a sense of ownership as well as an awareness of its overall operations, all plant employees as well as those from subcontractors will work as one, thereby maintaining a key production base driving Denka's Group operations.

# Chiba Plant



## Overview

**Operations** The Chiba Plant serves as a core production base bolstering Denka's petrochemical operations. Begun as a styrene monomer facility, the plant is now also producing polystyrene, ABS resins, CLEAREN styrene-butadiene block copolymer, transparent plastics and other styrene-based materials as well as EVA emulsions and acrylic rubber while reinforcing such plastic processed products as biaxially oriented polystyrene sheet (BOPS), vinyl chloride tapes and housing and environmental materials.

**Products**

- **Elastomers & Performance Plastics:** Ultra-pure acetylene black, styrene monomer, polystyrene,\* ABS resin, transparent polymers, heat-resistant polymers, CLEAREN styrene-butadiene block copolymer, EVA emulsions and Denka ER (\*Product of affiliate TOYO STYRENE Co., Ltd.)
- **Life Science & Environment Products:** Food packaging, housing and environmental materials and vinyl chloride tapes

**Address** 6, Goi-Minamikaigan, Ichihara, Chiba Telephone: +81-436-26-3200  
Bibai Subplant: 1-1, Higashi-Gojo-kita 10-chome, Bibai, Hokkaido  
Telephone: +81-126-62-1444

**Employees** 480 (as of March 31, 2016)



**Ken Koizumi**  
Executive Officer,  
General Manager of Chiba Plant

## Message from the General Manager

The Chiba Plant aims to remain a manufacturing facility deserving of society's trust and, to this end, works hand in hand with communities surrounding it to achieve mutual development. At the same time, we will strive to fulfill our responsibilities with regard to environmental conservation and safe operations while contributing to society through the creation of new value. Embracing "The Denka Value," our new corporate philosophy, all plant workers commit themselves to sincerely tackling future challenges with an earnest attitude.

- Ensuring compliance
- Reinforcing operational excellence by nurturing human resources  
Passing down technologies, skills and empirical knowledge such as "know-why"  
Nurturing human resources equipped with independent-mindedness, a sense of ownership and strong commitment
- Continuously upgrading our facility security, occupational safety and health, environmental and quality management systems
- Reducing environmental burdens through such means as energy and resource saving
- Contributing to local society  
Proactively engaging in interaction with communities and disclosing information

## CSR Policies

### ■ General Manager's Policies for Fiscal 2016

- 1 Fulfill our social responsibilities by making constant improvements
- 2 Develop a more robust foundation for ensuring operational continuity

1. Nurture human resources
2. Facilitate a culture that places the utmost priority on safety while developing a foundation for safe operations
3. Secure stable profit to secure business continuity; Pursue relentless cost reductions to enhance our international competitiveness
4. Transform our business structure by shifting from producing petrochemical commodities to manufacturing highly functional products
5. Create a lively and vibrant workplace where everyone enjoys a fulfilling and rewarding occupational life

## Fiscal 2015 Achievements under the CSR Policies

### Advanced Chiba 50 Activities



In fiscal 2015, the Chiba Plant initiated the Advanced Chiba 50 activities in conjunction with the celebration of the 50th anniversary of its founding. Aiming to transform the plant's business structure in preparation for the next 50 years, these activities are centered on scrutinizing every cost element, stepping up the marketing of existing products through the enhancement of their functionalities and creating new businesses.

### Launching an Ultra-Pure Acetylene Black Production Facility



After completing an ultra-pure acetylene black production facility in April 2015, we brought this facility to a full-scale operation in October. We will maintain safe operations while steadily supplying products of high quality.

### Comprehensive Emergency Drills



We perform emergency drills in tandem with the local municipal fire department as well as a joint fire brigade put together by companies based in the same industrial complex to ensure readiness to swiftly and appropriately respond in the event of a natural disaster or other emergency. The latest drill centered on handling a leak.

### Holding a Safety Assurance Activity Presentation Meeting with Subcontractors



To ensure robust communication with our subcontractors, we invited their representatives to the meeting to have them brief us on their safety assurance activities, thereby stepping up collaboration aimed at achieving a zero accident and disaster status.

### Passing Down Skills, Knowledge and Expertise



We provided three training sessions with lectures by volunteer veteran employees. With the aim of passing their skills on and nurturing the next-generation of human resources, these sessions focused on such subjects as finance and plant design.

### Inviting Elementary School Students on a Joint Plant Tour during The Environment Month



During the Environment Month, which was designated by Japan's Ministry of the Environment, we organized a joint plant tour with two neighboring companies (Maruzen Petrochemical Co., Ltd. and Hitachi Chemical Company, Ltd.), welcoming 160 elementary school students who got a close look at the mechanism of petrochemical complexes and their output as well as companies' environmental initiatives.

## Future Initiatives

The Chiba Plant aims to remain a manufacturing facility worthy of society's trust over the next 50 years. Accordingly, we will place the utmost priority on safety and step up such ongoing initiatives as compliance, occupational safety and health, human resource nurturing, environmental conservation and local contributions in an effort to embody "The Denka Value," a new corporate philosophy.

# Shibukawa Plant



## Overview

**Operations** In 1951, the Shibukawa Plant was established as a production base for vinyl chloride polymers. In 1976, the plant began manufacturing HARDLOC structural adhesive. In 1984, the plant started expanding its business domain, making a full-scale entry into the electronic materials business. Currently, the Shibukawa Plant specializes in electronics-related products, encompassing electronic circuit substrates, thermally conductive materials, emitters, structural adhesives, temporary fixing adhesives and semiconductor processing-related products, helping drive Denka's growth strategies as a key organic electronic materials production base.

**Products** ● **Electronics & Innovative Products:** HITPLATE high thermal conductivity aluminum substrates, THERMALLY CONDUCTIVE SPACER, TFE and LaB6 CATHODE electron and ion emitters, ELEGRIP dicing tape and back grinding tape, HARDLOC structural adhesive, HARDLOC OP/UV light curing adhesive, TEMPLOC temporary fixing adhesive

**Address** 1135, Nakamura, Shibukawa, Gunma Telephone: +81-279-25-2109

**Employees** 401 (as of March 31, 2016)



**Shojiro Watanabe**

General Manager of Shibukawa Plant,  
Assistant to MEO, Electronics &  
Innovative Products Division

## Message from the General Manager

To achieve the goals of the Denka100 management plan, we will focus on our main production items, namely, electronic materials and other related products. In line with the plan's three growth strategies, we will actively engage in R&D in the automotive and other fields that have been positioned as growth drivers. By doing so, we will help reinforce the Group's growth track.

We also emphasize safety assurance, environmental conservation, compliance and quality management, all of which are vital components to the plant's operational foundation and as essential as production itself. With deep roots in Shibukawa City, Gunma Prefecture, we strive to contribute to local society by, for example, helping preserve the environment, interacting with residents and promoting the education and vocational training of young people. In these ways, we will ensure that our corporate activities benefit society and support its sound development.

## CSR Policies

### General Manager's Policies

Having celebrated the 101st anniversary of the Company's founding, we renewed our determination to embark on the next growth stage. To this end, we will pursue the following policies which clearly identify what must be preserved and what must be changed.

#### 1 Constantly strengthen our operational foundation

- Promote hazard prediction activities and initiatives to create a lively and vibrant workplace, thereby ensuring occupational safety and health as well as facility security
- Engage in ongoing initiatives to reduce environmental burdens and improve quality, with a strong commitment to legal compliance
- Develop a human resource base with diversity while proactively engaging in social contribution activities

#### 2 Solidify Our Growth Path (the Denka100 management plan)

- Tackle such issues as raising productivity and commercializing new products, thereby reinforcing our growth path in fiscal 2016 toward the goals of the Denka100 management plan

## Fiscal 2015 Achievements under the CSR Policies

### Experimental Chemistry Classes



The Shibukawa Plant hosted plant tours and experimental chemistry classes for local elementary school students during their spring and summer vacations. A number of participants experienced the excitement of chemistry by creating personalized PET bottles and "slime" (a viscous toy). (August 4, 2015 and March 28, 2016).

### City Officials Invited to Observe



Representatives from Shibukawa City's Environment Council, an advisory body for the city's government, visited the Shibukawa Plant to observe its environmental countermeasures (October 6, 2015).

### Plant Tours



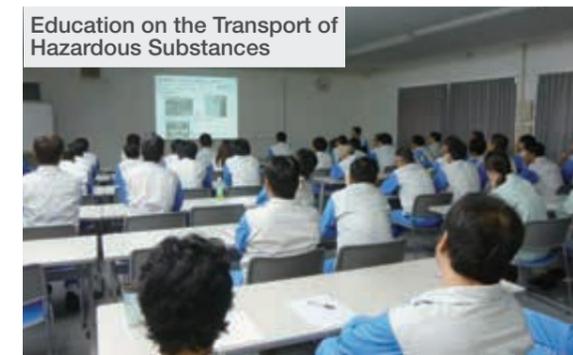
We hosted plant tours for students from local high schools and nursing schools as well as members of neighboring community associations, with the aim of enhancing their understanding of our operations. (April 22, 2015: Maebashi Commerce High School; June 26, 2015: Shibukawa Technical High School, etc.)

### Blood Donation



We supported blood donation campaigns on two occasions in spring and autumn in 2015. A number of our employees generously took part in the campaigns, and we received a letter of gratitude from the head of Japanese Red Cross Society's Gunma Prefectural Blood Center (May 27 and November 17, 2015).

### Education on the Transport of Hazardous Substances



Our products include HARDLOC, which is made of an acrylic adhesive and thus defined as a hazardous material under Japan's Fire Service Act. Accordingly, we implemented employee education about rules regarding the packaging, labeling and transportation of such materials for staff in the relevant department (September 3, 2015).

### Softball Game Jointly Hosted by Management and Labor Union



We host annual softball games in May in an effort to promote health awareness and facilitate interaction between management and the labor union as well as employees' families (May 23, 2015).

## Future Initiatives

- Placing the utmost priority on safety and in line with the CSR policies, we will strengthen the plant's operational platform, thereby maintaining our zero-accident and disaster status.
- We will acquire revised ISO 9001 and ISO 14001 certifications as part of our ongoing initiatives to reduce environmental burdens and improve product quality.
- To remain a plant worthy of the trust of society, we take part in local events, engage in social contribution activities and pursue a mutually beneficial coexistence with the local community.

# Ofuna Plant



## Overview

**Operations** Our product lineup is the fruit of cutting-edge technologies in ejection molding, adhesion coating and film production. We are Denka's prime production unit for plastic products. We manufacture a variety of offerings, such as TOYOKALON synthetic fiber for wigs and hairpieces now popular around the world, packaging tapes that boast unique functions, including hand-cuttable tapes, and Calalyan Y polyethylene film featuring excellent transverse direction (TD) mono-axial cut properties.

**Products** ● **Life Science & Environment Products:** Synthetic fibers for wigs, packaging materials and functional films

**Address** 13-1, Dai 2-chome, Kamakura, Kanagawa Telephone: +81-467-45-1110

**Employees** 199 (as of March 31, 2016)



**Kazuo Takahashi**  
General Manager of Ofuna Plant

## Message from the General Manager

The Ofuna Plant is a manufacturing facility based in Kamakura City, which boasts an outstanding cultural, historical and environmental legacy. Accordingly, we have made harmonious coexistence with the abundant nature of the surrounding area and thereby contributing to better living conditions and a sustainable society our primary environmental policy. Guided by this policy and backed by a firmly established environmental management system, we are striving to reduce waste and conserve energy while strictly observing environmental laws and regulations. Moreover, we proactively carry out hazard prediction activities and risk assessments as well as occupational accident and disease prevention initiatives based on strict legal compliance with occupational safety and health regulations. In these ways, we are creating a safe environment in which everyone can work with confidence.

### CSR Policies

#### ■ General Manager's Policies

Having adopted the slogan "Be sincere and bold in taking on every challenge coming our way," we are pursuing the following policies in accordance with the Denka Principle.

#### 1 Occupational Safety and Health Policy

We consider occupational safety and health of paramount importance to our production activities.

#### 2 Environmental Policy

We maintain production activities that harmoniously coexist with local society and the environment, thereby contributing to a sustainable society in which people can enjoy better living conditions and the rich blessings of nature well into the future.

#### 3 Quality Policy

We will supply safe and high-quality products in a timely manner, thereby enhancing customer satisfaction.

## Fiscal 2015 Achievements under the CSR Policies

### Donating Emergency Supplies



Commemorating the centennial of our founding, we donated a storage unit containing an extensive array of emergency supplies to the local town association (May 25, 2015).

### A Summer Festival



We made the square in front of the plant's main gate available for Fujimicho Town Association summer festival. Some stands were set up by employees, giving us the opportunity to deepen interaction with people from neighboring areas (July 11 and 12, 2015).

### Cleanup Activities in Neighborhood



In collaboration with a town association, we took part in cleanup activities in areas neighboring the plant, contributing to the beautification of local communities (September 27, 2015).

### Students from Ofuna Elementary School Enjoy a Plant Tour



Third graders from a local elementary school visited the plant and got to enjoy such activities as donning wigs made of Denka synthetic fiber. We received comments of appreciation from the students. (November 10, 2015).

### Hosting a Plant Tour for Students from Kamakura Jogakuin Junior High School



Seventh graders from a local junior high school students visited the plant and showed great curiosity about its manufacturing operations (November 5, 2015).

### Rice Cake Making



With the plant's labor union serving as the organizer, we hosted a rice cake making event at a town association facility, interacting with community residents and children (February 7, 2015).

## Future Initiatives

- Proactively conduct hazard prediction activities and risk assessments to continuously reduce worksite risks
- Upgrade our management systems in conformance with the revised ISO 9001 and ISO 14001 guidelines by the end of fiscal 2017
- Enhance mandatory job level-based training and thereby raise employee awareness of safety, environmental and quality issues
- Proactively engage in social contribution activities in tandem with community residents, with the aim of remaining a business site deserving the trust of local society

# Isesaki Plant



## Overview

- Operations** This plant manufactures sheets and films from polystyrene, vinyl chloride and other raw materials. We supply food and electronic packaging materials that meet stringent requirements for performance and quality management, and are endeavoring to bolster our processing technologies while developing value-added offerings.
- Products**
  - **Electronics & Innovative Products:** Carrier tapes, trays and cover tapes for semiconductor and electronic component transportation
  - **Life Science & Environment Products:** Food packaging sheets, stretch films and solar cell module back sheet materials
- Address**

Isesaki Plant: 245, Nishigawara, Naganuma-cho, Isesaki, Gunma  
Telephone: +81-270-32-1251

Isesaki Plant (Ota): 3015, Serada-cho, Ota, Gunma  
Telephone: +81-276-52-4111
- Employees** 248 (as of March 31, 2016)



**Koichi Taguchi**  
Executive Officer  
General Manager of Isesaki Plant

## Message from the General Manager

We began operations as a Denka Group subsidiary producing resin sheets and films. From the primary facility based in Isesaki City, Gunma Prefecture, we have expanded, establishing another facility in Ota City on National Route No. 17. The present Isesaki Plant comprises these two production sites.

Guided by “The Denka Value,” which identifies “Taking on the challenge of expanding the possibilities of chemistry to create new value and contribute to sound social development” as the Denka Mission, as well as Denka Principles, we place the utmost priority on safety while manufacturing high-quality products. Moreover, we work to create and deliver environment-friendly products. To remain a plant deserving the trust of society, we will continue striving to fulfill our responsibilities as a corporate citizen while growing in step with surrounding communities.

### CSR Policies

Make a strong start to the next 100 years, with all plant staff working as one!

#### 1 Occupational Safety and Health

- Maintain a strong awareness of our basic policy of placing the utmost priority on safety; engage in concerted efforts to promote safety assurance activities; and ensure that a safety-oriented culture is deeply embedded in our production sites as well as R&D facilities
- Create an inclusive and comfortable workplace environment in which every worker is free to share their opinions and concerns

#### 2 Quality

- Enhance the level of our product quality even further as we strive to ensure responsiveness to the latest technological trends
- Endeavor to improve quality through QC circle activities (g-r Activities) aimed at enhancing on-site capabilities

#### 3 The Environment

- Promote R&D aimed at reducing environmental burdens
- Advance production technologies to facilitate energy, resource and labor savings

## Fiscal 2015 Achievements under the CSR Policies

### Participating in the “Made in Isesaki” Exhibition



We support Isesaki City’s initiatives to enhance the recognition of the region’s handicrafts and industrial products by, for example, participating in manufacturer exhibitions. (November 14, 2015 at SMARK ISESAKI).

### Cleanup Activities at an Adjoining Park



We regularly engage in cleanup activities in a park within the industrial complex that houses the Isesaki Plant. Employees of the Ota facility collect garbage in streets around its premises.

### Comprehensive Emergency Drills



Every year, we carry out plant-wide fire drills to enhance our responsiveness to disasters and other emergencies (November 30 and December 16, 2015).

### QC Circle Gunma Section General Conference



Our plant staff’s active involvement in QC circle activities has led to the receipt of an Excellent Award at Fiscal 2015 QC Circle Gunma Section General Conference (May 19 and September 29, 2015).

### Joint Recreational Events Hosted by Management and the Labor Union



Management and the labor union—which have long maintained favorable and sound relationship—jointly host a variety of events at the plant with the aim of nurturing a sense of unity among employees (the picture shows participants in a softball game held on October 3, 2015).

### Calling Workers’ Attention to Safety



To enhance worksite communication and raise employees’ safety awareness, management and labor union representatives make rounds throughout the worksite to call attention to safety, especially at the end and in the beginning of each year as well as during a National Safety Week (July 1 and 2, 2015).

## Future Initiatives

In addition to ongoing safety activities undertaken by each employee, our initiatives include the introduction of automated operations aimed at reducing the physical burden on workers. As for quality management, we will strive to enhance the level of quality to ensure that our output is capable of satisfying ever-diversifying customer requirements.

Building on the sound relationship between management and the labor union, we will endeavor to create a comfortable workplace while contributing to local communities.

Steadily pushing forward with these and other initiatives, we will continue to give back to society.

# Denka Innovation Center



## Overview

**Operations** The Denka Innovation Center began operating at its current site after the Company relocated its Meguro Research Center from Meguro-ku, Tokyo, renaming it the Central Research Institute, in 1962. The facility has developed numerous core technologies in the areas of inorganic and organic chemicals, ceramics, petrochemicals, biotechnologies and plastics that laid the groundwork for Denka's business operations. The center will continue to serve as a focal point for the Denka Group's R&D efforts, focusing on developing next-generation products that may become major profit sources in the medium to long term while further reinforcing its core technologies.

**Address** 5-1, Asahi-cho 3-chome, Machida, Tokyo Telephone: +81-42-721-3611

**Employees** 172 (as of March 31, 2016)



**Norihiro Shimizu**  
Managing Executive Officer  
Research and Development  
Denka Innovation Center

## Message from the General Manager

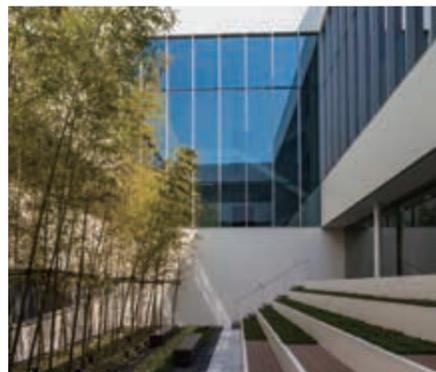
On April 3, 2014, we completed the Denka Innovation Center main building, a facility aimed at boosting our capability as the Group's key R&D base. Since then, we have been engaged in full-scale R&D, with three new subordinate facilities bolstering our R&D platform. Specifically, the Life Innovation Research Institute was newly founded to reinforce our operations in the life science field—a potential growth driver—while the Advanced Technologies Research Institute and the Infrastructure & Solutions Development Research Institute were created by reorganizing the Group's existing R&D sections.

In addition to focusing R&D strength Groupwide, the Center has been positioned as a hub for realizing open innovation and thus promotes joint research projects among industries, academia and public institutions with the aim of mutually facilitating breakthroughs.

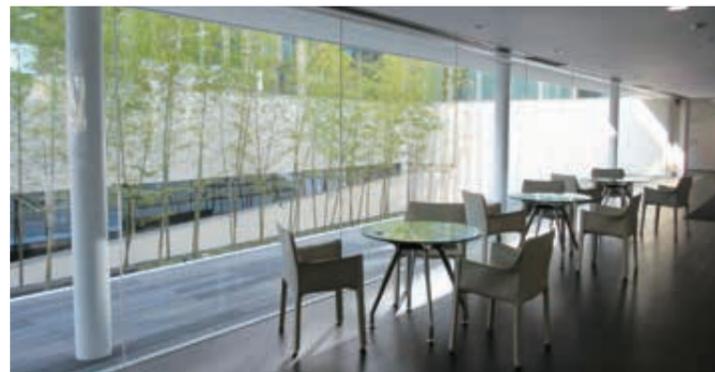
As we aspire to blaze a path to the future, we will take on challenges to create epoch-making products and solutions while spearheading Groupwide efforts to realize innovation.

## CSR Policies

- Facilitate a corporate culture that emphasizes compliance with social ethics with an eye to ensuring sustainable corporate activities
- Implement such priority initiatives as reducing environmental burdens (including improving the working environment), abiding by the tightened regulations on chemical substances and preventing any shortfall from occurring in our compliance with IP-related regulations



Inner courtyard



An open meeting space

## Fiscal 2015 Achievements under the CSR Policies

### Summer Holiday Chemical Experiment Show for Children



We took part in the Summer Holiday Chemical Experiment Show for Children, sponsored by the "Dream Chemistry 21" committee, for the fourth consecutive year. This was an opportunity for the children who will lead the next generation as well as their parents to experience the excitement and wonder of chemistry while learning about how the chemical industry has contributed to the development of society (August 1 and 2, 2015 at Science Museum in Kitanomaru Park, Tokyo).

### Experimental Chemistry Class



As in fiscal 2014, we hosted an experimental chemistry class for local elementary school students as well as employees' children. By providing them with the experience of learning the wonder of chemical reactions involving cement and creating a personalized key holder, we were able to improve their understanding of Denka's eco-friendly chemical products being used in familiar applications (July 11, 2015).

### A Business Facility Tour



As we did in the previous fiscal year, we hosted a business facility tour for elementary school students, providing local third graders with hands-on experience programs, including on the use of electron microscope and experiments dissolving hyaluronic acid. Our employees engaged in lively interaction with students (October 22, 2015; students from Machida Dai-Yon Elementary School).

### Cleanup Activities



As part of our social contribution initiatives, we engage in monthly cleanup activities in areas around the Innovation Center's premises. These activities provide us with opportunities to interact with locals as they pass by. We feel that our CSR activities are gaining greater recognition among community members.

### Innovation FESTA



We hosted "Innovation FESTA," an annual event in which employees' families, especially children, are given the opportunity to take a close look at our workplace. The event has succeeded in facilitating interaction between approximately 160 attendees, who played games together and enjoyed other fun activities (August 27, 2015).

### Comprehensive Emergency Drills



We held a joint emergency drill aimed at practicing fire extinction as well as rescue and evacuation procedures in tandem with the local government's fire department. In addition to rehearsing such actions, we confirmed our procedures to prevent hazardous chemicals from leaking into the environment (November 30, 2015).

## Future Initiatives

We are taking on the challenge of new business through open innovation in the fields of energy, the environment, infrastructure and healthcare, proactively promoting collaborative research and technological combination. With partner companies collaborating with such initiatives, we will speed up our R&D projects and be better positioned to satisfy the needs of future generations, thereby creating new value that contributes to the sound development of society.

# Denka Singapore Merbau Plant



## Overview

- Operations** The Merbau Plant, where we manufacture DENKA BLACK, was Denka's first production facility in Singapore. We established this plant in 1980 to participate in the Singapore Petrochemicals Complex project on Jurong Island. We began operating our "50% press" facility in 1984, augmenting the lines in 1997. We set up a granulation facility in 2002.
- Address** Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807  
Telephone: +65-6225-6120  
Plant: 300 Ayer Merbau Road, Singapore 628282  
Telephone: +65-6867-8496
- Employees** 50 (as of March 31, 2016) (Including 33 Japanese national and 17 subcontract workers)



**Yuji Koga**  
General Manager of Merbau Plant

## Message from the General Manager

On June 30, 2015, there was an accident at the plant. The incident occurred about a week short of our being able to mark five years with zero-accidents and served as a strong reminder of the fact that maintaining safe operations requires unceasing effort. Looking ahead, we will step up safety activities aimed at ensuring all plant workers are able to avoid hazards while fostering a sense of mutual support. In particular, we will focus on identifying potential worksite dangers and implementing countermeasures.

### CSR Policies

- Aim for a sustained zero-accident record
- Clarify the rationale for security standards while implementing employee education
- Undertake safety activities to ensure that all plant workers are able to avoid hazards while fostering a sense of mutual support
- Promote beautification initiatives (apply coatings where needed and step up 5S activities)

## Fiscal 2015 Achievements under the CSR Policies

We held joint emergency drills with PCS\* (four occasions per year) while reinforcing safety and security educational programs. Also, the general manager made rounds of the entire worksite to call attention to safety before and during operations.

\*Petrochemical Corporation of Singapore



## Future Initiatives

We conducted interviews with our employees and our subcontractors about potential worksite dangers. Taking input from all interviewees into account, we will execute facility improvement while reviewing operational practices. Moreover, to create an even safer and cleaner plant, we will promote the beautification of our worksite by applying coatings and stepping up 5S activities.



Merbau Plant staff

# Denka Singapore Seraya Plant



## Overview

- Operations** The Seraya Plant commenced operations to produce general-purpose polystyrene in 1997. In 2006, the plant expanded its facilities for manufacturing TX Polymer (methyl methacrylate styrene (MS)) and CLEAREN (styrene-butadiene block copolymer (SBC)). In April 2012, the plant launched a facility to produce DENKA IP (imidized polymers). Today, the combined annual production capacity of the four facilities is 325,000 metric tons. Also housing the Technical Service Center on its premises, the Seraya Plant is a key production base spearheading the Denka Group's styrene-based resin business.
- Address** Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807  
Telephone: +65-6225-6120  
Plant: 40 Seraya Avenue, Singapore 627873  
Telephone: +65-6867-6089
- Employees** 70 (as of March 31, 2016)



**Michio Kawamura**  
General Manager of Seraya Plant

## Message from the General Manager

In its efforts to contribute to society through production activities, Denka creates products of value by consuming limited natural resources and energy. We recognize that giving due consideration to the impact of such activities on the environment and communities surrounding us, as well as the well-being of our employees, is essential. We will therefore focus on maintaining a harmonious coexistence with the environment, society and people while engaging in production activities that can return benefits to local communities and this country.

### CSR Policies

- Aim to become a production facility that has minimal impact on the environment while putting the utmost priority on safety
- Ensure a worksite environment in which all employees and frontline operators can work in confidence and visitors can rest assured
- Aim to be regarded an excellent service provider with all plant staff involved in social contribution activities

## Fiscal 2015 Achievements under the CSR Policies

### Undergoing a Fire Inspection



The Singapore Civil Defense Force conducted an inspection of our fire drill procedures. Having obtained valuable input from this inspection, we renewed our commitment to relentlessly pursuing occupational safety and facility security.

### Socializing Together



We held a social event at nearby Jurong Country Club, where attendees enjoyed mingling with others from outside their departments.

### 5S Activities



Every Wednesday, we implement 5S activities throughout the plant worksite in tandem with USS, a subcontractor in charge of packaging. We commend the "Best 5S Player" at the end of each round, motivating participants to maintain and improve a worksite environment of the plant.

## Future Initiatives

Having celebrated the 101st year of its founding, Denka has made a new start toward its next 100 years. In this milestone year, we launched the "Denka100 Group Activity," an improvement program aimed at collecting feedback from frontline workers and acting on their suggestions. By doing so, we will preserve what should be preserved, such as our corporate culture, while making necessary changes and improvements. Embracing a relentless commitment to achieving "Kaizen," a term that is fast becoming a buzzword among manufacturers worldwide, we will enhance our capabilities, thereby contributing to the sound development of society.



Seraya plant staff

# Denka Advantech Tuas Plant



## Overview

**Operations** The Tuas Plant commenced operations in 1991 in Singapore to produce fused silica filler, a material mainly used as an encapsulant for semiconductor packaging. Currently, the Tuas Plant's focus is on spherical fused silica filler to accommodate advances in semiconductor packaging as well as the trend toward more environment-friendly products. Stepping up its quality management and production structures, the plant serves mainly Chinese and Southeast Asian markets and works in cooperation with the Omuta Plant.

**Address** Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807  
Telephone: +65-6321-9530  
Plant: 11A Tuas Avenue 20, Singapore 638823  
Telephone: +65-6861-0004

**Employees** 59 (as of March 31, 2016)



**Hidetoshi Naito**  
General Manager of Tuas Plant

## Message from the General Manager

In fiscal 2015, the Tuas Plant celebrated the 25th anniversary of its founding as a fused silica filler production facility. Amid the severe market environment for semiconductors, we are striving to maintain safe operations, improve our production technologies and enhance product quality, with the aim of achieving further growth as the Group's key fused silica production base. We have positioned securing facility security and occupational safety as basic to operations. Accordingly, we will continue to implement safety assurance activities aimed at creating a workplace environment in which every employee can work in confidence.

### CSR Policies

- Ensure plant security and employee safety
- Promote energy and resource saving to reduce environmental burdens
- Improve customer satisfaction by controlling risks pertaining to product quality
- Develop a supply system that meets market demand and technological trends
- Reduce costs by improving production processes and technologies

# Denka Advantech South Plant



## Overview

**Operations** The South Plant initiated operations in June 2013 to manufacture TOYOKALON synthetic fiber for wigs and hairpieces. Introduced in 1952, TOYOKALON is the world's first PVC fiber produced on an industrial scale and is shipped mainly to the U.S. and African hairpiece fiber markets, the latter of which is expected to grow considerably. In tandem with the Ofuna Plant, the South Plant will bolster the Group's supply structure as the second flagship TOYOKALON production site, helping accommodate burgeoning demand.

**Address** Office: 4 Shenton Way #29-02 SGX Centre 2 Singapore 068807  
Telephone: +65-6224-1305  
Plant: 6 Tuas South Drive, Singapore 637046  
Telephone: +65-6412-9200

**Employees** 41 (as of March 31, 2016)



**Takafumi Kono**  
General Manager of South Plant

## Message from the General Manager

Three years have passed since we initiated operations in June 2013 to deliver fiber for hairpieces to the African market. During fiscal 2015, we maintained the zero accident and disaster status we have enjoyed since the production kickoff. Moreover, we have implemented various initiatives, including improving production efficiency to reduce costs. For fiscal 2016, we are striving to secure a more robust safety assurance structure while pursuing even higher product quality and greater cost efficiency.

### CSR Policies

- Maintain zero-accident record and step up safety activities
- Promote resource recycling and energy saving to reduce environmental burdens
- Reinforce production structure to enhance product quality and cost efficiency
- Enhance in-house and external communications

## Fiscal 2015 Achievements under the CSR Policies

### Safety



In addition to workplace patrols, emergency response drills and other regular safety activities, since 2015 we have been periodically providing mandatory safety training to raise employee awareness, with safety specialists serving as lecturers.

### Environment



We have striven to improve productivity to reduce energy and gas consumption intensity while promoting a switchover to energy-saving lighting. Moreover, we promoted the recycling of polyethylene covers, flexible containers and metal materials in addition to reducing water consumption through the introduction of a tap water management system.

### Communication



We hold monthly safety discussions to consider various issues while hosting annual dinner events that not only deepen ties among the plant staff but provide the opportunity to commend our hard-working employees.

## Future Initiatives

In March 2016, the plant achieved its second consecutive year of zero accident status. To prolong this record, we will raise employees' safety awareness even further by, for example, implementing training sessions as well as soliciting suggestions from employees and obtaining their input on potential danger spots. As we tackle the increasingly harsh business environment, we are facing a growing need for curbing costs through the enhancement of productivity. We will therefore take on this challenge, with all employees working as one.



Tuas Plant staff

## Fiscal 2015 Achievements under the CSR Policies

### Safety



We conduct monthly safety patrols centered on confirming the observance of 5Ss while holding safety countermeasure meetings as well as evacuation and fire drills.

### Strengthening Our Production Structure



We have endeavored to improve quality by stepping up process inspections, reviewing our operational procedures and improving operator training. We also reduced costs by improving the yield ratio.

### Communication



We hold various regular meetings while hosting dinner events to deepen ties among the plant staff.

### Environment

We are working to reduce indices related to consumption intensity for energy and other utilities, including by encouraging people to turn off unnecessary lighting and air conditioners.

## Future Initiatives

We will continuously focus on such basic activities as safety assurance and environmental conservation, thereby maintaining our zero-accident and disaster status.

In addition, the workforce of the South Plant has welcomed a growing number of employees of Chinese origin who sometimes lack English proficiency. Accordingly, we are taking such steps as preparing operational manuals in which English and Chinese text is printed side by side and providing training programs with lectures by experienced staff fluent in both languages. Looking ahead, we will step up these initiatives to enhance the level of our safety assurance activities as well as our technological strengths in manufacturing.



Training operators

# Denka Advanced Materials Vietnam



## Overview

**Operations** Denka Advanced Materials Vietnam was established as a production and sales base to serve the burgeoning Asian and Middle Eastern markets, supplying VINI-TAPE used for binding wire harnesses installed in automobiles as well as Denka Thermo Film for use as an embossed carrier tape for electronic and semiconductor components. Leveraging our advantages in terms of logistics and production costs, we will strive to deliver products with greater competitiveness.

**Address** Plot D-5, Thang Long Industrial Park II Yen My District, Hung Yen Province, Vietnam  
Tel.84-321-397-4805 Fax.84-321-397-4806

**Employees** 79 (as of March 31, 2016)



**Yoshio Sasaki**  
General Director

## Message from the General Director

Denka Advanced Materials Vietnam is a relatively new company established in December 2013 to manufacture and market VINI-TAPE and cover tapes. Supporting economic development in the region in which we are located, we are creating employment opportunities and locally procuring raw materials. Looking ahead, we will endeavor to increase production volume while engaging in ongoing social contribution activities, such as donating to schools in neighboring communities.

### CSR Policies

I have been communicating my conviction that “employees are a corporation’s most valuable treasures” to all of my staff. Accordingly, not only do we strive to maintain safe operations, we are focusing on enhancing employee safety training, improving our worksite environment and creating a vibrant corporate culture in which everyone is free to express their opinions and is allowed to pursue their potential.

As for manufacturing, we have an ISO-conformant management system in place to help us constantly improve quality and reduce environmental burdens.

Moreover, we will pursue ongoing social contribution activities to create a company appreciated by the residents of surrounding communities.

## Fiscal 2015 Achievements under the CSR Policies

### Enhancing Education Covering Safety and First Aid Procedures



We have striven to create a safe and comfortable workplace.

### A Company Trip Staying Overnight on an Island



We are fostering a sense of unity among employees through various recreational activities.

### Participating in a Marathon Relay Race



To enhance general public recognition of Denka and foster a sense of unity among employees, we created a marathon uniform using waste from the manufacture of VINI-TAPE.

### Community Contributions



As a member of an industrial complex, we have contributed to neighboring villages by, for example, donating PCs.

## Future Initiatives

Reflecting the strong influence of Confucianism on Vietnamese society, people cherish family relationships much more than Japanese people usually do. With this in mind, we decided to hold “Family Day” in conjunction with the celebration of the second anniversary of our founding (December 20). As we believe that earning the trust of employees also requires earning the trust of their families, we will endeavor to facilitate their understanding of our operations while implementing the aforementioned CSR activities.



Staff at Denka Advanced Materials Vietnam

# Denka Infrastructure Malaysia



## Overview

**Operations** Established in 2002, Denka Infrastructure Malaysia became part of the Denka Group in 2015. Our main businesses is specialty construction chemicals. It is our mission and vision to become the world leader in the construction chemicals market.

**Products** Waterproofing, concrete repair, cement grouting, special cement Additive

**Address** No 18, Jalan Utas 15/7, Seksyen 15, Shah Alam, 47650, Selangor MALAYSIA  
Telephone: +603-5510-8810 Fax: +603-5510-0708

**Employees** 116 (as of April 30, 2016) (Including two Japanese nationals and 36 subcontract workers)



**Paul Low**  
Managing Director

## Message from Managing Director

Denka Infrastructure Malaysia has been part of the Denka Group since June 2015 and it is our policy to provide healthy and safe working conditions and to continuously use safe operating practices that comply with National and International Regulations and relevant Standards and Guidelines.

We continuously improve our Safety, Health and Environment Manual as well as provide supplementary awareness training to ensure our workplace is safe for both the staff and the environment.

### CSR Policies

- Provide for safe practices in operation and provide a safe working environment
- Establish safeguards against all identified risks
- Continuously improve the safety management skills of personnel, ensuring emergency preparedness covering health and safety and environmental protection
- Strive for the unity of all employees

## Fiscal 2015 Achievements and Future Initiatives

### Safety



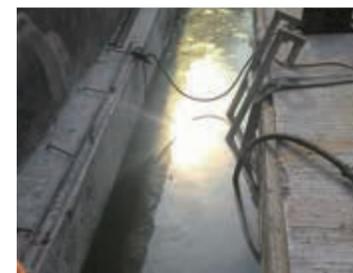
Our primary goal is to avoid potential occupational accidents involving workplace injuries, especially during forklift operations, manufacturing processes and chemical handling. In addition, safety training sessions are held regularly to ensure readiness.

### Communication



Unity among employees is important and we encourage everyone to participate in events organised by the Sports Club. In 2015, company events included a trip to Ho Chi Minh and a bowling tournament. We are often joined in such activities by staff from Indonesia, Singapore and Hong Kong. We expect that in the future our employees will enjoy even more sports and other events.

### Environment



We continuously look for ways to control emissions. In 2016-2017, we plan to install a new Dust Control System that will enable us to control dust emitted by cement silos and production areas. We have constructed a new chemical waste control area to ensure chemical waste is properly treated.



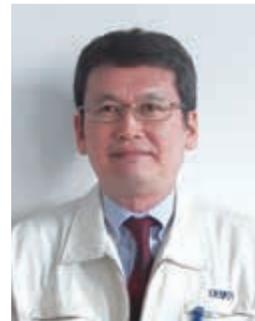
Staff at Denka Infrastructure Malaysia

# Denka Advanced Materials (Suzhou)



## Overview

- Operations** Established in January 2006 as the Group's first production and sales subsidiary in China, the company engages in the manufacture of whole sheet used to produce carrier tapes and other electronic packaging materials in addition to the slitting of these materials and the supply of food packaging sheets.
- Products** Carrier tape for electronic packaging and food packaging sheets
- Address** Unit 9B, Modern Industrial Square, No. 333 Xingpu Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126  
Telephone: +86-512-6287-1088
- Employees** 86 (as of March 31, 2016) (Including four Japanese nationals)



**Tatsuya Koyama**  
General Manager

## Message from the General Manager

Renewing my previous "general manager's policy," I have positioned "Act according to rules, ethics and your moral compass, strive to understand and respect one another, continuously work to better yourself, and pursue the eradication of accidents and disasters and the enhancement of customer satisfaction" as the underlying policy guiding all of our in-house activities.

### CSR Policies

- Achieve zero-accident and disaster status through ongoing safety activities
- Ensure legal compliance while promoting environmental conservation initiatives
- Enhance training; continue to upgrade workplaces

## Fiscal 2015 Achievements under the CSR Policies

### Fire Drills at Branch



Along with fire drills, our manufacturing section managers, frontline operators and administrative department staff conduct 5S patrols.

### A Company Trip



Expanding the content of education programs for new recruits, we began providing a follow-up session a month after they undergo an introductory program at the time of hiring.

## Future Initiatives

Approaching the 11th anniversary of its inauguration, Denka Advanced Materials (Suzhou), or DAS, will step up collaboration with its "mother plant," the Iseaki Plant. Doing so will enhance our capabilities across the board in areas ranging from safety assurance and quality control to productivity and cost effectiveness.

In particular, we will pursue various safety assurance activities toward our immediate goal of achieving 1,000 days of zero-accident and disaster status, with all employees working as one.



DAS's branch production site for manufacturing food packaging

# Denka Chemicals Development Suzhou



## Overview

- Operations** To promptly respond to Chinese consumers' requests for analysis, performance evaluation and product improvements, Denka Chemicals Development Suzhou was established in December 2010, and kicked off operations in August 2011. Currently, the company conducts R&D pertaining to synthetic rubbers, HARDLOC and special cement additives. Since fiscal 2013, it has also been conducting research on functional food packaging sheets and TEMPLOC temporary adhesive.
- Address** Unit 1D, Modern Industrial Square, No. 333 Xingpu Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126  
Telephone: +86-512-6280-6808
- Employees** 20 (as of March 31, 2016)



**Kazuhiro Oshima**  
General Manager

## Message from the General Manager

Denka Chemicals Development Suzhou, or DCD, currently engages in product development related to Denka's chloroprene rubber, functional adhesives, special cement additives and functional sheets, striving to optimize these offerings to meet the requirements of local customers. With a constant eye to the possibility of commercialization, we actively work to ensure swift response to customer demands, develop new markets and promote local production. Moreover, we are striving to create a new business that will help improve the natural environment of China.

### CSR Policies

- Achieve zero-accident status
- Ensure compliance with China's Production Safety Standards and Law of the People's Republic of China on the Prevention and Control of Occupational Diseases
- Create a lively and vibrant workplace while improving our working environment
- Make Chinese staff and examiners a key workforce by enhancing their competencies
- Develop a robust safety assurance structure while enhancing the content of employee education programs on safety
- Create new R&D themes aimed at improving the natural environment of China

## Fiscal 2015 Achievements under the CSR Policies

### A Study Session Focused on China's Intellectual Property Rights Regulations (Human Resource Development)



To deepen employee's understanding of IP, which is vital to our research activities, we held three study sessions focused on Chinese patent law, inviting an external lecturer (Mr. Yu Xia, the president of KingTen Shanghai Intellectual Property Agency Co., Ltd.) to participate.

### Company Trips Involving Employees' Families (Communication)



We organized two company trips in 2015. Alongside employees' family members, we enjoyed hiking in the Linyanshan mountain in May and visited the Yangcheng lake to taste Chinese mitten crabs in November.

## Future Initiatives

- Thoroughly implement hazard prediction activities to counter accidents attributable to unsafe behaviors
- Acquire certification under China's Production Safety Standards while implementing occupational safety and health initiatives employing a PDCA cycle
- Enhance our systems for employee benefits as part of initiatives to create an inclusive workplace in which they feel comfortable
- Provide education programs aimed at enhancing employees' ability to prepare and deliver presentations and presentation materials as well as training aimed at imparting IP-related and other basic knowledge
- Ensure safe operations through the upgrade of facilities and the provision of employee education with external specialists serving as lecturers
- Explore potential needs for solutions that help improve the natural environment and devise R&D themes to address such needs



Staff at DCD

# Denka Inorganic Materials (Tianjin)



## Overview

**Operations** In September 2013, Denka Inorganic Materials (Tianjin) was established as the Group's first special cement additive production base in China in light of growing demand for infrastructure development and repair in the Chinese market. In collaboration with Denka Infrastructure Technologies Shanghai Co., Ltd., the regional headquarters for our special cement additive business in China, and the R&D base Denka Chemicals Development Suzhou, we are striving to create a production structure capable of swiftly and accurately meeting market needs with solutions based on locally available materials and construction methods.

**Address** No. 3 Saida Mechanical Park, Xiqing Economic Development Area, Tianjin, China 300385  
Telephone: +86-22-8792-0488

**Employees** 9 (as of March 31, 2016) (Including two Japanese nationals)



**Yoshinori Nakagawa**  
General Manager

## Message from the General Manager

Giving due consideration to the environment, we strive to create a workplace that places the utmost priority on safety. We will thereby remain a trustworthy manufacturing company that maintains a sincere business approach with unyielding diligence.

### CSR Policies

Having positioned the maintenance of safe operations as basic to our corporate activities, we will promote the beautification of our worksite while improving our working environment, with the aim of creating an employee-friendly corporation.

## Fiscal 2015 Achievements under the CSR Policies

### Safety Assurance Activities



As we use alkaline substances as raw materials, we provide hands-on training on the dangers associated with the mishandling of these substances.

### Environmental Conservation and Occupational Health Activities



Every morning, after the morning meeting and before beginning work, everyone who can joins in a morning Chinese-style exercise session.

## Future Initiatives

We will develop a structure both attuned to local circumstances and in compliance with China's laws and regulations on manufacturing safety. By doing so, we will create an even safer workplace while developing the green space around our production facilities. This will enhance the atmosphere of our premises and facilities, making them more comfortable to workers.



Morning meeting

# Denka Electronics Materials Dalian



## Overview

**Operations** Denka Electronics Materials Dalian initiated its manufacturing operations in 2015 to produce ALSINK, a highly functional thermal conductive substrate that plays a key role in enhancing the reliability of power modules installed in high-speed rolling stock and other vehicles. Demand for high-speed rolling stock is expected to grow in markets around the world on the back of growing calls for safer and more environment-friendly modes of transportation. To better accommodate such demand, we will strive to develop a supply structure capable of delivering a steady stream of high-quality products.

**Address** No. 41-10 Wanda Road Dalian Economic & Technological Development Zone, Dalian, Liaoning Province, China 116600  
Telephone: +86-411-6263-4377

**Employees** 30 (as of March 31, 2016) (Including two Japanese nationals)



**Makoto Fukuda**  
General Manager

## Message from the General Manager

In September 2014, Denka Electronics Materials Dalian was established in Dalian, China, to serve as a producer of ALSINK, a thermal conductive substrate used in power modules installed in such vehicles as railcars. With the support from Denka's Omuta Plant, our "mother plant," we initiated a full-scale production in August 2015. Although we are a quite new company, we will strive to create a safe and comfortable workplace, with all employees working as one.

### CSR Policies

- Create a safe and comfortable workplace that reflects our policy of placing the utmost priority on safety
- Promote environmental conservation in compliance with relevant laws and regulations
- Nurture human resources through the provision of sufficient education and training

## Fiscal 2015 Achievements under the CSR Policies

### Safety



To prevent unsafe behaviors or operational mistakes from developing into disasters, we recite three safety principles at each morning meeting and participate in physical exercises. Moreover, managers carry out safety patrols. The company also conducts risk assessments and provides training for employees to ensure that a safety-oriented culture is embedded in our workplace.

### Communication



We apply a "bottom up approach," drawing on employee suggestions to improve our workplace environment and hazard prediction systems. To encourage participation, employees who submit suggestions are commended at general meetings. In addition, we host such social events as New Year's celebrations and cherry-blossom viewing parties with the aim of creating a workplace in which all workers feel free to share their opinions.

### Environment

We are striving to reduce waste emissions by improving the yield ratio and staff from the Omuta Plant meet with us regularly to track our progress. Moreover, all employees are briefed on the status of our efforts and points where improvements must be made. In this way, we are ensuring that the goals and future direction of our initiatives are known by the entire workforce.

## Future Initiatives

We are a new company, with younger employees in their late 20s making up majority of our personnel. We are endeavoring to make sure that Denka's corporate culture centering on an uncompromising commitment to manufacturing takes root in Dalian, China, and to this end, are striving to motivate our Chinese staff to freely devise better ways of working. By doing so, we will create a safe workplace in which everyone finds their job rewarding.



Staff at Denka Electronics Materials Dalian

# Denka Performance Elastomer



## Overview

**Operations** Having taken over operations related to chloroprene rubber (Neoprene™) from DuPont in November 2015, Denka Performance Elastomer was established as a joint venture owned by Denka and MITSUI & CO., LTD. Bringing together the strengths of Neoprene™—a long seller created by DuPont—and proprietary Denka technology, Denka Performance Elastomer will provide the U.S. market with superior-quality products.

**Address** 560 Highway 44, LaPlace, LA70068, USA  
Tel.+1-985-233-3080 Fax.+1-985-359-4781

**Employees** 250 (as of March 31, 2016)



**Masanobu Kosaka**  
Vice President Technology

## Message from the Vice President

In 2015, Denka Performance Elastomer was established following the acquisition of operations related to chloroprene rubber (commercial name: Neoprene™) from DuPont, with Denka and MITSUI & CO., LTD. serving as joint investors. Working hand in hand with our American staff, we will expand Denka's key chloroprene business while contributing to the development of the local community.

### CSR Policies

Having positioned workplace safety, facility security and environment conservation as basic to our business operations, we are implementing various CSR initiatives, working closely with local residents to earn their trust and facilitate their understanding. Looking ahead, we will invite them to engage in periodic dialogue, thereby exchanging opinions and building strong relationships of trust.

## Fiscal 2015 Achievements under the CSR Policies

### Collecting Waste from Nearby Households



In April 2016, we took part in an annual joint initiative in which local businesses collect hazardous waste from neighboring households, making a good start to our mission of community engagement as a Denka Group company.

### Near Neighbors Meeting



Every two months, we invite local residents to hear a report on the status of plant operations and exchange opinions with us.

### Receiving a Newcomer's Award



We received a Newcomer's Award from the United Way charity organization in recognition of the US\$10,000 in donations we made with the aim of supporting those affected by a tornado in February 2016.

## Future Initiatives

In the United States, we will strengthen our foundation in the chloroprene rubber business, one of Denka's key products. To that end, we will develop a robust supply system capable of delivering a stable stream of high-quality products, thereby enhancing customer satisfaction. The acquisition of DuPont's operations was undertaken in line with the Denka100 management plan's most important growth strategy, which aims to "create the most optimal production system." We will therefore endeavor to achieve our management targets as early as possible.

# Icon Genetics



## Overview

**Operations** Icon Genetics is an R&D company specializing in vaccines and diagnostic reagents. Boasting a unique proprietary technology for efficiently manufacturing proteins using the tobacco plant (*Nicotiana tabacum*), Icon operates a Good Manufacturing Practice (GMP) conformant facility and is capable of producing vaccines for clinical trials and prototypes of genetically modified proteins for use in reagents. Over the years, its R&D efforts have yielded an array of product candidates in the fields of vaccines and diagnostic reagents.

**Address** Weinbergweg 22, D-06120, Halle (Salle), Germany  
Tel.+49-345-5559889-664 or 885

**Employees** 17 (as of March 31, 2016) (Including two Japanese nationals)



**Kazuyuki Hiruta**  
CEO

## Message from the CEO

Icon Genetics became a Denka Group company in August 2015. As an R&D company specializing in biotechnologies, Icon has developed transient production techniques that are best suited for the development and manufacture of vaccines and diagnostic reagents. Our technologies enable us to efficiently produce genetically modified proteins within a month's notice, helping us swiftly deliver ingredients for cutting-edge healthcare solutions. Leveraging our technological strengths, we will develop new products to help maintain and enhance the well-being of the general public.

### CSR Policies

- Create an innovative and sustainable business model based on shared community values
- Enhance employee education and training to nurture human resources
- Continuously improve our workplace environment; focus on maintaining compliance with laws and regulations, especially applying to biotechnology companies

## Fiscal 2015 Achievements under the CSR Policies

### Safety Assurance Activities (Education, Training and Compliance)



We implemented periodic employee education in order to maintain compliance with Biosafety Level Standard 1 as stipulated by German laws as well as facility-related safety regulations. To ensure compliance with Germany's legal regulations as well as international requirements, we stepped up the development of standard operational procedures related to GMP while enhancing our quality assurance systems.

### Environmental Conservation

We maintain stringent compliance with domestic rules with regard to the disposal of chemicals and potentially hazardous waste. The local municipal authority performs periodic monitoring of our compliance status. In its 16 years of operations, Icon has never been cited for a violation, ensuring the ongoing trust of municipal officials as well as other members of communities in the vicinity.

### Interacting with External Companies and Local Communities (Sharing Value with Local Society)



We participate in a network of biochemical companies formed under the auspices of a local state government that allows us to maintain ties with people in other business fields as well as those from academia. By sharing information on our technologies with them, we are striving to facilitate the understanding of our operations in local communities.

## Future Initiatives

As a bio-oriented R&D company, we recognize that complying with biosafety laws and regulations is of critical importance. Accordingly, we will take on the timely development of vaccines and diagnostic reagents that will, in turn, help maintain and enhance the well-being of people. In these ways, we will contribute to local communities, and further, society as a whole.

# Denka Polymer



## Overview

- Operations** Established in 1966, Denka Polymer Co., Ltd. manufactures an array of lightweight plastic food containers. Drawing on the Denka Group's comprehensive strengths, Denka Polymer is striving to maximize the performance of its multilayered and composite sheets while enhancing their wrapping functions, design and coloring to improve product value and open up a range of possibilities for packaging materials.
- Products** OPS products, prepared food trays, food containers, PSP food trays, SOFLIGHT products, agricultural packs and stretch films for food packaging
- Address** Head Office: 5-25, Kiba 1-chome, Koto-ku, Tokyo  
Telephone: +81-3-5632-9530  
Plants: Three in Chiba Prefecture (Sakura, Goi, Katori)
- Employees** 504 (as of March 31, 2016)



**Tsuyoshi Sakamoto**  
President

## Message from the President

Denka Polymer focuses on maintaining the safety of, and thus consumers' trust in, the food containers and packaging it makes while placing strong emphasis on enhancing products' usability, their capability to preserve the taste of whatever is placed in them and improving their functionality as tableware. As part of initiatives to expand offerings in our mainstay OPS product lineup, in 2015 we developed "U Guard," a highly functional material that encapsulates the results of our industry-leading cutting-edge R&D activities backed by Denka's global research network. Going forward, we will continue to endeavor to create new value.

### CSR Policies

Because Denka Polymer makes products that people use every day, its corporate policy is focused on safety and trust. In addition to consumers, this applies to its stance toward employees and shareholders. With this in mind, we are working to ensure legal compliance and energy saving while nurturing human resources.

# Denka Seiken



## Overview

- Operations** Denka Seiken Co., Ltd. supplies vaccines and diagnostic reagents to fulfill its mission of protecting people's lives and well-being. Since its founding, Denka Seiken has ceaselessly striven to eliminate infectious and lifestyle-related diseases with the keyword "prevention."
- Products** Influenza vaccines, bacteriological diagnostic reagents, virological diagnostic reagents, clinical chemistry diagnostic reagents, immunological diagnostic reagents and point of care testing (POCT) products
- Address** Head Office: Nihonbashi Mitsui Tower, 1-1, Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo  
Telephone: +81-3-6214-3231  
Plants: Niigata Plant, Kagamida Plant (Gosen, Niigata)
- Employees** 694 (as of March 31, 2016)



**Tetsuro Maeda**  
President

## Message from the President

As we manufacture vaccines and diagnostic reagents aimed at protecting people's well-being, we have positioned ensuring a stable supply of easy-to-use and high-quality products as our primary social mission. Always conscious of our responsibilities as a pharmaceutical maker, we will develop and manufacture products that are and will be needed by people around the world. In these ways, we will combat the threat of various infectious and other diseases.

### CSR Policies

As befits an enterprise inspired by the value of life, Denka Seiken's mission is to protect people's health and thus earn the trust of society. In line with this, we will proactively implement CSR activities, including health promotion and environmental load reduction initiatives as well as local contribution initiatives.

## Fiscal 2015 Achievements under the CSR Policies

### Introducing the "U Guard" Series with Greater Oil Resistance



We displayed our U Guard product line at the "The World Food And Beverage Great Expo 2016" held at Tokyo Big Sight. Having demonstrated its outstanding durability—it does not crack no matter the food content and is highly resistant to holes caused by overheating—U Guard garnered favorable reviews from attendees for its safety.

### Participating in Sakura Monozukuri Festa 2016



On May 14 and 15, 2016 we participated in a local industrial exhibition at Sakura City Gymnasium aimed at improving the vitality of the local community. With representatives from local manufacturing, agricultural, commerce and service industries gathering at the event, we gained valuable opportunities to introduce our products and operations to the people of Sakura City.

## Future Initiatives

To help pass the rich blessings of the natural environment on to the next generation, Denka Polymer will ensure that all employees share its corporate philosophy of maintaining safety and trust. At the same time, we will promote environmental conservation and energy-saving activities, thereby fulfilling our important mission of helping realize a sustainable society through business operations.



Products displayed at the exhibition



The mayor of Sakura City (Left) and the general manager of Denka Polymer's production division (Right)

## Fiscal 2015 Achievements under the CSR Policies

### Fire Drills



To create a safer and comfortable workplace, we undertake safety assurance activities, with all employees striving to minimize worksite risk. Moreover, we periodically conduct fire drills to ensure that our response to emergencies are swift and appropriate.

### Cleanup Activities in Communities



We carefully monitor factors attributable to our operations that may affect the environment of communities surrounding us, such as odor and noise. At the same time, we engage in dialogue with people from neighboring areas while participating in local community cleanup activities, with the aim of maintaining trust.

## Future Initiatives

As a healthcare company, we will proactively support local sports events. As part of this initiative, we entered sponsorship contracts with two members of the NIIGATA Albirex BB Rabbits, a top-tier professional team in the Women's Japan Basketball League. We will step up interaction with community members by supporting games in which the BB Rabbits play in Gosen City and by serving as a main sponsor for Gosen Koyo Marathon.



A commemorative photo taken with members of the NIIGATA Albirex BB Rabbits



**Overview**

**Operations** In 1963, CRK was established through a joint investment by Denka and local interests based in Takasaki City, with the aim of developing, manufacturing and marketing chloroprene rubber-based compounds and their molded products. Building on its accumulated expertise and experience, CRK has expanded its scope of operations to encompass such products as water-stop and fire-resistant materials for construction and civil engineering use. Today, CRK manufactures and sells a range of natural and synthetic rubber compounds and their processing products.

**Products** Rubber compounds, industrial rubber products, fire-resistant thermal expansion rubber products, butyl adhesive tape, hydrophilic expandable water-stop rubber tape and quakeproof manhole joints

**Address** 306, Koyagi-machi, Takasaki, Gunma Telephone: +81-27-362-7510

**Employees** 62 (as of March 31, 2016)



**Hideaki Nagasaka**  
President

**Message from the President**

We have three corporate principles; “1. Contributing to society through business activities,” “2. Striving to achieve personal and corporate growth” and “3. Creating a lively and vibrant company.” We will earn the trust of stakeholders by practicing these principles in the processing, manufacturing, development and marketing of rubber products.

**CSR Policies**

Placing the utmost priority on safety, we will focus on ensuring facility security while giving due consideration to the environment. Furthermore, we will carefully control and enhance quality and maintain a stable stream of output. We will also strive to realize a mutually beneficial coexistence with customers and local communities, and our manufacturing, development, marketing and other departments will work as one to achieve this goal.



**Overview**

**Operations** Founded in 1949, Hinode Kagaku Kogyo became the first in the world to develop a phosphate fertilizer, initiating the manufacture of this product in 1950 under the brand name YORIN. Since then, Hinode Kagaku has remained Japan’s leading fertilizer producer and has striven to enhance quality and create new products while cultivating potential demand. In these ways, Hinode Kagaku helps to develop fertile soil, thereby contributing to greater crop yields.

**Products** YORIN and BM YORIN (fused magnesium phosphate), TORETARO (fused silicate phosphate fertilizer), mixed fertilizer and chemical fertilizer

**Address** 660, Aza Kuratani, Maizuru, Kyoto Telephone: +81-773-75-5760

**Employees** 40 (as of March 31, 2016)



**Shizuo Takagi**  
President

**Message from the President**

In fiscal 2016, Hinode Kagaku Kogyo will mark the 67th anniversary of its founding as Japan’s first commercial phosphate fertilizer producer. Now popular in Japan, our phosphate fertilizer is the only product of this kind certified as conforming with national standards for fertilizers used for organic plant production, and it enjoys a solid reputation for safety and environment friendliness.

Leveraging our rich technological heritage, we will develop new products capable of accommodating the latest market needs while passing down our techniques to future generations.

**CSR Policies**

- Basic Policy : Contribute to society through fertilizer production while facilitating employees’ self-fulfillment
- Environmental Policy : Promote environmental management activities in line with KES\* Step 2 to ensure our harmonious coexistence with the earth’s environment
- Safety Policy : Every employee thinks and takes action to secure their own and colleagues’ safety
- Quality Policy : Strengthen process control while pursuing higher one-pass yields

**Fiscal 2015 Achievements under the CSR Policies**

**Workplace Meetings**



- As of December 31, 2015, our zero-disaster record reached 2,250 days. Thanks to this accomplishment, we won a Silver Prize under a commendation scheme for small and medium-sized enterprises sponsored by the Gunma Labour Standards Association.
- We provide a short message on safe operations at every morning meeting in line with monthly themes with the aim of raising safety awareness.
- We discuss the status of our 5S activities as well as the causes of near-miss incidents at monthly workplace meetings, soliciting suggestions for improvement.

**Safety Improvement and Greenery Development**



- Within our plant building, there were a number of spots without sufficient illumination and we have systematically completed necessary improvements.
- As part of 5S activities, we applied coatings to the walls and floors of our plant building while developing greenery. In addition, all employees take part in monthly cleanup activities that cover the entire premises.

**Coated Drum Rack**



**Friendly Games with the Local Communities**



To facilitate interaction with neighboring communities, we entered a bowling tournament held by companies based in the same industrial complex while holding a joint softball game with Denka’s Shibukawa Plant. Moreover, our in-house recreation activities included barbecues, golf competitions and summer festivals aimed at deepening ties between employees.

**Future Initiatives**

Although we have acquired ISO 9001 quality management system certification, in fiscal 2016 we will introduce upgrades to secure conformance with the latest standards. With Denka providing us with support, plans call for undergoing examination for certification renewal. Moreover, we will formulate action plans during fiscal 2016 to acquire ISO 14001 environmental management system certification.



Staff at CRK

**Fiscal 2015 Achievements under the CSR Policies**

**Safety Education (Commemoration Day for Those Who Died in the Course of Their Duties)**



We hold daily meetings to promote KY (hazard prediction) activities and address worksite risk before work begins, thereby ensuring that measures to prevent operational risk are in place. We marked the third year of an ongoing project aimed at improving issues found onsite involving frontline operators.

**Cleanup Activities in Communities**



We are currently making technological improvements related to wastewater and exhaust gas based on the KES\* Step 2 environmental management system. Specifically, we made progress in upgrading our effluent neutralization technology and standardizing such technology. We are also engaged in periodic cleanup activities in areas around the plant.

\* Abbreviation for Kyoto Environmental Management System Standard. Formulated by an NPO based in Kyoto, KES Step 2 is designed for relatively large SMEs, and comprises management items that are virtually identical with ISO 14001.

**Future Initiatives**

We are striving to enhance worksite communication. In addition to this and other ongoing activities, we will endeavor to ensure sustainable plant operations over the future by, for example, repairing aged facilities and reducing burdens on workers based on a medium- to long-term perspective.



Staff at Hinode Kagaku Kogyo

# Denka Azumin



## Overview

**Operations** Originally, Denka Azumin was the Hanamaki Plant of Japan Metals & Chemicals Co., Ltd. Established in 1962, the plant initiated the production and marketing of AZUMIN in the following year. In 2003, AZUMIN operations were transferred to Denka and the plant was reorganized into Denka Azumin Co., Ltd., making a new start as a manufacturer of humic acid fertilizer and other related products. Remaining a pioneering company in the field of humic acid fertilizer, Denka Azumin is striving to contribute to agricultural production.

**Products** AZUMIN (magnesium humate fertilizer)

**Address** 118, 5 Chiwari, Nimaibashi, Hanamaki, Iwate  
Telephone: +81-198-26-2131

**Employees** 27 (as of March 31, 2016)



**Mamoru Nakamura**  
President

## Message from the President

We have manufactured AZUMIN for more than a half century, helping to improve farm soils throughout Japan. Because we often handle hazardous substances, such as nitric acid and heavy oil, we strongly emphasize carrying out daily KYT (hazard prediction training) activities in order to ensure safe production. In fiscal 2016, the composition of our workforce changed significantly, with a number of younger employees replacing retirees. With this in mind, we are implementing thoroughgoing safety education, especially for our new colleagues in an effort to preserve our zero accident and disaster status.

### CSR Policies

- Maintain a zero-accident record (current target: achieving 1,000 days of zero-accident operations)
- Pursue environmental conservation and management activities
- Build relationships of trust with local communities

## Fiscal 2015 Achievements under the CSR Policies

### Companywide Safety Conference



Training session on safe operations with external lecturers (October 2, 2015)

- We hold monthly GCP promotion meetings in which we formulate and implement measures to counter potential worksite dangers based on reports submitted by subcommittees in charge of risk prediction, safety patrols, energy saving and logistics operations.
- We hold biannual Companywide Safety Conferences in which managers provide lectures while attendees participate in training and other activities to raise safety awareness.

• With lecturers from Head Office and the Environment and Safety Dept. of the Chiba Plant, we hold risk assessment training sessions for all employees as well as subcontractors.

• Despite our efforts aimed at achieving zero-accident status for 1,500 consecutive days, we experienced one incident involving absence from work on July 6, 2015. Having implemented measures to prevent recurrences, we are striving toward the new target of achieving 1,000 consecutive days of zero accidents.

### Environment

- We measured air, water and noise pollution as well as vibrations emanating from our facility and reported that all were within limits set by the city legislature.

### Communication

- To facilitate communication with local residents, twice a year we host plant tours to which we invite members of the local antipollution council. We also participate in general meetings and gatherings hosted by that council. We continually strive to maintain favorable relationships with people from neighboring communities.

• We received a total of eight student interns from two local high schools.

• We participated in the Hanamaki City Industrial Exhibition. This exhibition provided us with an opportunity to publicize our AZUMIN through the city's official newsletter titled "Hanamaki," which is distributed to every household within the municipal area.

### Risk Assessment Training



Joint emergency response drill with the Hanamaki City Fire Department (October 2, 2015)



Risk assessment training session (February 1 and 2, 2016)



Local antipollution council members taking a close look at plant facilities (November 24, 2015)



A page from the "Hanamaki" newsletter featuring AZUMIN (December 15, 2015 edition)

## Future Initiatives

Given the growing number of younger employees replacing retiring veterans, we consider raising their safety awareness and instilling proper actions essential. With this in mind, we will proactively take steps to minimize worksite danger while utilizing risk assessment methods.

- We will continue to provide employee education on the proper handling of nitric acid while implementing countermeasures to prevent leakage. Also, in collaboration with local fire departments we will undertake emergency response drills with simulated accidental leaks. Such actions help secure our ability to ensure human safety and minimize the impact of such a disaster on the local environment. We will continue these and other initiatives going forward.

- We will continue searching for methods to reduce NOx emissions, which are inherent to our manufacturing process.

- Given the cancellation of the next Hanamaki City Industrial Exhibition, which in the past three years proved an attraction for local businesspeople, we will step up public relations activities aimed at facilitating an understanding of AZUMIN fertilizer among members of local chamber of commerce and industrial clubs as well as residents of neighboring areas.

# Environmental Performance

## Omi Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	Compared with FY1990	0.94	0.90	0.91	<b>0.90</b>	0.90
CO <sub>2</sub> emissions (from energy sources)	10,000t	83	84	85	<b>78</b>	85
PRTR substance emissions	t	18	14	14	<b>14</b>	14
NOx emissions	t	2,935	3,394	3,209	<b>3,280</b>	3,564
SOx emissions	t	81	61	45	<b>42</b>	47
Soot and dust emissions	t	86	67	65	<b>81</b>	72
Water used	1,000m <sup>3</sup>	64,004	63,084	62,925	<b>58,915</b>	58,915
COD (BOD) discharges	t	847	850	743	<b>561</b>	561
Waste generated	t	109,866	101,260	93,768	<b>94,004</b>	108,055
Final waste disposal	t	100	69	60	<b>50</b>	45

\* The fiscal 2016 target for NOx emissions was revised from the previous target of 3,150t set forth in the current Medium-Term Environmental Plan, reflecting estimated growth in cement production in comparison to the fiscal 2015 production volume.

## Omuta Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	Compared with FY1990	0.94	0.94	0.88	<b>0.86</b>	0.87
CO <sub>2</sub> emissions (from energy sources)	10,000t	13	13	16	<b>14</b>	14
PRTR substance emissions	t	7	7	9	<b>8</b>	7
NOx emissions	t	846	788	786	<b>603</b>	786
SOx emissions	t	1	1	1	<b>1</b>	1
Soot and dust emissions	t	4	6	6	<b>5</b>	5
Water used	1,000m <sup>3</sup>	1,215	1,190	1,205	<b>1,177</b>	1,177
COD (BOD) discharges	t	1	1	2	<b>1</b>	5
Waste generated	t	7,408	8,680	12,903	<b>13,470</b>	8,457
Final waste disposal	t	22	72	25	<b>17</b>	17

\* Medium-Term Environmental Plan targets

## Chiba Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	Compared with FY1990	0.96	0.91	0.86	<b>0.81</b>	0.72
CO <sub>2</sub> emissions (from energy sources)	10,000t	34	33	27	<b>25</b>	23
PRTR substance emissions	t	73	66	51	<b>49</b>	46
NOx emissions	t	256	263	245	<b>252</b>	156
SOx emissions	t	33	20	16	<b>8</b>	7
Soot and dust emissions	t	3	1	1	<b>1</b>	1
Water used	1,000m <sup>3</sup>	4,113	3,970	3,457	<b>3,908</b>	4,080
COD (BOD) discharges	t	13	10	12	<b>13</b>	12
Waste generated	t	14,283	12,856	11,719	<b>11,960</b>	9,696
Final waste disposal	t	39	52	55	<b>71</b>	77

\* Medium-Term Environmental Plan targets

## Shibukawa Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	Compared with FY1990	0.78	0.83	0.84	<b>0.86</b>	0.66
CO <sub>2</sub> emissions (from energy sources)	10,000t	0.7	0.7	0.8	<b>0.9</b>	0.9
PRTR substance emissions	t	4	3	4	<b>4</b>	6
NOx emissions	t	5	11	11	<b>11</b>	12
SOx emissions	t	1	2	3	<b>4</b>	5
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water used	1,000m <sup>3</sup>	2,458	2,399	2,294	<b>2,089</b>	2,240
COD (BOD) discharges	t	3	4	3	<b>3</b>	3
Waste generated	t	369	382	384	<b>442</b>	508
Final waste disposal	t	1	1	2	<b>1</b>	2

\* Medium-Term Environmental Plan targets

## Environmental Performance

### Ofuna Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	Compared with FY2002	0.77	0.78	0.72	<b>0.67</b>	0.65
CO <sub>2</sub> emissions (from energy sources)	10,000t	1	0.7	0.8	<b>0.8</b>	0.9
PRTR substance emissions	t	1	1	1	<b>1</b>	1
NOx emissions	t	2	2	1	<b>2</b>	1
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water used	1,000m <sup>3</sup>	51	46	42	<b>59</b>	59
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	107	167	137	<b>147</b>	139
Final waste disposal	t	18	16	14	<b>14</b>	10

\* Medium-Term Environmental Plan targets

### Iseaki Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	Compared with FY2005	0.98	1.02	1.00	<b>0.96</b>	1.00
CO <sub>2</sub> emissions (from energy sources)	10,000t	2.1	1.7	2.2	<b>2.1</b>	2.4
PRTR substance emissions	t	0	0	0	<b>0</b>	0
NOx emissions	t	0	0	0	<b>0</b>	0
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water used	1,000m <sup>3</sup>	440	427	433	<b>385</b>	410
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	179	145	171	<b>155</b>	160
Final waste disposal	t	0	0	0	<b>0</b>	0

\* Medium-Term Environmental Plan targets

### Denka Innovation Center

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	0.1	0.1	0.2	<b>0.2</b>	0.2
PRTR substance emissions	—	0	0	0	<b>0</b>	0
NOx emissions	t	0	0	0	<b>0</b>	0
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water used	1,000m <sup>3</sup>	8	8	7	<b>6</b>	7
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	117	101	118	<b>108</b>	115
Final waste disposal	t	0	0	0	<b>0</b>	0

\* Medium-Term Environmental Plan targets

### Denka Singapore Pte. Ltd. Merbau Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	0.3	0.4	0.4	<b>0.3</b>	0.4
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	1.2	0.5	0.5	<b>0.5</b>	0.5
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	44	58	46	<b>47</b>	50
COD (BOD) discharges	t	0.1	0.1	0.1	<b>0.1</b>	0.1
Waste generated	t	332	336	315	<b>361</b>	317
Final waste disposal	t	0	0	0	<b>0</b>	0

### Denka Singapore Pte. Ltd. Seraya Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	3.4	3.0	3.3	<b>3.6</b>	3.6
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	4.6	4.6	4.6	<b>4.9</b>	5.0
SOx emissions	t	0.9	0.9	0.9	<b>0.9</b>	0.9
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	193	138	174	<b>217</b>	220
COD (BOD) discharges	t	3.2	3.2	3.5	<b>3.7</b>	3.5
Waste generated	t	1,948	1,773	1,445	<b>1,588</b>	1,700
Final waste disposal	t	0	6	13	<b>12</b>	20

### Denka Advantech Pte. Ltd. Tuas Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	2.6	2.5	2.0	<b>1.7</b>	2.3
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	322	501	590	<b>530</b>	650
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	99	97	83	<b>73</b>	94
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	348	381	306	<b>199</b>	266
Final waste disposal	t	348	381	306	<b>199</b>	266

### Denka Advantech Pte. Ltd. South Plant

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	—	0.2	0.4	<b>0.4</b>	0.5
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	—	0.6	1.4	<b>1.5</b>	1.5
SOx emissions	t	—	0	0	<b>0</b>	0
Soot and dust emissions	t	—	0	0.1	<b>0.1</b>	0.1
Water supplied	1,000m <sup>3</sup>	—	5	10	<b>18</b>	18
COD (BOD) discharges	t	—	0	0	<b>0</b>	0
Waste generated	t	—	140	288	<b>276</b>	340
Final waste disposal	t	—	11	21	<b>19</b>	23

### Denka Advanced Materials (Suzhou) Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	—	0.05	0.08	<b>0.10</b>	0.10
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	0	0	0	<b>0</b>	0
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	—	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	1.8	1.8	1.8	<b>2.0</b>	2.0
COD (BOD) discharges	t	0	0	0	<b>0.5</b>	0.5
Waste generated	t	0	0	0.2	<b>0.2</b>	2.4
Final waste disposal	t	0	0	0	<b>0</b>	0.1

## Environmental Performance

### Denka Chemicals Development Suzhou Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	0.01	0.02	0.01	<b>0.02</b>	0.02
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	0	0	0	<b>0</b>	0
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	0.3	0.9	0.4	<b>0.5</b>	0.5
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	9	20	23	<b>12</b>	22
Final waste disposal	t	0	0.03	0	<b>0</b>	0.05

### Denka Inorganic Materials (Tianjin) Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	—	—	0.01	<b>0.01</b>	0.01
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	—	—	0.1	<b>0</b>	0
SOx emissions	t	—	—	0	<b>0</b>	0
Soot and dust emissions	t	—	—	0	<b>0</b>	0.1
Water supplied	1,000m <sup>3</sup>	—	—	0.4	<b>0.7</b>	0.7
COD (BOD) discharges	t	—	—	0	<b>0</b>	0
Waste generated	t	—	—	8	<b>42</b>	10
Final waste disposal	t	—	—	8	<b>42</b>	10

### Denka Electronics Materials Dalian Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	—	—	—	<b>0.04</b>	0.06
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	—	—	—	<b>0</b>	0
SOx emissions	t	—	—	—	<b>0</b>	0
Soot and dust emissions	t	—	—	—	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	—	—	—	<b>0.1</b>	0.3
COD (BOD) discharges	t	—	—	—	<b>0</b>	0
Waste generated	t	—	—	—	<b>0.8</b>	2
Final waste disposal	t	—	—	—	<b>0.04</b>	0.1

### Denka Polymer Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	1.2	1.2	1.3	<b>1.2</b>	1.2
PRTR substance emissions	t	0	0	0	<b>0</b>	0
NOx emissions	t	0	0	0	<b>0</b>	0
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	0	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	—	10	30	<b>28</b>	28
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	103	113	146	<b>139</b>	138
Final waste disposal	t	0	0	0	<b>0</b>	0

### Denka Seiken Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	1.5	1.5	1.6	<b>1.6</b>	1.7
PRTR substance emissions	t	0	0	0	<b>0</b>	0
NOx emissions	t	4	3	4	<b>4</b>	4
SOx emissions	t	2	3	2	<b>1</b>	2
Soot and dust emissions	t	—	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	674	440	702	<b>269</b>	280
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	337	275	935	<b>967</b>	970
Final waste disposal	t	41	42	48	<b>70</b>	50

### CRK Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	0.1	0.1	0.1	<b>0.1</b>	0.1
PRTR substance emissions	t	0	0	0	<b>0</b>	0
NOx emissions	t	0	0	0	<b>0</b>	0
SOx emissions	t	0	0	0	<b>0</b>	0
Soot and dust emissions	t	—	0	0	<b>0</b>	0
Water supplied	1,000m <sup>3</sup>	74	75	74	<b>74</b>	74
COD (BOD) discharges	t	0	0	0	<b>0</b>	0
Waste generated	t	75	84	80	<b>60</b>	65
Final waste disposal	t	34	37	30	<b>19</b>	22

### Hinode Kagaku Kogyo Kaisha Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	2.3	2.4	2.2	<b>2.0</b>	1.9
PRTR substance emissions	t	3.4	5.0	4.2	<b>2.6</b>	2.5
NOx emissions	t	177	190	208	<b>141</b>	130
SOx emissions	t	173	118	101	<b>74</b>	90
Soot and dust emissions	t	—	10	7	<b>6</b>	6
Water supplied	1,000m <sup>3</sup>	1,571	1,878	1,333	<b>1,330</b>	1,327
COD (BOD) discharges	t	2	2	2	<b>3</b>	2
Waste generated	t	103	244	54	<b>38</b>	38
Final waste disposal	t	38	184	4	<b>3</b>	4

### Denka Azumin Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	0.6	0.5	0.6	<b>0.5</b>	0.5
PRTR substance emissions	t	0	0	0	<b>0</b>	0
NOx emissions	t	27	29	26	<b>21</b>	21
SOx emissions	t	1	2	1	<b>1</b>	1
Soot and dust emissions	t	4	5	4	<b>3</b>	4
Water supplied	1,000m <sup>3</sup>	596	596	603	<b>602</b>	627
COD (BOD) discharges	t	2	4	2	<b>2</b>	2
Waste generated	t	84	52	49	<b>54</b>	54
Final waste disposal	t	0.3	0.3	0.3	<b>0.3</b>	0.3

## Environmental Performance

### Denka Advanced Materials Vietnam Co., Ltd.

Item	Unit	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015	Fiscal 2016 target
Energy consumption intensity	—	—	—	—	—	—
CO <sub>2</sub> emissions (from energy sources)	10,000t	—	—	—	0.11	0.19
PRTR substance emissions	—	—	—	—	—	—
NOx emissions	t	—	—	—	0	0
SOx emissions	t	—	—	—	0	0
Soot and dust emissions	t	—	—	—	0	0
Water supplied	1,000m <sup>3</sup>	—	—	—	11	25
COD (BOD) discharges	t	—	—	—	0	0
Waste generated	t	—	—	—	110	250
Final waste disposal	t	—	—	—	15	5