



**Address:** 2209 Omi, Itoigawa, Niigata

**Telephone:** +81-25-562-6105

**Employees:** 788 (as of March 31, 2013)

**Products:** Elastomers & Performance Plastics: Chloroprene rubber, POVAL, etc.

Infrastructure & Inorganic Materials: Cement, special cement additives, calcium carbide, calcium cyanamide, ALCEN, etc.

Electronics & Innovative Products: Monosilane gas

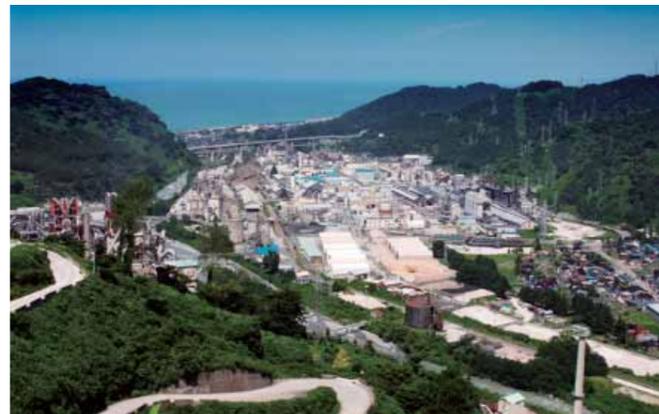
Life Science & Environment Products: Macromolecular sodium hyaluronate

Others: Eel farms

**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. In recent years, we have diversified into inorganic fine chemicals and pharmaceuticals. We continue to develop our business to meet new and diverse challenges in chemicals.



**Shohei Tamaki**  
Managing Executive Officer,  
General Manager of Omi Plant



**General Managers' Policies**

Striving to reinforce our operational excellence and technological capabilities and to ensure stable operations to become a main plant that is highly competitive.

**Safety and Health, Environmental and Quality Policies**

**Occupational Safety and health**

To ensure zero accident, zero disaster and zero occupational illness rates, every employee shall embrace a safety-oriented organization culture. By doing so, let's make the Omi Plant a cheerful and sparkling workplace.

**Environment**

We will fully utilize and strive to enhance the environmental management system as we pursue environmental activities.

**Quality**

To eliminate all substantial quality-related complaints and to gain the greater trust of customers, we will raise and maintain awareness toward product quality while enhancing technological capabilities.

**Environmental Performance**

Item	Units	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013 targets
Energy consumption indicator unit	Compared with FY1990	0.94	0.97	0.96	0.94	0.94
CO <sub>2</sub> emissions (from energy sources)	10,000t	76	76	77	83	91
PRTR substance emissions	t	16	12	17	18	14
NOx emissions	t	3,030	2,750	2,820	2,940	3,000
SOx emissions	t	740	120	94	81	50
Soot and dust emissions	t	140	103	114	86	116
Water used	1,000m <sup>3</sup>	64,700	66,300	67,200	64,000	—
COD (BOD) discharges	t	1,100	1,570	1,270	850	1,270
Waste	t	74,700	83,900	105,200	109,870	115,000
Final waste disposal	t	240	160	143	100	120

Note: Totals of individual figures in this and other tables may not be exact due to rounding down. The totals in this table match the figures in the Input and Output chart on page 18 of the DENKA CSR Report 2013. Calculations of energy intensity and CO<sub>2</sub> emissions are based on the coefficient standards set out in the voluntary action plan issued by Nippon Keidanren.

**Fiscal 2012 Achievements**

**Planting Beech Trees on Land That Has Been Mined**

At the Omi Plant's limestone mine, we have striven to restore mined-out land using a soil spraying method and planting trees. Previously, we planted introduced species chosen for their strong fertility in order to achieve rapid growth in greenery. Recently, however, there have been concerns about the decline in native species due to the invasion of alien species. With this in mind, we have been switching over to planting acorns collected from the area around the mine. This initiative not only contributes to the preservation of native species but is also highly cost effective.

In fiscal 2012, we planted 160 acorns. Although some were eaten by animals or have withered after sprouting, we are determined to persevere in our efforts to recreate the forest that used to thrive at this site before the Company began mining.



Planting acorns on the slope of the former eastern limestone mine

**Award from the Governor of Niigata Prefecture for Our Initiatives to Employ People with Disabilities**

On September 8, 2012, the Omi Plant received an award from the governor of Niigata Prefecture for its contribution to the employment of people with disabilities and the improvement of their employment rate.

The plant has been proactively hiring people with disabilities while striving to create a friendly workplace for them. As of the date of the awards ceremony, 20 such people are working at the plant and assigned to duties best suited to their abilities. Looking ahead, we will continue to promote our initiatives aimed at offering employment for people with disabilities.



Awards ceremony

**Exhibiting Our Cab-Behind-Engine Bus at the "Japan Sea Classic Car Review"**

As a part of our contribution to local communities, we participated in the Japan Sea Classic Car Review sponsored by the Itoigawa City Tourist Association, exhibiting a cab-behind-engine bus (a 1970 Isuzu TSD-40) that is currently used at the Omi limestone mine and is kept by the Resources Department. We offered attendees rides and the bus received high praise from classic car fans visiting the events.



Cab-behind-engine bus used at the Omi limestone mine

**Local Youth Development**

To let people know more about the Omi Plant and nurture interest in science, we proactively participate in such events as science shows. On November 3, 2012, we participated in an event sponsored by Itoigawa City (*Geomaru & Nuna to Omoshiro Science*), setting up a booth where children got to personalize PET bottles using DENKA's CLEAREN, an SBC resin film known as "shrink film."



The experiment welcomed 236 children

**Fiscal 2013 Initiatives**

- ◇ We will promote safety activities involving all employees while facilitating workplace communication.
- ◇ We maintained zero emission status in fiscal 2012. We will continue our efforts to reduce our environmental impact and build trust through active engagement with local communities.
- ◇ We will enhance production and quality control technologies to accurately meet customer needs.

**Address:** Shinkai-Machi 1, Omuta, Fukuoka

**Telephone:** +81-944-52-1055

**Employees:** 652 (as of March 31, 2013)

**Products:** Elastomers & Performance Plastics: Acetylene black

Infrastructure & Inorganic Materials: Carbide, calcium cyanamide, FIRELEN, alumina cement and special cement additives

Electronics & Innovative Products: Fused silica filler, silicon nitride, boron nitride, aluminum nitride, ceramic electronic circuit substrates, thermally conductive sheets, high-temperature thermal conductive composite and LED phosphors

**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. In recent years, we have entered the fine ceramics and electronic materials fields. Today, we contribute to the development of the electronics, automotive and numerous other industries.

**General Managers' Policies**

Placing the utmost priority on thoroughly securing safety at the production site, we will strive to achieve the goals of the DENKA100 initiative. To this end, we will establish a road map for reorganizing the Omuta Plant while accelerating the development of plant facilities.



**Toshiharu Kano**  
Managing Executive Officer,  
General Manager of Omuta Plant



**Environmental, Safety and Quality Policies**

**(1) Maintaining Safety, Security and Health**

Managers and operators will work together as one to step up the level of occupational safety, security and health. Proactively utilizing our safety evaluation system, we will undertake concrete actions aiming to realize a better working environment.

**(2) Furthering the Pursuit of RC Activities**

We will consider the environment and social impact in all processes, from product development through procurement, manufacturing and distribution to usage and disposal.

**(3) Reinforcing On-Site Capabilities—Maximizing Our Operational Excellence on a Product Basis**

We will work to maximize the profitability of each product based on thorough analyses of profit structure by product. Simultaneously, we will reinforce our operating base by taking concrete steps to improve quality control, resource consumption intensity and yield ratio.

**(4) Working in Step with the DENKA100 Management Plan— Aiming for Further Growth**

We will reinforce our functional fine particle production technologies while launching innovative products and new product variations in order to further expand our business scope. Moreover, we will accelerate the development of facilities to make the Omuta Plant a place that looks good to people both within and outside the Company.

**Environmental Performance**

Item	Units	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013 targets
Energy consumption indicator unit	Compared with FY1990	0.92	0.91	0.9	0.94	0.90
CO <sub>2</sub> emissions (from energy sources)	10,000t	9	11	11	13	15
PRTR substance emissions	t	6	17	25	7.0	6.6
NOx emissions	t	1,000	1,120	940	850	1,040
SOx emissions	t	2	1	1	1.1	1.1
Soot and dust emissions	t	3	3	6	3.0	5.1
Water used	1,000m <sup>3</sup>	1,190	1,310	1,390	1,220	—
COD (BOD) discharges	t	1	1	2	1.0	0.9
Waste	t	6,861	8,670	13,600	7,400	12,000
Final waste disposal	t	133	71	39	22	22

Note: Totals of individual figures in this and other tables may not be exact due to rounding down. The totals in this table match the figures in the Input and Output chart on page 18 of the DENKA CSR Report 2013. Calculations of energy intensity and CO<sub>2</sub> emissions are based on the coefficient standards set out in the voluntary action plan issued by Nippon Keidanren.

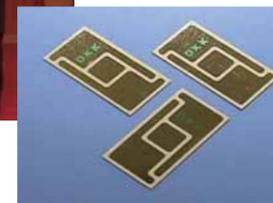
**Fiscal 2012 Achievements**

**Selected for the “Green Asia International Strategic Comprehensive Special Zone” Project**

The Green Asia International Strategic Comprehensive Special Zone is a national green economy project formulated in line with the government's “Blueprint for Revitalizing Japan” growth strategy. On December 22, 2011, subsidies were granted to Fukuoka Prefecture, and in particular the cities of Kitakyushu and Fukuoka, to fund the area's development as a special zone. On December 18, 2012, the Omuta Plant became a designated business operator thanks to its efforts in the production of ceramic substrates and thermally conductive substrates and sheets, all of which are indispensable to the manufacture of power modules that significantly cut power loss.



Designation ceremony; Mr. Hiroshi Ogawa, the governor of Fukuoka Prefecture (second from the left) and Mr. Tetsuro Maeda, the vice president of DENKA at that time (third from the left)



The Omuta Plant's power module-related products

**Facilitating Children's Interest in Chemistry**

We continued to pursue initiatives aimed at facilitating children's interest in chemistry, visiting local elementary schools where we demonstrated experiments. We also participated in the Omuta Ecotown Fair to provide special chemistry classes and invited local associations and schools to tour the plant, giving them the opportunity to learn more about DENKA's business operations.



Chemistry class for children



Elementary school students on a plant tour

**Engaging with Local Communities**

As a part of our contributions to local communities, we participate in voluntary cleanup activities in tandem with local community organizations in spring and autumn. We also participate in a biannual Japanese Islands Cleanup Campaign sponsored by the Omuta City. In addition, we cooperate with blood donation campaigns twice a year, with 198 employees donating blood in fiscal 2012 (cumulative total).

To facilitate communication with local communities, we also participate in the Omuta Daijaya Festival, a summer festival that dates back 300 years.



Omuta Daijaya Festival



Plant employees participating in the blood donation campaign



Cleanup activity

**Fiscal 2013 Initiatives**

- ◇ We will expand the scope of our chemistry class activities for children.
- ◇ We will reinforce our current safety activities with new approaches and methods to ensure greater safety.
- ◇ In line with the national green economy project, we will pursue corporate activities aimed at revitalizing Japan beginning with the Omuta area.
- ◇ Through these and other initiatives, we will remain the Group's flagship plant in the truest sense.

**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:** 458 (as of March 31, 2013)

**Products:** Elastomers & Performance Plastics: Styrene monomer, polystyrene,\* ABS resin, transparent resins, heat-resistant resins, CLEAREN styrene-butadiene block copolymer, vinyl acetate monomer and DENKA ER (\*Product of an affiliated company)

Life Science & Environment Products: Food packaging, construction materials and vinyl chloride tapes

**Operations:** Begun as a styrene monomer plant, the Chiba Plant is reinforcing such styrene operations as polystyrene, ABS resins, CLEAREN styrene-butadiene block copolymer and transparent plastics. It also focuses on the petrochemical-related businesses represented by vinyl acetate monomer and acrylic rubber while reinforcing such plastic processed products as biaxially oriented polystyrene sheet (OPS), construction materials and vinyl chloride tapes.



**General Managers' Policies**

- In line with the new phase of DENKA100, we will proactively take on challenges as we strive to reorganize our business structure and to develop new businesses and products. We will also implement an exhaustive revision of total costs in line with concrete numerical targets, thereby securing stable profit.
- To establish a foundation for the next 50 years, we will vigorously promote CHIBA50 activities aimed at becoming a plant with the flexibility as necessary to ensure sustainable development.
- We will steadily promote such initiatives as nurturing human resources, passing on technologies and skills to younger generations and advancing the plant's technological capabilities. We will thereby enhance operational excellence to secure worksite safety and health, conserve the environment, prevent disasters and achieve high product quality and thus become a plant deserving trust.
- As we strive to create a healthy and vibrant workplace, we will implement small-group activities and hold a variety of events to facilitate workplace communication.
- To earn the trust of society, we will pursue CSR activities aimed at contributing to local communities and fulfilling our corporate responsibility. By doing so, we will become a plant that provides employees with job satisfaction and instills a sense of pride.



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

**Environmental, Safety and Quality Policies**

**Environment**

We will consider the environment in all processes, from product development, manufacturing and distribution to usage, final consumption and disposal. We will build an environmental management system.

**Safety**

We expect all plant workers to recognize the importance of maintaining a safe and healthy workplace. We aim to develop a healthy, safe and cheerful working environment in which everyone fully recognizes and implements security management systems required of a license holder for high pressure gas handling, boiler operation and first-class pressure vessel operation, while complying with relevant laws and regulations. We will achieve zero accidents through seamless system improvement for security management as well as occupational safety and health management, both of which are essential to a healthy, safe and cheerful workplace, while implementing safe and stable operations.

**Quality**

We will strive to secure and enhance product quality to gain the trust of customers by consistently offering satisfying products.

**Environmental Performance**

Item	Units	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013 targets
Energy consumption indicator unit	Compared with FY1990	0.85	0.87	0.89	0.96	0.89
CO <sub>2</sub> emissions (from energy sources)	10,000t	44	43	46	34	35
PRTR substance emissions	t	109	86	92	73	68
NOx emissions	t	436	448	479	260	216
SOx emissions	t	116	129	122	33	12
Soot and dust emissions	t	5	5	8	3.0	2.0
Water used	1,000m <sup>3</sup>	9,700	9,700	9,690	9,580	—
COD (BOD) discharges	t	17	23	22	13	20
Waste	t	17,431	18,300	18,100	14,280	12,000
Final waste disposal	t	98	40	23	39	22

Note: Totals of individual figures in this and other tables may not be exact due to rounding down. The totals in this table match the figures in the Input and Output chart on page 18 of the DENKA CSR Report 2013. Calculations of energy intensity and CO<sub>2</sub> emissions are based on the coefficient standards set out in the voluntary action plan issued by Nippon Keidanren.

**Fiscal 2012 Achievements**

● **Disaster Drills Assuming a Major Earthquake and Tsunami**

We implemented a disaster drill postulating a scenario of a major earthquake in the Tokai area. With approximately 700 workers participating, including plant employees and others from our subcontractors and affiliates, the drill encompassed the simulated establishment of disaster response headquarters and teams, the emergency shutdown of plant operations and an evacuation drill.



Evacuation drill



● **A Commemorative Plant Tour—"Thanks, CM-3"**

Operations at the Chiba Plant's styrene monomer production facility unit No. 3 (CM-3) ceased in 2012. To commemorate its 29-year-long track record as a key player in DENKA's styrene-related businesses since its launch in 1983, we held a tour of CM-3, inviting ex-employees who have been involved in the facility construction and operations to attend.



Plant tour at CM-3

● **Plant Tours and Experimental Science Classes**

In concert with Environment Awareness Month,\* in June 2012 we held joint plant tours in tandem with other companies operating in neighboring areas, inviting fifth graders from local elementary schools to participate.

In the following month, we went on to hold "Summer Vacation Plant Tours for Children and Parents" that welcomed employees' families. Participants enjoyed a bus tour of the major plant facilities and group pictures were taken in front of the quay wall.

Also, we held experimental science classes that offered children fun, hands-on experience of chemistry. We invited them to join such experiments as personalizing PET bottles using a DENKA CLEAREN shrink film that the children themselves decorated.

\* Designated by the Ministry of the Environment



Summer Vacation Plant  
Tour for employees' families



Local elementary school students on a joint plant tour

**Fiscal 2013 Initiatives**

◇ **Environmental Activities**

We will take part in Companywide energy-saving and CO<sub>2</sub> reduction activities and will pursue resource savings zero-emissions. We will work in close liaison with government bodies as well as local residents to reduce our environmental impact.

◇ **Safety Activities**

We will pursue seamless system improvements for security management as well as occupational safety and health management and thus maintain the safe and stable operation of the plant. We will also implement disaster prevention activities with other companies operating in neighboring areas under the instruction of relevant authorities.

◇ **CSR Activities**

We will proactively participate in local events and festivals. We will also continue to hold plant tours for local elementary, junior-high and high school students and neighborhood associations.

**Address:** 1135 Nakamura, Shibukawa, Gunma

**Telephone:** +81- 279-25-2109

**Employees:** 392 (as of March 31, 2013)

**Products:** Electronics & Innovative Products: DENKA HITPLATE high thermal conductivity aluminum substrates, THERMALLY CONDUCTIVE SHEETS, DENKA TFE and DENKA 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

**Operations:** Since 1951, the Shibukawa Plant has developed as a production base for vinyl chloride resins. In 1976, the plant began manufacturing HARDLOC structural adhesive and, in 1984, expanded its business domain as it entered into full-scale participation in the electronic materials business. Currently, the plant focuses on the production of electronics-related products, encompassing electronic circuit substrates, thermally conductive materials, emitters, structural adhesives, temporary fixing adhesives and semiconductor processing-related products, contributing to DENKA's growth as a key organic electronic materials production base.



Hideki Hirano  
General Manager of  
Shibukawa Plant

### General Managers' Policies

In order to secure our profit base, we will take an aggressive approach to meeting new challenges arising at the manufacturing site, the back office and other sections as well as in our R&D activities. By doing so, we will make the most of changes in the external business environment, thereby remaining a "mother plant" of DENKA's electronic materials business.

#### 1. Human Resource Development

Striving to enhance all employees' skills and professionalism while maintaining thorough compliance

#### 2. Occupational Safety and Health

Creating a safe, comfortable, lively and vibrant workplace

#### 3. Taking on New Challenges

**Manufacturing section:**

Scrutinizing total costs by reviewing product quality and production processes

**R&D section:**

Accelerating R&D efforts to provide solutions

**Back office:**

Strengthening cooperation between departments by reviewing the structure of daily operations

#### 4. Promoting the DENKA100 Management Plan

### Environmental, Safety and Quality Policies

#### • Environment

We will continue to reduce environmental burdens by conserving resources and energy, cutting CO<sub>2</sub> emissions and waste generation, maintaining zero emissions and reinforcing the management of chemical substances. Together with this, we will aim to operate in harmony with the community through interaction.

#### • Safety

We will strive to adopt the "Basics of Safety" while reviewing countermeasures applicable to high-risk operations that could lead to accidents wherein an employee is clamped or otherwise caught in machinery. To this end, each employee will proactively think and take action, working together as one for improvement and to secure a safe and comfortable workplace free of any type of accident or disaster.

#### • Quality

Continuing to secure and improve product quality, we will offer reliable products that satisfy customers on a timely basis.

### Environmental Performance

Item	Units	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013 targets
Energy consumption indicator unit	Compared with FY1990	0.85	0.74	0.78	0.78	0.78
CO <sub>2</sub> emissions (from energy sources)	10,000t	1	1	1	1	1
PRTR substance emissions	t	5	6	4	3.8	5
NOx emissions	t	6	10	6	5	8
SOx emissions	t	16	10	1	0.94	1.1
Soot and dust emissions	t	1	0	0	0.02	0.02
Water used	1,000m <sup>3</sup>	2,520	2,580	2,520	2,460	—
COD (BOD) discharges	t	3	3	3	3.2	2.4
Waste	t	503	479	416	369	400
Final waste disposal	t	5	3	2	1.3	1.0

Note: Totals of individual figures in this and other tables may not be exact due to rounding down. The totals in this table match the figures in the Input and Output chart on page 18 of the DENKA CSR Report 2013. Calculations of energy intensity and CO<sub>2</sub> emissions are based on the coefficient standards set out in the voluntary action plan issued by Nippon Keidanren.

### Fiscal 2012 Achievements

#### • Displaying Safety Record with an Electronic Bulletin Board

We introduced a new electronic bulletin board to display safety records. Painted blue and white—DENKA's corporate colors—the board catches the eye, even on cloudy or rainy days. Also, having received grade II safety operation certification,\* we have expanded the content of the safety records presented on the board.

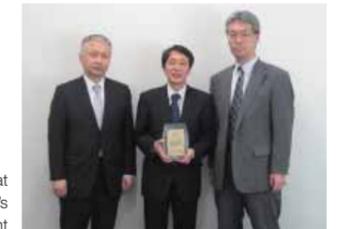
\* A certification issued by local labor authorities in response to the length of period that business operators have maintained zero accident status



Electronic bulletin board installed at the plant

#### • Received a Supplier Award for Superior Quality from Toyota

We received a Supplier Award for Superior Quality from Toyota Motor Corporation's Hirose Plant at its fiscal 2013 commendation ceremony. This is the highest commendation the Hirose Plant awards suppliers and was given for DENKA HITPLATE, which we have been supplying to the Plant with zero defects for five consecutive years.



Commendation ceremony at the Toyota Motor Corporation's Hirose Plant

#### • Completion Ceremony for "DENKA Solar Power Shibukawa"

On July 16, 2013, we celebrated the completion of DENKA Solar Power Shibukawa, a mega solar power generation facility installed at the Shibukawa Plant. This facility houses approximately 9,200 photovoltaic cells that incorporate back sheets made of DENKA DX FILM, which has superior weather-resistant and anti-pollution properties. With a maximum output of 2,000kW, this facility is expected to supply 2,600,000kWh per year, which is comparable to 800 households' annual energy consumption.



Mr. Sadaji Akutsu (right), the mayor of Shibukawa City, and Mr. Shinsuke Yoshitaka, president of DENKA (left)



DENKA Solar Power Shibukawa in operation (July 2013)

#### • Assisting Educational Activities

Welcoming 31 students from chemistry clubs at local junior high and high schools, we hosted a plant tour focused on manufacturing processes for ELEGRIP dicing tape, substrates and emitters. In addition, we invited other local educational groups to participate in plant tours while offering job experience programs for local junior high school students.



Plant tour



Members of local educational associations touring a plant



Shibukawa Junior High School eighth graders participating in a job experience program

### Fiscal 2013 Initiatives

- ◇ We will seek to enhance employees' knowledge and skills as well as their professionalism. At the same time, we will take on new challenges, including the exhaustive revision of total costs, acceleration of solution-oriented R&D activities and structural review of daily operations, in line with the DENKA100 initiative.
- ◇ We will maintain the status of zero occupational injuries through safety activities while creating a safe and vibrant workplace.
- ◇ We will ensure compliance with environment-related laws and regulations and strive to remain accident-free in our logistics operations.

**Address:** 13-1, Dai 2-chome, Kamakura, Kanagawa

**Telephone:** +81- 467-45-1110

**Employees:** 203 (as of March 31, 2013)

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

**Operations:** Our product lineup is the fruit of advanced capabilities drawing on ejection molding, adhesion coating and film production technologies. We are DENKA's prime production unit for plastic products. We develop and manufacture such offerings as TOYOKALON synthetic fiber for top global wig and hairpiece brands, packaging tapes that include hand-cutable and printing tapes, and Calalyan Y polyethylene film featuring excellent traverse direction (TD) mono-axial cut properties.



**General Managers' Policies**

With an eye to promoting the new phase of DENKA100, everyone working at the plant shall renew their mindset and proactively take on challenges to achieve the goals of the DENKA100 initiative.

1. Securing safety, security and health
2. Advancing RC activities
3. Strengthening the plant's operating base by reinforcing operational excellence and promoting product development
4. Addressing each operational issue by seeking fundamental solutions



**Hideki Watanabe**  
General Manager of Ofuna Plant

**Environmental, Safety and Quality Policies**

**• Environment**

- (1) Promote global warming prevention initiatives (energy saving and reduction of CO<sub>2</sub> emissions)
- (2) Reduce environmental burdens by promoting recycling and cutting waste generation as well as emissions of environmental load substances
- (3) Promote logistics safety
- (4) Contribute to society (participate in community events and interact with local residents)
- (5) Comply with environment-related laws, regulations and other standards

**• Safety**

- (1) Promote safety activities involving all employees
- (2) Facilitate workplace communication to create a lively and vibrant workplace
- (3) Ensure that all employees undergo safety training while raising their safety awareness
- (4) Enhance the plant's capability to ensure security
- (5) Pursue workplace environment improvement and health promotion initiatives

**• Quality**

- (1) Strengthen upstream management to ensure product safety and consistent quality
- (2) Reinforce operational excellence by focusing technologies and employees' awareness on ensuring built in quality
- (3) Enhance customer satisfaction through the promotion of quality improvement initiatives and employee training focused on quality management and assurance techniques

**Environmental Performance**

Item	Units	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013 targets
Energy consumption indicator unit	Compared with FY2002	0.94	0.79	0.75	0.77	0.75
CO <sub>2</sub> emissions (from energy sources)	10,000t	1	1	1	1	1
PRTR substance emissions	t	1	1	1	1	1
NOx emissions	t	1	2	2	2	2
SOx emissions	t	0	0	0	0	0
Soot and dust emissions	t	0	0	0	0	0
Water used	1,000m <sup>3</sup>	87	8	59	51	—
COD (BOD) discharges	t	0	0	0	0	0
Waste	t	188	199	124	110	100
Final waste disposal	t	32	30	30	17	12

Note: Totals of individual figures in this and other tables may not be exact due to rounding down. The totals in this table match the figures in the Input and Output chart on page 18 of the DENKA CSR Report 2013. Calculations of energy intensity and CO<sub>2</sub> emissions are based on the coefficient standards set out in the voluntary action plan issued by Nippon Keidanren.

**Fiscal 2012 Achievements**

**• Passing on Technologies to a New Plant in Singapore**

In preparation for the launch of the Company's new plant in Singapore, which commenced the production of TOYOKALON in June 2013, we hosted nine overseas staff recruited in Singapore, providing them with training on manufacturing, workplace safety and health and quality management. Over several months from October 2012, these trainees zealously acquired the knowledge and skills necessary to produce TOYOKALON through lectures and practical training.



Singaporean staff being trained at the Ofuna Plant

**• Safety and Disaster Prevention Initiatives**

We continued to raise employees' safety awareness through training sessions on the "pointing and calling method." Machines simulating dangerous situations also offer hands-on experience to employees. In addition, in fiscal 2012 we began conducting comprehensive emergency drills to ensure preparedness in case of earthquake or fire.



Emergency drill



Training on pointing and calling

**• Working with Communities to Preserve the Environment**

We cooperate with Kamakura City's waste reduction policies by promoting the separation and reduction of waste generated by the plant, for example, by cutting combustible waste. We also conduct complete cleanups of the plant and nearby streets on the third Wednesday of every month.



Cleaning the plant's premises

**• Interacting with Local Communities**

On July 7, 2012, we made the square in front of the plant's main gate available for a summer festival held by a nearby neighborhood association. We also set up food stands and an employee band performed during this event.



Summer festival

On October 11 and 18, 2012, we hosted a plant tour, inviting 121 third graders from local elementary schools to attend. At a later date, these students sent us a thank you card on which they wrote comments and words of appreciation.



Elementary school students on a plant tour

**Fiscal 2013 Initiatives**

- ◇ Based on the philosophy of contributing to and prospering with the community of Kamakura, we continue to deepen our engagement with the local community.
- ◇ Based on reviews of production processes, we will strive to promote global warming prevention initiatives and work to curb environmental load substance emissions while promoting the reduction and separation of waste.
- ◇ Under the safety slogan, "Let's work as one to ensure safety," we will strive to maintain our zero-accident and disaster status.

**Address:** Iseaki Plant: 245, Nishigawara, Naganuma-cho, Iseaki, Gunma  
 Telephone: +81-270-32-1251  
 Iseaki Plant (Ota): 3015 Serada-cho, Ota, Gunma  
 Telephone: +81-276-52-4111

**Employees:** 267 (as of March 31, 2013)

**Products:** Electronics & Innovative Products: DENKA THERMOSHEET EC, DENKA Thermo Film ALS and other carrier tapes, trays and cover tapes for semiconductor and electronic component transportation process  
 Life Science & Environment Products: Styrene Sheet, CLEAREN sheet, food packaging film and stretch film, and DENKA DX FILM for use in solar cell module back sheet material

**Operations:** This plant manufactures sheets and films from polystyrene, vinyl chloride and other raw materials. The Ota facility has the greatest production capacity in East Asia for these products. 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.



**Koichi Taguchi**  
 General Manager of Iseaki Plant

**General Managers' Policies**

1. Pursue occupational safety and health
2. Meet the challenge of achieving the goals of the DENKA100 initiative
3. Improve customer satisfaction
4. Continuously update facilities
5. Pursue the creation of environment-friendly products

**Environmental, Safety and Quality Policies**

- **Environment**  
 Conserve energy and resources while harmoniously coexisting with local communities
- **Safety**  
 Achieve zero accident as well as zero disaster status by clarifying managers' responsibilities regarding anticipating risk and workers' responsibilities regarding taking right actions
- **Quality**  
 Improve quality and swiftly and accurately meet customer needs

**Environmental Performance**

Item	Units	Fiscal 2009	Fiscal 2010	Fiscal 2011	Fiscal 2012	Fiscal 2013 targets
Energy consumption indicator unit	Compared with FY2005	0.99	0.97	0.99	0.95	0.97
CO <sub>2</sub> emissions (from energy sources)	10,000t	1	2	2	2	2
PRTR substance emissions	t	0	0	0	0	0
NO <sub>x</sub> emissions	t	0	0	0	0	0
SO <sub>x</sub> emissions	t	0	0	0	0	0
Soot and dust emissions	t	0	0	0	0	0
Water used	1,000m <sup>3</sup>	358	412	422	483	—
COD (BOD) discharges	t	0	0	0	0	0
Waste	t	169	207	239	178	163
Final waste disposal	t	12	0	0	0	0

Note: Totals of individual figures in this and other tables may not be exact due to rounding down. The totals in this table match the figures in the Input and Output chart on page 18 of the DENKA CSR Report 2013. Calculations of energy intensity and CO<sub>2</sub> emissions are based on the coefficient standards set out in the voluntary action plan issued by Nippon Keidanren.

**Fiscal 2012 Achievements**

● **Disaster Prevention and Safety Initiatives**

We hold comprehensive emergency drills at the Iseaki and Ota Plants to enhance our ability to respond properly to emergencies. Held in cooperation with local fire departments, such drills involve simulations of initial fire suppression activity and a series of actions to be taken during emergencies. We also confirmed rules pertaining to emergency response under the guidance of the fire departments.

Meanwhile, the manufacturing section is striving to identify the sources of hazards while taking steps as necessary to address dangers specific to manufacturing sites. The R&D section, on the other hand, is holding monthly study sessions aimed at updating knowledge on safety. Best practices are shared among employees through annual presentation meetings.



Comprehensive emergency drill



Safety networking meeting

● **Maintaining Harmonious Labor Relations**

With the aim of facilitating a sense of unity among employees, the plant and the labor union are jointly holding various events, such as annual bowling tournaments, in which more than half of plant employees participate. We also collaborate with the labor union in distributing safety awareness flyers and in implementing initiatives that benefit plant operations.



Visiting an amusement park together with employees' families



Inter-departmental softball tournament

● **Social Responsibility**

As part of our social contribution efforts, we engage in periodic cleanup activities in the plant's immediate vicinity. In addition, ongoing monthly "beautification day" initiatives are undertaken involving all employees with the aim of making areas surrounding the plant more attractive.



Cleaning the plant's vicinity

● **Striving to Become an Environment-Friendly Plant**

In Ota District, we installed a solar power generation facility on the roof of the manufacturing building. Consisting of 4,200 photovoltaic cells, the facility has an annual power generation capacity of 1,000MWh, making it capable of supplying enough electricity to power approximately 300 households for a year. We sell its output to power companies that supply residential areas. DENKA DX FILM, one of the plant's products, is used as a protective back sheet material on the photovoltaic cells.



A photovoltaic cell that uses DENKA DX FILM as a back sheet material

**Fiscal 2013 Initiatives**

- ◇ We will pursue environmental conservation initiatives, placing the highest priority on complying with relevant laws.
- ◇ We have obtained ISO 14001 certification and have positioned the following as important initiatives: reduction and recycling of waste, energy and resource savings and logistics safety. In particular, we will strive to curb waste generation primarily by enhancing yield ratio. We will also contribute to the local community through ongoing beautification activities.
- ◇ Regarding occupational health and safety, we are focusing on preventing labor and equipment-related accidents, lifestyle diseases, heatstroke and mental health problems.

**Address:** 5-1, Asahi-cho 3-chome, Machida, Tokyo

**Telephone:** +81-42-721-3611

**Employees:** 111 (as of March 31, 2013)

**Overview:** The DENKA Innovation Center (Central Research Institute) began operating at its current site after DENKA relocated its Meguro Research Center from its Meguro-ku, Tokyo, location in 1962. As the spearhead of DENKA's product innovation, 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 a series of mainstay products that today are the bedrock of DENKA's operating base. The center will continue to serve as a focal point for DENKA'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 existing core technologies.



**Nobuyuki Yoshino**  
General Manager of  
DENKA Innovation Center

## General Managers' Policies

### "Promoting R&D to create future-oriented, next-generation products"

1. Strengthening industry-academia-government collaboration
  2. Generating new themes for market-oriented R&D
  3. Undertaking initiatives for environmental conservation and occupational safety and health
- a) Fundamental policies for Responsible Care activities:
1. Encourage initiatives to counter global warming
  2. Promote efforts to contribute to society
  3. Prevent environmental accidents
- b) Fundamental occupational safety and health policies:
1. Eliminate facility-related accidents
  2. Eradicate occupational accidents
  3. Prevent occupational diseases
- c) Fundamental product quality policy:  
Improve quality at the new product development stage
- d) Fundamental human resource policy:  
Encourage employees to independently think, learn and take action

## Environmental, Safety and Quality Policies

### • Environment

- (1) Promote global warming prevention initiatives (energy saving and reduction of CO<sub>2</sub> emissions)
- (2) Reduce environmental burdens by promoting recycling and cutting waste generation as well as emissions of environmental load substances
- (3) Promote logistics safety
- (4) Contribute to society (participate in community events and interact with local residents)
- (5) Comply with environment-related laws, regulations and other standards

### • Safety

- (1) Promote safety activities involving all employees
- (2) Facilitate workplace communication to create a lively and vibrant workplace
- (3) Ensure that all employees undergo safety training while raising their safety awareness
- (4) Enhance the plant's capability to ensure security
- (5) Pursue workplace environment improvement and health promotion initiatives

### • Quality

- (1) Strengthen upstream management to ensure product safety and consistent quality
- (2) Reinforce operational excellence by focusing technologies and employees' awareness on ensuring built in quality
- (3) Enhance customer satisfaction through the promotion of quality improvement initiatives and employee training focused on quality management and assurance techniques

## • Topic

The construction of the DENKA Innovation Center main building is now under way, with completion expected in 2014. This new facility will be equipped with an open laboratory that places emphasis on joint research and communication with society.

### Promoting Open Innovation That Focuses on Four Growth Fields

Along with welcoming a new general manager on April 1, 2013, we established R&D policies for fiscal 2013 and began undertaking initiatives entailing proactive collaboration with internal R&D sections and external research organizations.

### Fiscal 2013 R&D Policies

- (1) Pursue R&D activities in line with the DENKA100 initiatives
- (2) Promote collaboration with potential users and external research organizations
- (3) Function as the Company's R&D hub joining other departments
- (4) Utilize outsourcing to speed up R&D projects



Artist's rendition of the main building (scheduled to be completed in spring 2014)

### Examples of R&D Themes

- Environment: New fertilizers aimed at rehabilitating farmland that suffered salt damage due to tsunami flooding
- Energy: Carbon nano fibers for use in batteries and other applications
- Healthcare: Diagnostic reagents

## Fiscal 2012 Achievements

### • Occupational Safety and Accident Prevention Initiatives

The DENKA Innovation Center pursues occupational safety and health on a daily basis. We maintain environmental management systems (EMS) and periodically undergo examinations for the renewal of the certification for such systems. We also strive to raise safety awareness, regularly conducting fire drills involving our in-house firefighters and jointly holding comprehensive fire drills with the Machida Fire Department.

In addition, prior to demolishing the Central Research Institute 1st Building, we made it available to the Machida Fire Department for fire rescue training. In recognition of our contribution, we received a letter of appreciation from the fire department. On February 5, 2013, we held a groundbreaking ceremony for the DENKA Innovation Center main building on the site of the demolished building and construction is now steadily under way.

As for occupational safety and health, on July 2, 2012, we received an encouragement award from the Minister of Health, Labour and Welfare for maintaining our zero-accident and disaster status for 18 years.



Joint emergency drill with the Machida Fire Department



Breaking through the structure to practice fire rescue operation



Encouragement award

### • Participating in Chemical Experiment Show for Children

On August 4, 2012, we participated for the first time in 15 years in the Summer Holiday Chemical Experiment Show for Children, an event held at the Science Museum in Tokyo with the "Dream Chemistry 21" committee spearheading. Under the theme the "Wonder of Powders," we demonstrated two experiments using DENKA's hyaluronic acid powder and DENKA ES (instant-hardening cement).

On November 22, 2012, we invited third graders from a local elementary school to tour our site. The students peppered us with questions as they enthusiastically toured the testing facilities and looked at objects through electron microscopes.



Elementary school students visiting the center



Summer Holiday Chemical Experiment Show for Children

\* Dream Chemistry 21: Cosponsored by the Japan Chemical Industry Association; the Chemical Society of Japan; the Society of Chemical Engineers, Japan; and the Japan Association for Chemical Innovation.

## Fiscal 2013 Initiatives

Regarding ongoing occupational safety and health activities, we will make steady efforts, including maintaining our EMS as well as occupational health and safety management systems, to avoid all accidents and disasters.

We are expecting the completion of the DENKA Innovation Center main building in 2014. As an "R&D center open to society," the building will feature a spacious exhibition spaces, preset guided tour routes, a number of presentation rooms and an open laboratory. By doing so, we hope to facilitate innovation and encourage greater communication with society.

Following up on fiscal 2012, DENKA will participate in the Summer Holiday Chemical Experiment Show for Children in fiscal 2013.

# Denka Singapore Pte., Ltd. Merbau Plant

Denka Singapore Pte., Ltd.  
Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807 TEL: 65-6225-6120  
Plant: 300 Ayer Merbau Road, Singapore 628282 TEL: 65-6867-8496

## Profile

### Employees:

34 (as of March 31, 2013)

### 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 lines in 1997. We set up a granulation facility in 2002. Owing to its superior liquid absorption, electrical and thermal conductivity properties as well as high purity, DENKA BLACK is used worldwide in dry manganese and lithium-ion batteries, power cables and semiconductor packaging materials.



### General Manager's Policies

1. Maintenance of zero-accident and disaster status
2. Prompt response to heightening quality requirements
3. Reinforcement of employee education (safety, security, health and environment conservation)

Yuji Koga  
General Manager of  
Merbau Plant



DENKA BLACK (upper right) is acetylene black, a type of carbon black with high purity and electrical conductivity, and is used in power cables (left)

## Fiscal 2012 Achievements

- Conducted an emergency response drill assuming a chemical accident
- Ensured the stable operation of high-purification facilities for lithium-ion battery materials
- Based on accident case studies, implemented initiatives aimed at eliminating accidents and disasters



Emergency response drill



Merbau Plant office building

## Fiscal 2013 Initiatives

- ◇ Ensure no accidents and disasters occur during regular repairs (shutdown maintenance)
- ◇ Identify hazards employing the Hazard and Operability Studies (HAZOP) method and implement necessary countermeasures
- ◇ Achieve the smooth launch of X-ray inspection equipment in addition to utilizing such equipment in lithium-ion battery material production



Merbau Plant staff

# Denka Singapore Pte., Ltd. Seraya Plant

Denka Singapore Pte., Ltd.  
Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807 TEL: 65-6225-6120  
Plant: 40 Seraya Avenue, Singapore 627873 TEL: 65-6867-6089

## Profile

### Employees:

76 (as of March 31, 2013)

### Operations:

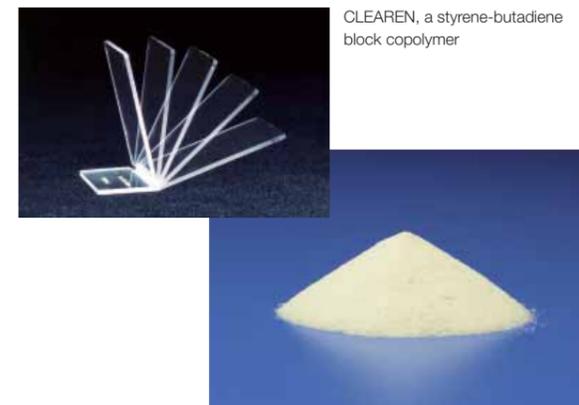
The Seraya Plant commenced operations to produce general-purpose polystyrene in 1998. In 2006, the plant expanded its facilities for manufacturing TX Polymer methyl methacrylate styrene copolymer resin and CLEAREN styrene-butadiene block copolymer. In April 2012, the plant completed further construction on a facility to produce DENKA IP imidized polymers (the SIP Plant). Today, the combined annual production capacity of the four facilities is 325,000 metric tons. The Seraya Plant is becoming the DENKA Group's largest styrene-based resin production base.



### General Manager's Policies

1. Thoroughly ensure safety and security to remain free of accidents and disasters
2. Maintain compliance
3. Nurture local staff and pass on technologies to them

Michio Kawamura  
General Manager of  
Seraya Plant



CLEAREN, a styrene-butadiene block copolymer

DENKA IP, a heat resistant modifier for ABS

## Fiscal 2012 Achievements

- We received a cluster award from the National Safety and Security Watch Group (SSWGs)\* in recognition of our excellent safety activities and achievements.



Awards ceremony

\* A safety management organization established through a partnership among police and fire departments as well as the management companies of private buildings and their tenants with the aim of strengthening safety countermeasures against terrorism and other emergencies that may threaten such facilities as stations, hotels and commercial complexes

- The plant's futsal team placed first in a tournament sponsored by the United Workers of Petroleum Industry (UWPI).



The first-place trophy



Seraya Plant staff

## Fiscal 2013 Initiatives

- ◇ In concert with the enforcement of Singapore's Energy Conservation Act, we will step up energy saving initiatives, with local staff who have an energy manager qualification spearheading this effort, while considering the possibility of acquiring ISO 50000 certification.
- ◇ We will complete the regularly scheduled quadrennial repairs in a safe, accident- and disaster-free manner.

Denka Advantech Pte., Ltd.  
Office: 4 Shenton Way #29-02 SGX Centre 2, Singapore 068807 TEL: 65-6321-9530  
Plant: 11A Tuas Avenue 20, Singapore 638823 TEL: 65-6861-0004

**Profile**

**Employees:**  
60 (as of March 31, 2013)

**Operations:**  
The Tuas Plant, commenced operation in 1991 in Singapore, produces 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, and it is striving to enhance quality and reinforce production. Working in cooperation with the Omuta Plant, the plant supplies products mainly to Chinese and Southeast Asian markets.



**General Manager's Policies**

1. Going back to basics, we will secure plant security and employee safety
2. Promoting energy and resource conservation, we will reduce our environmental burden
3. We will reduce customer complaints and pursue better customer satisfaction by controlling risks pertaining to product quality
4. We will develop a supply system that meets market demands and technological trends
5. We will strive to reduce costs by improving production processes and technologies

Toshiyuki Kageyama  
General Manager of Tuas Plant



Spherical fused silica (the below is an electron microscope image)

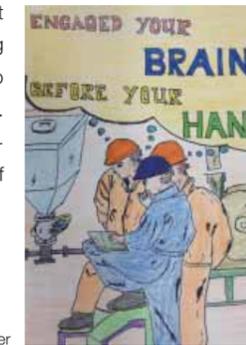


Tuas Plant staff

**Fiscal 2012 Achievements and Fiscal 2013 Initiatives**

**● Safety**

In addition to workplace patrols, emergency response drills and other regular safety activities, during fiscal 2012 we focused on raising safety awareness by preparing safety slogan posters, encouraging employees to report potential hazards and establishing "Near-Miss Reporting Month" to highlight accident control reporting. In fiscal 2013, we will review operating procedures and consider ways of improving them.



A safety slogan poster



A fire rescue drill held in tandem with the fire department



**● Environment**

To reduce our environmental burden, we are continuously pursuing the following initiatives.

- Energy saving (productivity enhancement aimed at reducing energy consumption intensity attributable to utilities and switchover of lighting to energy-efficient types, etc.)
- Recycling protective large-sized polyethylene covers, flexible containers and wooden pallets
- Utilizing plastic pallets made using recycled plastics

In addition, as we work to keep up with the Singaporean government's energy saving policies, two plant employees are striving to acquire an energy manager qualification, undergoing a year-long training course to pass the examination.



Energy-efficient lighting



Flexible containers ready for recycle

**● Quality**

As the use of mobile terminals and hybrid and electric vehicles spreads, the standards of quality that DENKA products are required to meet for semiconductor applications are rising. In response, we have established the Technical Service Center, a facility that came into full-scale operation in fiscal 2012 and is taking a key role in product improvement and development. Looking forward, we will continue to ensure a prompt response to customer needs as well as strengthened quality management while working to improve manufacturing processes.



Technical Service Center

**● Employee Welfare**

We have an employee commendation system in place to reward their hard work. In addition, we hold dinner parties aimed at deepening ties among the plant staff.



Plant staff at the dinner party



Employee commendation ceremony

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

Address: Unit 9B, Modern Industrial Square, No. 333 Xingpu Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126  
Telephone: +86-512-6287-1088

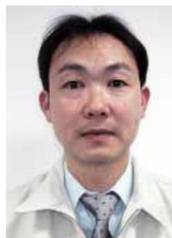
## Profile

### Employees:

74 (as of March 31, 2013)

### Operations:

Established in January 2006, the company manufactures carrier tape for electronic packaging and micro-slit products while responding to domestic users' quality-related requests.



Yuichi Kadoya  
General Manager



## General Manager's Policies

1. Bolster safety initiatives to maintain our zero-accident record
2. Strengthen initiatives for environment conservation
3. Undertake education and drills, continue to upgrade workplaces



## Fiscal 2012 Achievements

### Occupational Safety Initiatives

- To identify danger spots needing improvement, people in managerial or higher positions conduct safety patrols.
- To raise their safety awareness, employees gather every morning to recite a safety slogan. We are also strengthening employee education regarding occupational safety and health.

### Initiatives to Ensure a Zero-Accident Rate

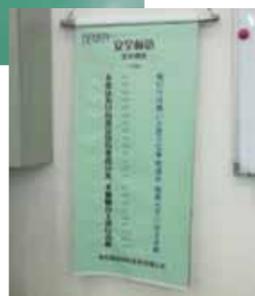
- We are reviewing and continuously improving our fire prevention measures, reflecting the results of voluntary checks of firefighting equipment and audits by a governmental institution.

### Environment Conservation

- We constantly strive to improve manufacturing yields and thereby reduce waste generation.
- We have posted signs near switches reminding people to turn off unnecessary lights/advising against the unnecessary use of lighting in order to eliminate wasteful habits and thereby reduce energy consumption.



Daily recitation of the safety slogan



The daily safety slogan is featured on an in-house prepared calendar

## Fiscal 2013 Initiatives

We will continue to enforce disaster prevention measures, secure occupational safety and reduce waste generation. We will also step up energy-saving efforts. Moreover, as the Chinese government tightens its policies on chemical substance management, we will strive to stay apprised of the latest laws and regulations, thereby remaining responsive to such policies.

# Denka Chemicals Development Suzhou Co., Ltd.

Address: Unit 1D, Modern Industrial Square, No. 333 Xingpu Road, Suzhou Industrial Park, Suzhou, Jiangsu, China 215126  
Telephone: 86-512-6280-6808

## Profile

### Employees:

15 (as of June 1, 2013)

### Operations:

To promptly respond to demands for analysis, performance evaluation and product improvements from consumers in the Chinese market, Denka Chemicals Development Suzhou was established in December 2010, having kicked off operations in August 2011. Currently, the company conducts R&D pertaining to synthetic rubbers (chloroprene and DENKA ER), HARDLOC acrylate-based 2-component type adhesive and special cement additives for concrete. Since fiscal 2013, it has also been conducting research on functional food packaging sheets and TEMPLOC temporary adhesive.



Tetsumi Ikeda  
General Manager



## General Manager's Policies

1. Pursue zero accidents and zero disasters
2. Promote human resource development by enriching education and training
3. Improve the working environment while ensuring strict compliance
4. Enhance product quality at the development and after-sales service stages



## Fiscal 2012 Achievements

### Strengthening Safety Measures

- Preparing operational manuals for and providing training on handling each kind of equipment; Clearly labeling equipment to ensure attention to safety
- Tightening of controls on the handling, storage and disposal of chemicals while acquiring relevant certifications
- Raising employees' safety awareness through safety meetings, education and qualifications
- Enhancing product quality and developing human resources through on-the-job training



Safety labeling

### A Lecture on the Latest Technologies

In November 2012, we invited our business partners to a lecture given by Professor Toshio Nishi from Tokyo Institute of Technology (Tokyo Tech). A highly respected researcher in the field of the

properties of polymers, Professor Nishi is in charge of the joint graduate school program of Tsinghua University in Beijing and Tokyo Tech.

With 15 people attending, including some from Shanghai Jiao Tong University and corporate customers that use our chloroprene products, Professor Nishi lectured on the latest elementary research on nanotechnologies and applied R&D regarding fuel-efficient tires and rubber used for earthquake tremor control.



Professor Nishi giving a lecture



Laboratory tour following the lecture

## Fiscal 2013 Initiatives

We will continue to implement safety education while strengthening our control of chemical substance handling and waste management. At the same time, we will pursue human resource development, new R&D projects and environmental conservation initiatives. We will strive to upgrade these CSR activities by rallying the strength of all employees.

**Profile**

**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:**

530 (as of April 1, 2013)

**Major products:**

OPS products, prepared food trays, food containers, PSP food trays, SOFLIGHT products, agricultural packs and stretch films for food packaging



Tsuyoshi Sakamoto  
President



**Fiscal 2012 Achievements**

● **Developing Weight-Saving Packaging Products**

DENKA Polymer pursues weight cutbacks for all products, aiming to supply environment-friendly packaging that contributes to energy and resource savings.

**<Easy Disposal Pack Has Been Introduced on TV>**

We have developed Easy Disposal Pack, a transparent food container based on DENKA's SOFRIA OPS.\* While achieving a significant weight cutback compared with the conventional food packaging made using A-PET, this product is less fragile than other OPS-based containers and is designed to be easily crumpled and to remain in a compressed state. Easy Disposal Pack was introduced via a TV infomercial as a next-generation packaging product that contributes to waste reduction and resource saving.

\* Biaxially Oriented Polystyrene Sheet



Easy Disposal Pack "Kushatto Pack"



Comparison of food containers after being crumpled (left: a conventional container; right: Easy Disposal Pack)

● **DENKA Polymer's New Corporate Ad Campaign**

"Making more eco-friendly containers as we strive to preserve the flavor of food"—we launched a new corporate ad campaign aimed at conveying our commitment to resource saving.



● **Participating in FABEX 2013**

We participated in The World Food and Beverage Great Expo (FABEX) 2013, a food industry exhibition, held on April 3 to 5, 2013, at Tokyo Big Sight. Under the theme "Wrapping your food with trust," our booth spotlighted HEAT PLUS and other product samples made using innovative materials. In addition to showing different packaging categories, we exhibited containers in use with actual contents to attract attendees' interest.

**Fiscal 2013 Initiatives**

We are striving to enhance productivity through energy saving, aiming to achieve a 1% reduction in energy consumption intensity each fiscal year. In fiscal 2012, we succeeded in reducing total energy consumption intensity for all business sites 1.1% year on year. For fiscal 2013 and beyond, we will pursue such initiatives as shortening molding processes while holding cross-sectional energy-saving discussions.

**Profile**

**Address:**

Head Office: Nihonbashi Mitsui Tower, 1-1,

Nihonbashi-Muromachi 2-chome, Chuo-ku, Tokyo

Telephone: +81-3-6214-3236

Plants: Gosen, Niigata (Niigata Plant, Kagamida Plant)

**Employees:**

602 (as of April 1, 2013)



Tetsuro Maeda  
President



**Major products:**

Influenza vaccines, bacteriological diagnostic reagents, virological diagnostic reagents, clinical chemistry diagnostic reagents, immunological diagnostic reagents and point of care testing (POCT) products



DENKA SEIKEN's product lineup

**Fiscal 2012 Achievements**

● **Occupational Safety and Health Activities**

As in fiscal 2011, we conducted risk assessments to prevent major accidents. We continuously strive to create a comfortable workplace through such initiatives as holding seminars on the prevention of psychological and sexual harassment as well as on mental health problems.

● **Environmental and Safety Activities Involving Local Residents**

We have maintained communication with local residents through wide-ranging activities. One such activity is having local residents join us in monitoring the environment surrounding our plants. We also hold dialogues with neighborhood association representatives and participate in clean-up efforts around the plants as well as traffic safety campaigns and other local events, as we strive to fulfill our responsibility as a company rooted in the local community.



Cleaning an irrigation channel

In addition, we have developed green areas on land adjacent to



our employee parking lots that are open to the general public as places of recreation for our neighbors.

Green area next to the parking lot and open to local residents

● **Supporting a Local Professional Female Basketball Team**

We support the "NIIGATA Albirex BB Rabbits," a team based in Niigata Prefecture, where our plants operate. In November 2012, we co-sponsored a Women's Japan Basketball League game held at the Gosen City Muramatsu Gymnasium.



Managing Director Yoshitaka Kubota tossing the ball for the tip-off of the Albirex BB Rabbits' game in Gosen City

**Fiscal 2013 Initiatives**

As a pharmaceutical products manufacturer, we will continue to place the utmost emphasis on obtaining public trust and coexisting with local communities. To that end, we will promote such initiatives as safety and health activities, environmental conservation and social contribution in more proactive manner.

**Profile**

**Address:**

306-banchi, Koyagi-cho, Takasaki, Gunma  
Telephone: +81-27-362-7510

**Employees:**

66 (as of May 1, 2013)

**Major products:**

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



Hiromasa Minowa  
President



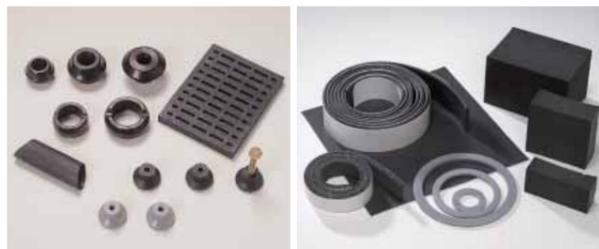
**Fiscal 2013 Safety and Health Policies**

**Basic policy:**

Creating a favorable workplace environment through 5S activities

**Priority initiatives:**

- Advance risk assessment
- Improve working conditions and methods



**Fiscal 2012 Achievements**

**Improving the Workplace Environment**

At our fifth plant, the low ceiling of the machining room was hindering the ventilation needed to disperse the oil mist generated in the course of pressing. To improve the situation, in July 2012 we moved the rubber press machines to the seventh plant, which has a higher ceiling and favorable ventilation efficiency.

Also, we are planning to install automated systems for measuring the weight of raw materials at our refining facilities. This will reduce workers' exposure to dust and thus improve the workplace conditions.



Rubber press machines in their former location in the fifth plant

The machines after being moved to the seventh plant

**Advancing Risk Assessment**

Utilizing checklists, we are striving to identify hidden dangers in each work process, striving to address all hazards.

**Introducing AED**

In June 2012, we introduced Automated External Defibrillators (AEDs) through a lease from a security company. Members of the Safety and Health Committee underwent training on the handling of the equipment and, in turn, provided other employees at each section with the same training.



AED training

**Fiscal 2013 Initiatives**

Under the abovementioned basic policy, we will enter into an advisory agreement with a Gunma Prefecture certified instructor to further promote 5S activities and risk management initiatives. We will ensure compliance is thoroughly ingrained in our corporate culture. We will also pursue the automation of manufacturing processes in order to reduce workloads and improving the quality and safety of the workplace environment.

**Profile**

**Address:**

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

**Employees:**

43 (as of April 1, 2013)

**Major products:**

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



Shizuo Takagi  
President



**Corporate Policy**

**Basic policy:**

Aiming to contribute to society through fertilizer production while facilitating employees' self-fulfillment

**Environmental Policy:**

Promoting environmental management activities to ensure our harmonious coexistence with the earth's environment

**Safety Policy:**

Advancing risk assessment to attain a zero accident record

**Quality Policy:**

Strengthening process control by employing statistical analysis methods



**Fiscal 2012 Achievements**

**Acquiring KES Step 2 Certification**

We acquired certification for KES Step 2, a simplified environmental management system designed especially for small and medium businesses that comprises requirements equivalent to ISO 14001. We are utilizing this system to promote following activities:

- Energy saving: We reduced energy consumption intensity 0.5% year on year in fiscal 2012 (target was set at a 2% reduction compared with fiscal 2011) through the replacement of compressors and revisions in their pressure settings, etc.
- Industrial waste reduction: We reduced industrial waste 11% year on year, well in excess of the target of a 5% cut compared with fiscal 2011, through the reuse of wooden pallets, etc.
- General waste reduction: We reduced general waste 22% year on year, well in excess



KES Step 2 Certificate

of the target of a 5% cut compared with fiscal 2011, through the recycling of paper trash, etc.

**Restoring Farmland in the Tohoku Area**

As we did in fiscal 2011, we supplied YORIN to help to restore farmland in the Tohoku area. The product was plowed into the soil in the process of decontamination.

**Cleaning the Maizuru City Riverside and Seaside**

Twice a year, a volunteer group within our plant takes part in cleaning the banks of the Isazugawa River, which flows along one side of the plant premises. The group received the fiscal 2012 Green Ribbon Certificate of Merit from Japan's prime minister in recognition of its service to the local community.



Green Ribbon Certificate of Merit

**Fiscal 2013 Initiatives**

**Environmental and Quality Improvement Plans**

We updated our fiscal 2012 plans with the following two new themes.

- Improve the desulfurization efficiency of factory exhaust gas
- Eradicate quality-related complaints

**Changing Plant Facility Layouts**

We will draw up a new layout for plant facilities in anticipation of a bypass construction project currently planned by the government.

**Occupational Safety and Health Management Plan**

We will revise safety-related working procedure documents and record formats.

- We will strive to improve the working environment and prevent occupational illness.



An emergency response drill assuming a hazardous substance spill

**Profile**

**Address:**

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

**Employees:**

27 (as of April 1, 2013)

**Major products:**

AZUMIN (magnesium humate fertilizer)



Mamoru Nakamura  
 President



**Main Initiatives**

1. Maintaining a zero-accident record
2. Pursuing environmental conservation and management activities
3. Building relationships of trust with local communities



**Fiscal 2012 Achievements**

● **Initiatives Under Annual Activity Plans**

In fiscal 2012, we have pursued various activities in line with the annual activity plans, including accident control, safety patrol, energy saving and logistics safety initiatives.

● **Maintaining a Zero-Accident Record**

We maintained a zero-accident and disaster status for 474 consecutive days (as of March 31, 2013). We are aiming to achieve 1,000 days of zero-accident operations.

● **Environment-Related Activities**

- 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 legislation.
- As part of our energy saving activities, we are striving to reduce overall electricity use in the summer and winter seasons by concentrating operating hours.

● **Building Relationships of Trust with Local Communities**

- We implemented a fire drill in tandem with the Hanamaki City Fire Department, assuming a fire accompanied by a nitric acid leak.
- We presented our preventive measures against nitric acid leaks as well as emergency countermeasures to a local anti-pollution council.
- We welcomed eight interns from local high schools. (Since this program began in 2005, three former interns have joined the company.)
- We participated in the Hanamaki City Industrial Exhibition held in December 2012, where we introduced our products and initiatives undertaken to help restore tsunami-devastated areas.



High school students participating in an internship program



Presenting AZUMIN at the exhibition

**Fiscal 2013 Initiatives**

- ◇ We will maintain a zero-accident record by ensuring safe and stable operations.
- ◇ We will facilitate communications to promote safety, environmental conservation and other activities.
- ◇ We will hold more events involving the local community, such as joint fire drills with the local fire department and dialogues with neighbors.