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 This report can also be viewed on the Company website.  
[http:// www.kantodenka.co.jp](http://www.kantodenka.co.jp)

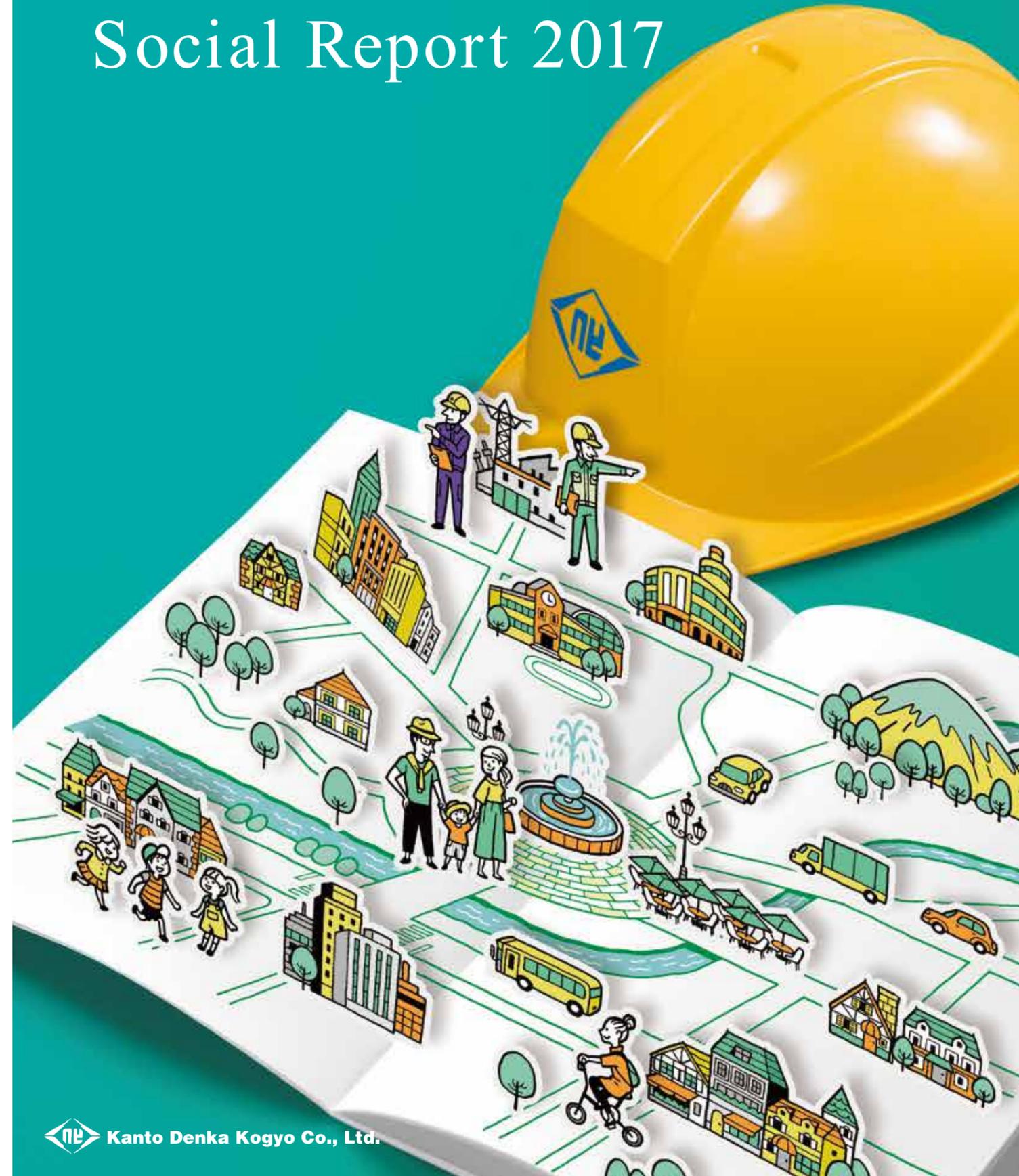
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Kanto Denka Kogyo Co., Ltd. takes an environmentally friendly approach in its immediate matters and daily activities in order to protect people's healthy lifestyles.



Published: December 2017

# Safety, Environmental and Social Report 2017



## Management Principles

Through the quest for constant corporate growth and acquisition of optimum profits, Kanto Denka is working with all its shareholders, users and employees to create a successful company and prosperous society. To achieve this end, we are endeavoring to meet the requirements of our users with our unique technologies and customer-oriented services, and to build a trusted company based on our motto, "sincerity, creativity, prompt response and harmony with nature."

## Fundamental Principles and Basic Policies on the Environment and Safety Issues

### Fundamental Principles

The conservation of the global environment is one of humankind's common responsibilities. In all our operational activities, based on the principle of self-responsibility, we pay due consideration to the environment and safety, from the development, manufacturing, distribution, and use of our products, to how they are disposed of.

### Basic Policies

- 1 Carry out comprehensive "environmental and safety" management in such areas as environmental protection, operational safety and disaster prevention, occupational health and safety, chemical product safety, logistics safety, and international trade safety.
- 2 Ensure the safety of employees and areas in the vicinity of company facilities by working to achieve no accidents and no operation incidents.
- 3 Make efforts to save energy and resources and reduce the amount of industrial waste generated as a result of operations.
- 4 Ensure the development and introduction of products and manufacturing processes that take "environmental and safety" issues into account.
- 5 Strictly comply with laws, regulations and agreements related to the "environment and safety," as well as establish and meet our own stricter voluntary standards in these areas.
- 6 Promote logistics safety and risk-free transactions with customers.
- 7 Carry out "environmental and safety" audits.
- 8 Collect information on the "environment and safety" related to products, and thoroughly disseminate the information to employees and customers.
- 9 Take care to ensure the protection of the environment and safety in overseas operations, technology transfers and the international trade of chemical products.
- 10 Promote risk-awareness in society by widely publicizing the details and results of our "environmental and safety" activities through environmental reports and other materials like local communities, investors and related organizations.

## Corporate Profile

Company Name	Kanto Denka Kogyo Co., Ltd
Established	September 22, 1938
Headquarters	Waterras Annex, 2-105, Kanda-Awajicho, Chiyoda-ku, Tokyo 101-0063, Japan
TEL	81-3-3257-0371
President	Jun'ichi Hasegawa
Capital	¥2.877 billion
Employees	613 (as of March 31, 2017)
Sales	¥40.851 billion

### ISO 9001

A majority of the products are ISO certified.

Shibukawa Plant JQA-1009 (certified in October 1995)

Mizushima Plant JQA-2254 (certified in March 1998)

### ISO 14001

Shibukawa Plant JQA-EM0438 (certified in May 1999)

Mizushima Plant JQA-EM0437 (certified in May 1999)

### OHSAS 18001

Shibukawa Plant JQA-OH0087 (certified in July 2005)

Mizushima Plant JQA-OH0190 (certified in May 2011)

(OSHMS between 2007 and 2011)

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This report mainly contains environmental and safety activities during FY2016 (April 1, 2016 to March 31, 2017)

### Message from the Editorial Department

As a chemical manufacturer, it is our responsibility to elevate environmental protection and prioritize safety to the highest degree. Kanto Denka works toward these ends on a daily basis. The company introduced a new "assistant manager" system in FY2017 as a part of such efforts, and assistant managers now play the central role in conducting safety activities at the production sites in both plants.

To deepen your understanding of our new safety initiatives, we have included a conversation that took place between the President and the assistant managers, as well as messages from the assistant managers and employees regarding our safety initiatives.

As we approach the 80th anniversary of Kanto Denka in 2018, we will continue to be committed to engaging in RC activities in order to accelerate our initiatives for the realization of enhanced safe and stable operation, productivity improvement, and environmental protection. We would like to ask for your guidance and cooperation in this endeavor.



## Kanto Denka's Activities in 2017

# Aimed at Giving the Highest Priority to Safety

— Changing the Way Employees Think and Act through the Introduction of the Assistant Manager System —

In fiscal 2017, Kanto Denka introduced the Assistant Manager system in order to thoroughly practice "giving the highest priority to safety," which represents one of our three prime initiatives. We asked President Hasegawa as well as four assistant managers about the goal of this new system and how it is changing Kanto Denka.

### "Giving the highest priority to safety" underpins our mission as a chemicals manufacturer

**Hasegawa:** As a chemicals manufacturer, Kanto Denka develops and supplies a number of products essential for various industries. Our mission is to provide a stable supply of products, while one of our most important tasks includes the development of new products that underpin the development of new industries, such as those in the environmental field. One of our three prime initiatives, "Giving the highest priority to safety," forms the foundation of our efforts toward fulfilling this mission. We have a long-established history of using advanced technologies for the handling of hazardous chemical materials and working diligently on safety measures. In 2017, we have once again cited the importance of "giving the highest priority to safety" and have communicated our commitment both internally and externally to take even more powerful steps toward fulfilling our mission. Today, Kanto Denka is working on improvement

activities involving all employees in an effort to build a resilient corporate structure that can contribute to society and fulfill our mission, regardless of how challenging the external business climate may be. Safety represents the most important theme for which continual improvements must be achieved. "Assistant managers" play the lead role in our efforts to promote improvement activities on-site. I firmly believe that the assistant managers gathered here today will be the key to Kanto Denka's evolution into a more resilient corporate structure. I expect them to invigorate improvement activities and take root at production sites, following the three philosophies of "full participation," "the sangen shugi (three actuals philosophy)" and "thorough and mindful instruction" to put the prime initiative of "giving the highest priority to safety" into practice.

**Isamu:** After being appointed to the new post of "assistant manager," I was initially unsure of exactly what to do. Having heard that we would not be able to create a

stronger corporate structure without first making changes on the production line, I have now realized that my role is to collect various ideas and views and to move improvement activities forward as a bridge for the frontline.

**Kaneko:** At first, I also felt uncertainty about my assignment. Having recognized the expectations placed in me by the company, however, I have begun new initiatives to create a workplace environment where section members can work proactively toward making improvements.

**Hasegawa:** Every one of you knows a great deal about on-site operations. In terms of safety as well, I would like us to create workplaces where assistant managers play the primary role in putting various improvements into practice using an on-site perspective, instead of a top down approach where the General Manager of the Manufacturing Dept. and section managers give instructions. This represents bottom-up reform. The most important thing is that we elevate our on-site capabilities.



**Hitoshi Kaneko**  
Assistant Manager  
Production Dept.-2 Sec.-2,  
Shibukawa Plant

**Yoji Isamu**  
Assistant Manager  
Production Dept.-1 Sec.-2,  
Mizushima Plant

**Jun'ichi Hasegawa**  
President

**Takashi Nakashima**  
Assistant Manager  
Production Dept.-2 Sec.-1,  
Mizushima Plant

**Hiroshi Aoyama**  
Assistant Manager  
Production Dept.-1 Sec.-1,  
Shibukawa Plant

**Nakashima:** My workplace has a large number of younger workers, so I need to find ways to convey the importance of on-site safety to section members still learning their job and to elevate their awareness toward safety. I believe that this is another important aspect of the assistant manager's job.

**Aoyama:** I, too, would like to work on on-site improvements as an instructor and counselor.

**Hasegawa:** I would like all of our assistant managers to become true leaders that implement a bottom-up approach, invigorate the frontline, and change the frontline, with the ultimate goal of "giving the highest priority to safety." I expect all of you to use the three philosophies I mentioned earlier to guide your actions as facilitators of improvement activities on-site.

### The key is for all employees to engage in their work with safety awareness

**Hasegawa:** The most important role of an assistant manager is the thorough implementation of safety on-site. Kanto Denka has accumulated technologies for handling hazardous chemical substances and established a culture of cooperation involving all of our people. However, I cannot ignore the fact that in the past, unclear instructions or orders created a hazardous situation that led to accidents. Following the introduction of the Assistant Manager system, we must have a strong resolve to never tolerate unsafe situations and to continually work on building-up our safety activities on a daily basis. I ask that each of you work on detailed initiatives in your respective workplaces.

**Kaneko:** In my workplace, we practice finger pointing and calling (FPC) and recite the importance of safety at the daily

morning meeting in order to elevate safety awareness. Additionally, every month we hold an individual meeting with every section member to exchange opinions to learn what they are thinking so that we can respond as quickly as possible to their ideas and requests.

**Isamu:** In the control room, we display the "zero accident slogan" that we learned at Kiken Yochi Training (KYT, danger prediction training) and we now end the morning meeting with all workers reciting the slogan, "No accidents today, yes." The voices of section members reciting this have gradually grown louder, and this reciting is now entrenched. Also, we have set up new safety bulletin boards, where pictures of dangerous locations detected during daily patrols are posted for all to see in an effort to visualize countermeasures, the person in charge, action deadlines, and updates, so as to share risks and improvement measures.

**Aoyama:** Workplaces with repeating night and day shifts have a tendency to leave work preparations and kiken yochi (danger detection; KY) to others. At my workplace, we share the preparation tasks of the KY sheet among section members to raise safety awareness for the overall work processes and to ensure that all section members take ownership of safety. I feel it is important to have everyone mindful of safety on a daily basis in this manner.

**Nakashima:** Earlier, the issue was raised of conveying the importance of safety measures on-site to younger workers. At my workplace, we have created a compilation of on-site safety techniques and present it sequentially during the morning meeting. Of course, there is a procedural manual for work processes, but there are safety techniques that should be read from between the lines. These techniques cannot always be conveyed accurately

using manuals or on-the-job training. Also, I feel that the sense of importance attached to safety techniques decreases when we convey such information verbally from one person to another. For this reason, I would like to record this information using text and diagrams to make it known to all.

**Hasegawa:** I see that a number of new initiatives have been launched in each of your workplaces. Recently, whenever I visit our plants, I notice a spark in the eyes of our assistant managers. This new mission has left all of you in high spirits. I believe you are already aware, but two distinguishing black lines have been drawn on the safety helmet of assistant managers to provide an even greater sense of pride in your work. I look forward to this heightened awareness about safety on-site spreading to all parts of the company, including our managerial staff.

### Outcomes and challenges that have come to light - Thorough and mindful instruction is essential

**Kaneko:** I'm beginning to see positive results as an assistant manager. For example, I am now able to understand how section members think about safety through our monthly discussions. However, I still feel that we have yet to fully establish a safety mindset in all of our section members.

**Nakashima:** There are around 50 section members in my workplace, so it takes a bit of time for information to be conveyed to everyone. Nevertheless, recently, section members are actively thinking about on-site issues and express their ideas to me.

**Hasegawa:** No matter how many times I or assistant managers talk about safety being the priority issue, these efforts are meaningless if all of the employees actually working on-site don't elevate and sustain their own safety awareness. Safety measures need to

be contemplated by everyone in order for everyone to have a sense of involvement. This requires that we provide thorough instructions to workers, based on correct safety measures and determination to never tolerate unsafe situations. Without clear and concrete instructions, workers will be left exposed to an unsafe situation. Calling out, "Pay attention to your work" is not an instruction. Workers must not be left on their own to make a judgement call when it comes to safety. The person giving instructions bears a responsibility to workers. You need to treat workers like family by being mindful of their needs while also being hard on unsafe behavior.

**Isamu:** I truly feel I have to educate myself to ensure that I do not provide an incorrect instruction to section members. Also, I have established a target to submit at least one improvement activity proposal semi-annually for mitigating risks cited in the department target management sheet. It is important that you start with small improvements and modifications, and ensure that everyone in the workplace follows suit. I try my best to support those who haven't got the message yet to ensure that everyone participates.

**Kaneko:** I'm taking the lead in improving the safety awareness of everyone in my workplace and fostering a bottom-up approach. Toward this end, I make it a point to maintain the same vantage point as section members, communicate with them, and always discuss matters with an open mind and empathy.

**Aoyama:** In my workplace, I set up a bulletin board that can be viewed by everyone on their computer in order to encourage full participation. Here, I have uploaded procedural manuals and work diagrams, including case studies in near misses that have occurred in our section. The viewing history of each and every person is displayed, so I can check whether all section members viewed the bulletin or not.

In addition, a recently increasing number of section members have been posting their ideas and improvement activity proposals, which means initiatives are leading to improved awareness of safety.

### Continuing to tackle challenges aimed at further improvements after realizing the "the Sangen Shugi (three actuals philosophy)"

**Hasegawa:** Today, when the on-site atmosphere has started to gradually change thanks to the Assistant Manager system, I would also like to actively make progress with the "petit kaizen (mini improvement) proposals program." This program enables employees to easily make proposals about improvements they would like to make in their daily work, providing a mechanism for making immediate improvements that are quickly reviewed on-site and adopted if useful. This initiative will also reinforce employees' sense of involvement in their own workplaces. For this reason, it represents a truly bottom-up system for making proposals. I greatly look forward to receiving improvement proposals about safety in the future.

**Isamu:** I take the lead in my section to visualize risks using a safety bulletin board. Recently, section members have begun to post new risks a little at a time. At the same time, some section members have even begun to propose improvements as petit kaizen proposals. In this regard, I am seeing a more proactive stance toward working on safety activities, but I suspect that there are still many latent risks lurking on-site. I fear that these risks have become chronic and gone unnoticed. I feel keenly aware that those of us on-site every day need to redevelop our sensitivities toward detecting dangers.

**Kaneko:** I have certainly noticed that the number of improvement activity proposals have increased. However, there is a gap in

people's awareness toward safety, so I am working to fill this gap as much as possible and raise the level of awareness about safety among all the members at my workplace.

**Aoyama:** Dialogue on safety has taken place more frequently at my workplace, too, which I feel is a very positive trend. Nevertheless, I think we are still behind the curve when it comes to safety awareness and the activities of other excellent companies. We need to do what needs to be done fully and without fail. I hope to make Kanto Denka a company considered by others to have a high level of safety awareness and thorough company-wide safety management practices in place.

**Nakashima:** People are ultimately what drives on-site capabilities forward. One of the causes of troubles is our lack of knowledge and experience. As for safety, I believe we must continually build up improvements on a daily basis to achieve a high level of knowledge and experience among all employees.

**Hasegawa:** Kanto Denka is reinforcing safety initiatives with the introduction of the Assistant Manager system and by renaming the Environment & Safety Department to the Safety & Environment Department. Going forward, we will continue to further reinforce initiatives aimed at raising the bar of our safety culture. Safety comes before everything else. We have set up a new position in charge of improvement education in order to systematically carry out employee training on improvement activities. I expect that we can establish a more resilient corporate structure once all of our employees have a stronger awareness of safety. I am convinced that safety initiatives and the reinforcement of our on-site capabilities driven by our assistant managers will become a driving force behind Kanto Denka's future development.



The production floors at the Shibukawa and Mizushima plants promote safety activities led mainly by assistant managers with the goal of full participation. Each assistant manager will now report on their workplaces, which have begun to change steadily following the three philosophies of "full participation," "the sangen shugi (three actuals philosophy)" and "thorough and mindful instruction" in order to give the highest priority to safety.

### Aiming for a dynamic workplace where everyone shares ideas

My role is to create a comfortable workplace environment that aims for safe operations. We incorporate section members' views and post displays and signs about work processes and safety precautions in the control room and on the production floor as part of our daily efforts to eliminate injuries. I will continue working on building up our workplace environment and its culture so that we can continue with our track record of zero complaints and zero accidents. I also hope to make the workplace more dynamic, where everyone shares their ideas, because not everyone at work actively speaks up.

**Koji Katsumoto**  
Assistant Manager  
Production Dept.-3 Sec.-1,  
Shibukawa plant



### Fully utilizing a whiteboard for safety training and danger prediction

I use a whiteboard to write down hazards in non-regular work and reminders about countermeasures, so that all section members can check before beginning their work. Such kiken yochi (danger prediction; KY) activities have enabled us to establish a track record of zero accidents. Also, mid-career employees use the whiteboard to provide safety training to new hires. The whiteboard is a very reliable tool for conveying mid-career employees' thoughts about danger spots and for assessing the level of understanding among new hires. Improvement proposals related to safety have also increased in number. Recently, we have seen an influx of new hires, so going forward a major theme will be focusing on educating these new hires about hazards hidden in and around equipment and machinery.

**Shigeyoshi Asahara**  
Assistant Manager  
Production Dept.-1 Sec.-1,  
Mizushima plant



### Full participation in safety activities key to sustained track record of "no accidents and no injuries."

Safety awareness has improved thanks to our monthly workplace safety patrols and safety meetings, finger pointing and calling practiced daily, and efforts toward the 5S (Sort, Set in order, Shine, Standardize, Sustain) and petit kaizen (mini improvement) proposals. Nevertheless, there are still gaps in safety awareness among section members, so I am working to ensure that everyone works on safety activities with the same commitment to achieve "no accidents and no injuries." Going forward, I will take the lead in making improvements and ensuring "no accidents and no injuries" to make the workplace a more vibrant and open place.

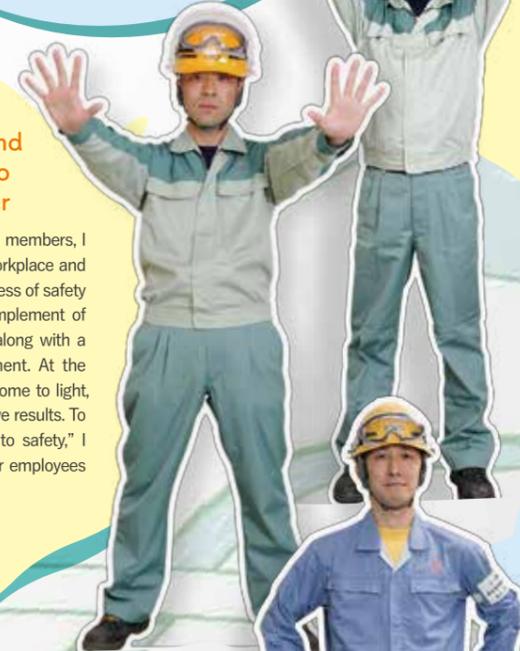
**Yoshinori Ishida**  
Assistant Manager  
Production Dept.-1 Sec.-2,  
Shibukawa plant



### Identifying weak points and using countermeasures to make the workplace safer

Based on safety patrols and the ideas of section members, I create a list of unsafe places and work in our workplace and try to address each item. Our heightened awareness of safety has resulted in employees wearing the full complement of safety gear and managing work appropriately, along with a tidier workplace and improved work environment. At the same time, I have gradually seen weak points come to light, so I am now working to address these and achieve results. To thoroughly practice "giving the highest priority to safety," I intend to create an environment where all of our employees can work in safety and with peace of mind.

**Kazuhiro Nonaka**  
Assistant Manager  
Production Dept.-2 Sec.-2,  
Mizushima plant



### Key themes include dialogue with partners and safety measures

I have undertaken a number of initiatives that cover various aspects, reflecting on past incidents and accidents involving quality complaints and human errors, and results are now starting to appear steadily. I hold dialogue not only with section members, but also partner companies (product filling workers) to bring problems to light and make improvements, which in turn will improve safety and product quality. I feel that we have improved our ability to set targets and themes as well as our ability to express and crystallize these targets voluntarily without having to wait for instructions from a supervisor. I believe that it is important to continue with these activities going forward.

**Shunichi Kakumoto**  
Assistant Manager  
Production Dept.-1 Sec.-1,  
Mizushima Plant



### Reports from the assistant managers

## Safety activity reports for the Shibukawa and Mizushima plants



### Collecting opinions from the workplace and using them to achieve "no accidents and no injuries"

An assistant manager is someone who collects various opinions from the members of the workplace, such as on safety, equipment improvements, cost cutting, etc., and recommends these ideas to the section manager or general manager to make the workplace environment better. I have worked on safety activities as the person in charge of manufacturing, but since being appointed as an assistant manager, I have made it a point to respond promptly by listening to the ideas of section members in terms of near misses and K-SF3 in particular. Since my appointment as an assistant manager, section members have gradually become more active in sharing their ideas and consulting with me. Going forward, I will continue to listen to views expressed in the workplace and use them to achieve "no accidents and no injuries."

**Akio Tamura**  
Assistant Manager  
Production Dept.-1 Sec.-3,  
Shibukawa plant



### Think about safety before starting work and create good habits for danger prediction

Every month, I organize a safety day meeting, during which I introduce past incidents to perform "5why-analysis." This has enabled us to establish the good habit of thinking about safety before starting work. I also use a whiteboard to post and share safety precautions. Furthermore, I keep records of potential dangers in non-regular work and implement kiken yochi (danger prediction; KY) to mitigate risks posed by non-regular work. We have seen an increase in inexperienced workers as we have added staff after expanding the production line. Nevertheless, I am working to ensure that safety activities are not overlooked due to our busy production activities.

**Tsuyoshi Takahashi**  
Assistant Manager  
Production Dept.-2 Sec.-1,  
Shibukawa plant



### Increasing section members' appetite for work and safety by respecting their independence

As an assistant manager, I listen to section members' ideas and try my best to create a workplace environment where they can work responsibly and in their own way. This has resulted in section members proactively sharing their ideas on work and safety activities with me. Also, I feel that section members are more motivated at work, too. Looking forward, I will continue listening to the views of section members and review the work at our section where necessary so as to make work safer and smoother.

**Nobuo Ishii**  
Assistant Manager  
Production Dept.-1 Sec.-3  
Shibukawa Plant



### Learning from past incidents to elevate safety awareness using "5why-analysis"

I make it a point to focus on finger pointing and calling during work, which is a fundamental element of safety activities. Also, every month, I conduct "5why-analysis" session in which section members learn about past accidents and work together to consider the cause and ways to prevent them from happening again. Through these initiatives, I feel that our awareness of safety is rising. My workplace handles a large number of products and operational controls are different for each of them. Therefore, it is difficult to get everyone on the same page, but in my effort, I provide opportunities to discuss with persons in charge of each process on a regular basis so that the entire workplace can engage in safe operational controls and activities.

**Koji Maruyama**  
Assistant Manager  
Production Dept.-2 Sec.-1,  
Shibukawa plant



# Employee Commitment to Safe and Stable Operations!

Every employee will be the driving force behind the future of Kanto Denka, even if they work in different units or workplaces. Kanto Denka is driven by various initiatives and commitments to work.



I'm working to elevate my sensitivities to hazards by forecasting dangers before work.

Atsushi Michida  
Production Dept.-1 Sec.-1  
Mizushima Plant



I make adjustments to delivery deadlines after consulting with the person in charge of logistics to ensure no accidents at the time of product shipment and during transportation.

Sayaka Yoshimura  
Headquarters  
Fundamental Chemicals  
Sales Dept.



I am learning advanced knowledge about facilities and equipment, so that I can plan engineering work in a safe and accurate manner.

Daiki Kuninobu  
Plant Protection Dept.  
Mizushima Plant



I carry out 5s activities and finger pointing and calling on a daily basis to prevent accidents from happening.

Takayuki Abe  
Production Dept.-3 Sec.-1  
Shibukawa plant



I'm always focused on safety being the top priority. I make sure that I perform KY as well as finger pointing and calling prior to work to achieve "no accidents and no injuries" using petit kaizen improvements.

Tomoaki Sato  
Production Dept.-2 Sec.-1  
Shibukawa plant



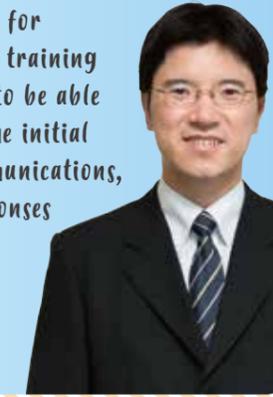
I strive to ensure the safe delivery of hazardous raw materials to our plants by providing transport training and appropriate management.

Megumi Matsushita  
Headquarters  
Purchasing Dept.



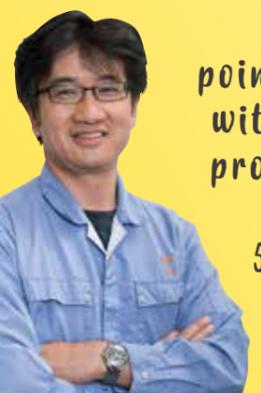
In preparation for accidents, I am training the employees to be able to carry out the initial response, communications, and other responses calmly and without fail.

Tomoo Wada  
Headquarters  
Logistics Dept



I make it a point to comply with operating procedures and elevate our 5s activities.

Hitoshi Wakuzawa  
Production Dept.-1 Sec.-2  
Shibukawa plant



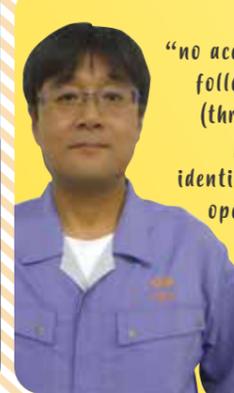
I make efforts to understand the characteristics of chemical substances and always wear protective equipment.

Kazuko Matsuda  
Shibukawa Development  
Research Lab.



I aim to achieve "no accidents and no injuries" following the sangen shugi (three actuals philosophy), patrolling work sites to identify unsafe behaviors and operations, and repeatedly providing safety reminders.

Masatoshi Okonogi  
Plant Protection Dept.  
Shibukawa plant



I intend to acquire knowledge about each workplace so that I can predict hazards.

Keisuke Kita  
Accounting Sec.  
Administration Dept.  
Shibukawa plant



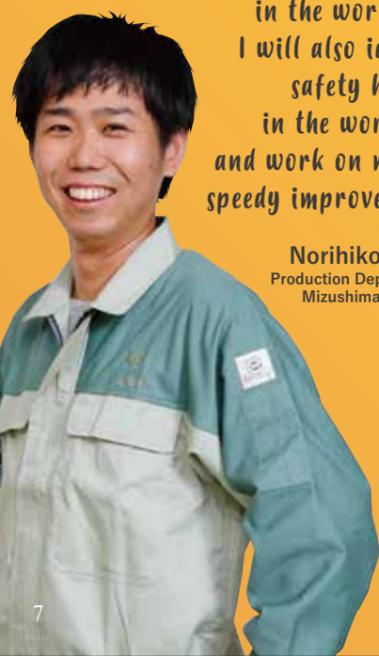
I take time to prepare and only begin work after resolving questions and concerns.

Yuka Matsuta  
Mizushima Development  
Research Lab.



I am working on improving my safety awareness and sensitivities to notice even a slight difference from the normal situation in the workplace. I will also identify safety hazards in the workplace and work on making speedy improvements.

Norihiko Ikeda  
Production Dept.-2 Sec.-2  
Mizushima Plant



I make it a point to carry out KY before work, finger pointing and calling during work, and keep the work place clean and organized after work.

Shinya Sasaki  
Production Dept.-1 Sec.-2  
Mizushima Plant



I will provide support to customers to ensure that they use our products safely.

Daisuke Okutsu  
Osaka Branch Office  
Sales Sec.



I work safely, ensuring that I never miss a pre-work check and never get injured or injure others.

Sayuri Hamada  
Quality Control Sec.  
Quality Management Dept.  
Mizushima Plant



I make it a point to always provide detailed information (gas type and flow direction, etc.) on labels used around valves and pipes.

Kohei Fujita  
Production Dept.-1 Sec.-3  
Shibukawa plant



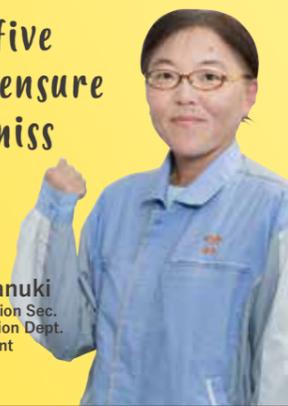
I hope, on my own initiative, to play a role in learning about operating technologies from veteran employees, compiling them as "know-why," and contributing to the development of younger workers.

Yasuhisa Furubayashi  
Production Dept.-2 Sec.-1  
Mizushima Plant



I use my five senses to ensure I do not miss any small change.

Satsuki Watanuki  
Production Coordination Sec.  
Production Coordination Dept.  
Shibukawa plant



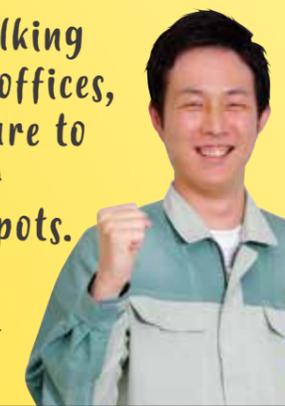
I am working on creating mechanisms for promoting safety and environmental compliance from the research stage.

Naoya Kishi  
Headquarters  
Development Planning Dept.



While walking between offices, I make sure to check for danger spots.

Ryo Murata  
General Affairs Sec.  
Administration Dept.  
Mizushima Plant



## Lithium-ion Battery (LIB) material of Kanto Denka Kogyo

### We contribute to the realization of an environmentally friendly and prosperous society with high quality "lithium hexafluorophosphate (LiPF<sub>6</sub>)."

Batteries are needed to charge the smartphones and notebook PCs that we use in our daily lives, and to run environmentally friendly electric vehicles. Among all the different types of batteries, LIB have a wide appeal, excellent energy characteristics, and a wealth of potential. Kanto Denka produces lithium hexafluorophosphate (LiPF<sub>6</sub>), the compound that is essential for these rechargeable batteries. Ever since we started production in 1997, we have responded to calls for enhanced quality, and an increasing demand that is continuing to grow day by day. We now support the high efficiency of LIB and their growing use with world-class product quality and production volume, and contribute to a prosperous and environmentally friendly society as we move forward.

#### Lithium has made small, lightweight batteries possible

Batteries produce electricity through a chemical reaction (an oxidation-reduction reaction) that causes electron movement. Because of this, a metal that easily loses electrons (easily ionizes) is suitable for making batteries. Lithium (chemical symbol: Li) is characterized by being easily ionized, and is also light and can store a lot of electricity. For this reason, it is used for smartphones etc.



#### LIB is an Excellent battery

There are two types of batteries - primary batteries and secondary batteries. The former is used until they run out, while the latter can repeatedly store electricity (charging) and be used (discharging) by recharging them. Among secondary batteries, LIB is especially efficient.

##### ● Small but with big power

These batteries are better at storing electricity than other batteries, which is why they can release a lot of energy even though they are small in size.

##### ● A long-lasting battery that can be used over and over again

Because these batteries do not lose their effectiveness after being charged and discharged over and over, they have a long life. One of their strengths is that even if they are stored and left alone, the stored electricity does not run out easily.

### How does lithium hexafluorophosphate (LiPF<sub>6</sub>) work?

LiPF<sub>6</sub> is used when it is dissolved in a liquid solvent. The solvent the LiPF<sub>6</sub> is dissolved into is called the electrolyte.

Its role is to smoothly carry the lithium ions in the electrolyte from the positive to negative poles (charging) and from the negative to the positive (discharging).

The LiPF<sub>6</sub> manufactured by Kanto Denka is high quality, and this is useful for creating highly efficient, safe batteries with long lives.

#### High-quality LiPF<sub>6</sub>, contributing to improving safety

LIB that are used in our everyday devices must absolutely be safe without problems such as leakages. Kanto Denka has greatly decreased the impurities in its high-quality LiPF<sub>6</sub>, which is widely used, especially in electric vehicles etc. where high levels of safety are required.

I can show the power sufficiently by Kanto Denka's LiPF<sub>6</sub>!



### How is electricity generated?

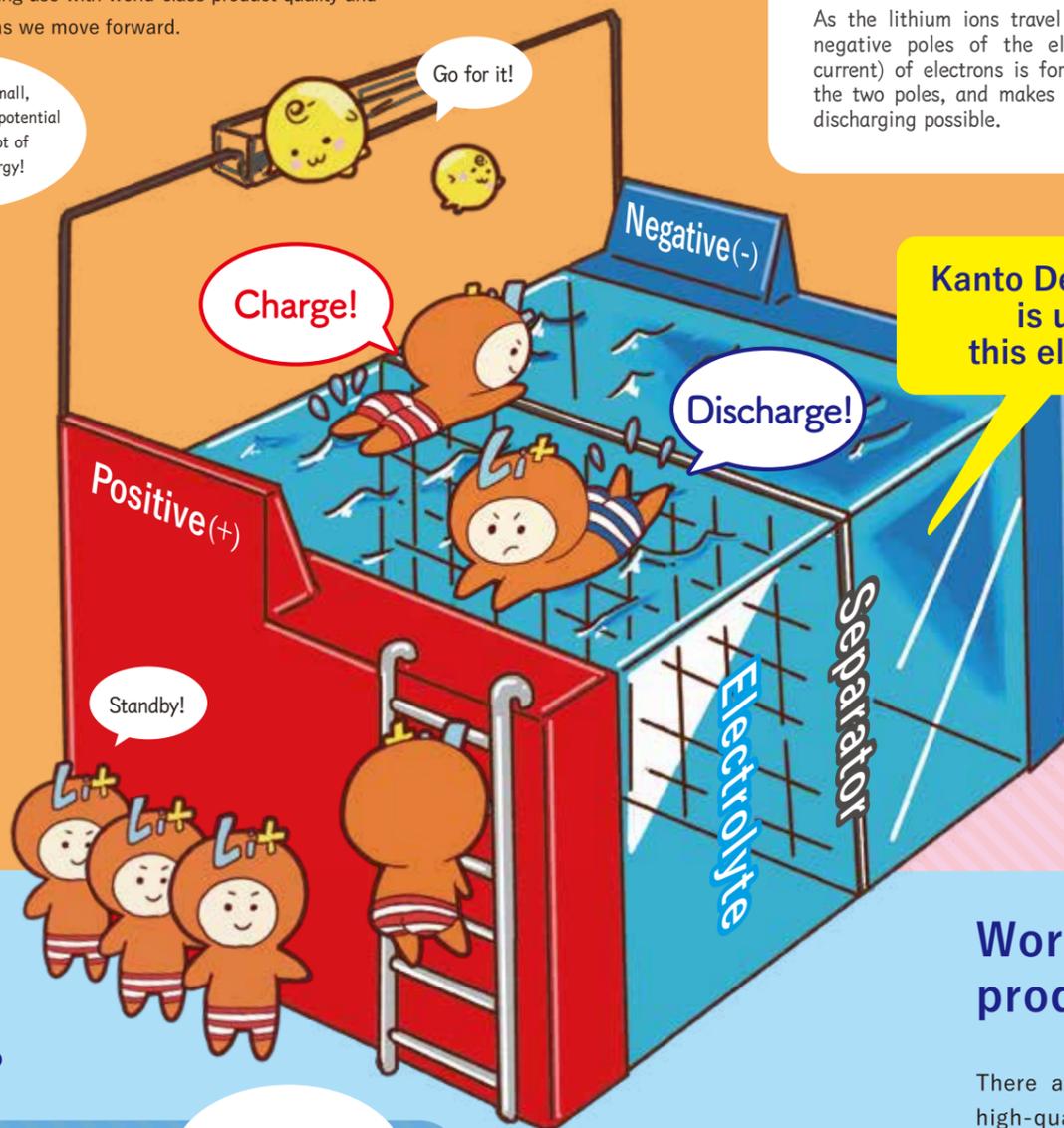
#### The mechanism of LIB

##### The movement of lithium ions

Positive(+) → Negative(-) : charging  
Negative(-) → Positive(+) : discharging

※Lithium (Li) that loses one electron (e<sup>-</sup>) becomes a Lithium ion (Li<sup>+</sup>).

As the lithium ions travel between the positive and negative poles of the electrode, a flow (electric current) of electrons is formed - a circuit that links the two poles, and makes the battery's charging and discharging possible.



#### In our daily lives, products that use LIB are steadily increasing.

##### Supporting comfortable living



These batteries are widely used in devices such as smartphones, which are small but use a lot of electrical power.

##### Realizing the reduction of greenhouse gas emissions



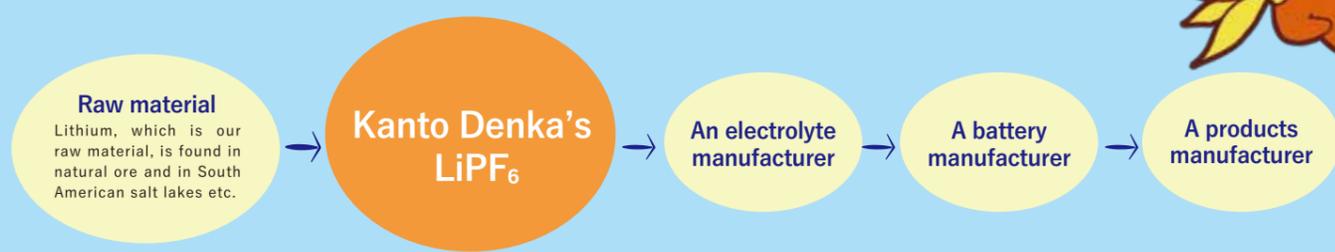
These batteries are used for automotive batteries for vehicles that do not emit exhaust gas such as electric vehicles (EV).

They are used as high-capacity storage batteries for electricity generated by solar and wind power, and are highly useful for the practical utilization of natural energy, which tends to be affected by the weather.



### World-class quality and production amount

There are only a few companies in the world that can produce high-quality lithium hexafluorophosphate (LiPF<sub>6</sub>). Among these companies, Kanto Denka, which has top-class production, provides stable supplies of high quality LiPF<sub>6</sub> for LIB not just in Japan but worldwide.

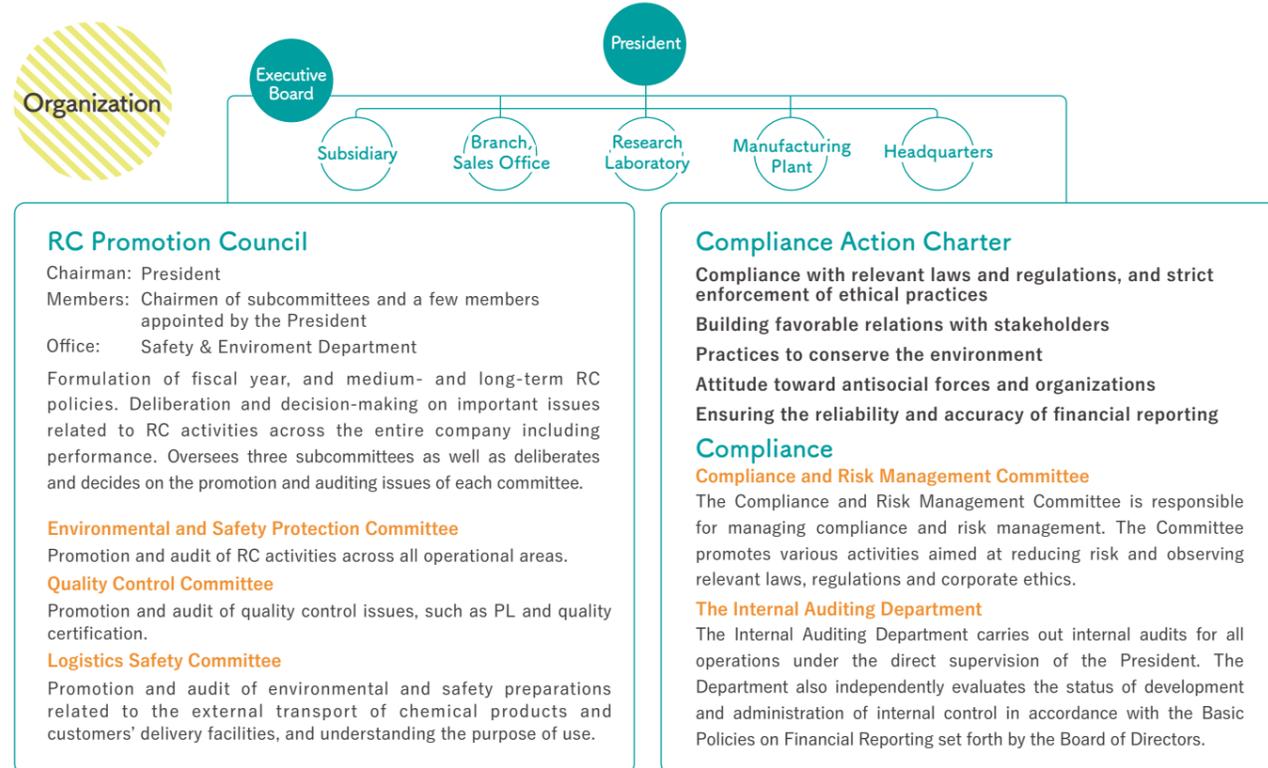


# RC Promotion Organization

In order to ensure Responsible Care (RC) and compliance, each RC promotion organization at Kanto Denka continuously performs various activities including self-auditing and evaluation, provision of guidance and education, and improvement activities.

## Efforts Geared toward CSR

Kanto Denka believes that we, as good corporate citizens, have a mission to society to contribute to making peoples' lives safer and more enriching. In order to achieve this goal, we strive to give priority to compliance and risk management in our business practices. Simultaneously, we endeavor to build a corporate culture for making a contribution to communities in which our facilities are located and for putting into practice initiatives for protecting the environment.



## Audit Structure

### Self-auditing

Each facility works to achieve continuous improvements in RC activities through the evaluation of our RC measures by linking them to the ISO14001 and OHSAS18001 systems. The results of these self-audits are reflected in the next RC objectives and plans report.

### Auditing of Each Facility

The Environmental and Safety Protection Committee, the Quality Management Committee and Logistics Safety Committee once a year, respectively, conduct auditing of goals, plans, implementation systems, and performance evaluation of self-audits in all facilities. Furthermore, corrective action for some defects found at audit and sharing the common knowledge to other department should be accomplished so that we can strengthen our management systems.



### Overall Auditing

Overall auditing (RC auditing) involves deliberation and evaluation by the RC Promotion Council of results of auditing carried out by the Environmental and Safety Protection Committee, Quality Control Committee, and Logistics Safety Committee. The overall auditing results are then reflected in management policies, objectives, and implementation plans for the following fiscal year.

### Internal Notification System (Hot line)

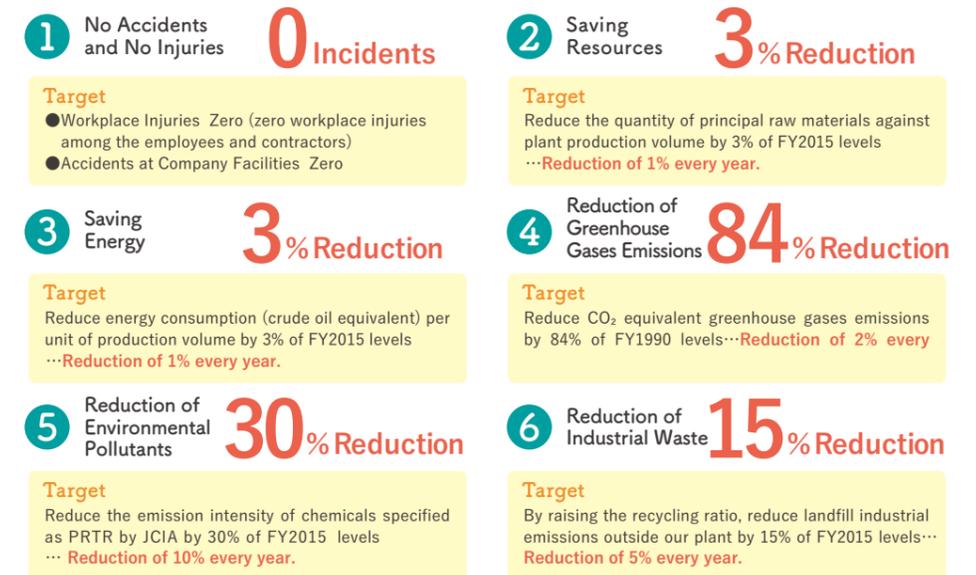
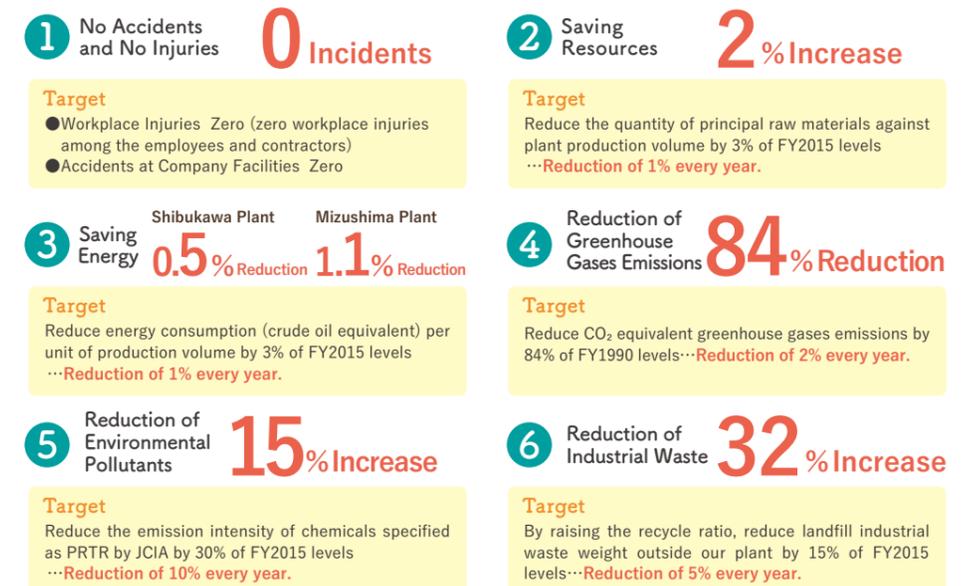
In order to respond promptly to breaches of compliance or to prevent them from happening, directors/employees of Kanto Denka are required to swiftly report information on breaches of compliance to the General Manager of the Personnel and General Affairs Department, the Auditor, or to lawyers outside the company. In addition, the rules stipulate that the person making the notification must not be treated disadvantageously.

### Protection of Personal Information

We have formulated and publicized a basic policy regarding the protection of personal information, and are clarifying the rules regarding the storage and disposal of personal information. We have set forth various stipulations, including those for ensuring confidentiality of personal information for persons leaving the company.

# Performance and Targets in RC Activities

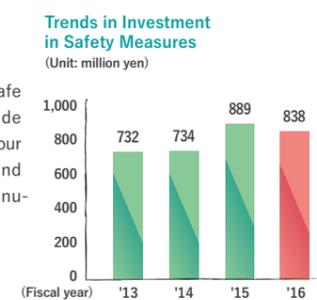
The achievement of RC action targets is a high priority for Kanto Denka. During FY2016, which was the first year of the new medium-term management plan, we utilized a number of proactive measures like systematic reform to accelerate our initiatives and realize enhanced operation safety, productivity, and environmental protection.



## Investment for the Achievement of RC Action Targets

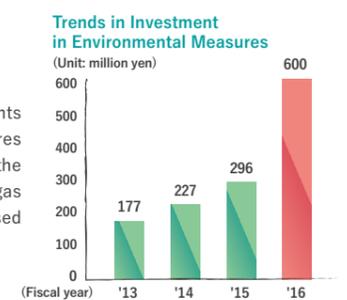
### Investment in Safety Measures

To ensure thorough and safe operations, we have made investments in improving our manufacturing facilities and safety activities on a continuous basis.



### Investment in Environmental Measures

We made more investments in environmental measures than in FY2015 to control the increase in greenhouse gas emissions due to increased production.



## Working towards Safety

Kanto Denka is striving to review and implement safety activities for all of its employees in order to ensure that the highest priority is given to safety.

Improvement measures according to actual circumstances are proposed and carried out at each production site, which have resulted in steady achievements in enhancing safety awareness and the eradication of unsafe activities.



## Aiming to enhance the capabilities of production sites for safe and stable operations

Introduction of new "Assistant Manager system" "Environment & Safety Department" has been renamed to "Safety & Environment Department." There is a company-wide promotion of safety activities

Aiming to ensure the principle of giving the highest priority to safety, Kanto Denka has introduced safety consulting and started activities to raise safety awareness, provide safety education, and improve instructions. At the same time, a new system called "Assistant Manager system" has been introduced to identify issues from the perspective of the production site and promote effective measures for improving the situation.

### Assistant Manager System

"Assistant Managers" are leaders who listen to section members' opinions regarding on-site safety, productivity, cost-cutting among other issues, share the opinions, and promote reforms from the perspective of the production site.

### Continuing to enhance various safety activities

- "Visualization" of safety goals at each workplace and their progress
- Reinforcement of diversification of safety displays
- Establishing a Safety Day and conducting safety activities every month
- Establishing an in-house training facility for safety operations
- Implementation of regular on-site guidance and workshops by safety consultants
- Training of KYT trainer and RST trainer, and implementation in each workplace
- Active participation in external safety and health workshops

\* KYT (Kiken Yochi Training)  
\* RST (Roudousyo Safety and health education Trainer)



Quickly respond to instructions from a consultant



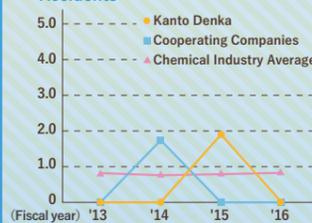
Safety meeting with assistant managers and section members as main participants

## No Accidents and No Injuries

Reflecting on past accidents and disasters, everyone at Kanto Denka is working together to achieve "No Accidents and No Injuries." In addition to the enhancement of safety education and thorough safety management of equipment and chemical substances, we also put our efforts into promoting safety activities led by production sites with the newly introduced "Assistant Manager system." Although the new initiatives have just started, we had no workplace injuries among employees or accidents at company's facilities in FY2016. We will endeavor to continue carrying out safe and stable operations.

RC action target:  
Zero cases of work-related accidents and equipment accidents

### Frequency Rate of Lost Work-time Accidents



### Changes in the number of facility accidents

Fiscal year	'13	'14	'15	'16
Number of accidents	2	0	1	0

\* Frequency Rate  
The frequency rate of lost work-time accidents is an index showing the number of deaths/injuries per one million hours worked. The index by industry was published by the Ministry of Health, Labour and Welfare, and adjusted for company size and number of hours worked.



### Safety Activities at our Plants

#### Promotion of Safety Education

In order to reduce potential risk factors underlying occupational injuries on a regular basis, we are aiming for more effective safety measures by, for example, providing safety education during the morning meeting tailored to specific types of work. We are also improving work processes at each site as necessary in order to ensure that the safety measures are enforced effectively.

#### Safety Measures for Mechanical Equipment

In addition to risk assessments carried when newly installing or adding machinery, we conduct safety inspections based on test operation plans and periodic inspections in compliance with regulations. We also prepare and routinely review operating management manuals, and thereby, promote safety measures for mechanical equipment.

#### Implementing Disaster Prevention Drills

At the Shibukawa and Mizushima plants, in preparation for accidents and industrial accidents, Kanto Denka has formed its disaster self-prevention group consisting of plant disaster self-prevention headquarters, workplace disaster self-prevention teams, fire-fighting squads, rescue teams, and other relevant teams. Disaster prevention drills and joint training exercises with public fire departments are carried out on a regular basis. In addition, at each plant we carry out monthly and departmental disaster prevention drills, as well as emergency contact drills for our day and night duty staff.



Joint Training with public Fire Department

### Safety Measures for Chemical Substances

As a company that handles large amounts of chemical substances, Kanto Denka pays utmost consideration to their safe management. Our chemical substances are managed in line with the PRTR Law, the Guidelines on Management of chemical Substance and the Poisonous and Deleterious Substance Control Law in incorporated in the Industrial Safety and Health Law, and are verified by third parties such as ISO 14001 and OHSAS18001. With respect to poisonous and deleterious substances which require careful handling, we are strengthening their safety management by ensuring segregation management and implementing procedural manuals.

#### Warning Labels Based on PL (Product Liability)

All of our products are affixed with PL labels listing handling precautions. To ensure product safety measures based on the PL Law, the findings of audits of the Shibukawa and Mizushima Plants and their research laboratories carried out by the company-wide Quality Control Committee are reported to the RC Promotion Council.

\* The PL (Product Liability) Law  
The PL (Product Liability) Law is a law stating that if the consumer can prove defects in a product, the manufacturer's responsibility will be questioned regardless of whether the fault lies with the manufacturer or not.

### Logistics Safety

Kanto Denka is working to reduce potential risk factors in distribution through such measures as "preventing deformation and damage to containers," "securing the environment and safety of filling stations and distribution centers," and "implementing user facility improvement activities." As part of these efforts, our Logistics Safety Committee is conducting safety auditing for each office and for distributors.

#### Ensuring Safety in Emergencies

In order to ensure safety in the event of an accident, it is a requirement for all transportation companies to have the Yellow Card and SDS (Safety Data Sheet) documents at all times during transportation. Additionally, in preparation of a logistics accident, we have established a system in which we can deal with leakage of dangerous substances or fire by signing a contract with an external disaster prevention agency.

#### User Facility Improvement Activities

Since 1996, Kanto Denka has been implementing ongoing activities to improve customers' facilities. If a driver finds environmental or safety anomalies at a customer site when delivering products, Kanto Denka will investigate the case based on the logistics service provider's (the driver's) report. At a later date, we will make a recommendation for improvement and request that the customer take appropriate steps. As a result, 143 out of 145 improvement requests made in the past have already been taken and implemented, contributing to ensuring safety at the time of delivery.



Special gas transport vehicles make delivering products safer

The Yellow Card is a common name of an emergency contact card (with a yellow cover), which details the steps that a driver, the fire department, the police, and other emergency services should take in an emergency, in preparation of an accident occurring in the process of transporting chemical substances or high-pressure gases.



# Coexisting with the Global Environment



Kanto Denka engages in production innovation of its major products with the aim of improving productivity.

At the same time, the entire company also strives to work on energy conservation and the reduction of greenhouse gas emission so that it can achieve the RC action targets in the case of an increase in production volume.

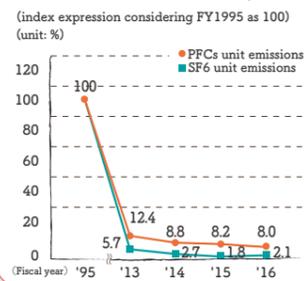
## Reduction of PFCs and SF<sub>6</sub> Emissions

### Target

JCIA's Voluntary Action Plan.  
90% reduction in PFCs unit emission and 90% reduction in SF<sub>6</sub> unit emissions of 1995 levels, and maintain this level.

Kanto Denka manufactures PFCs and SF<sub>6</sub> gases that are indispensable in the electronic devices industry. As these gases have a high global warming effect, Kanto Denka, as part of JCIA's Voluntary Action, has undertaken efforts to reduce emissions in cooperation with five other companies in Japan. The future planned by these six companies sets the target of the reduction of PFCs unit emissions and SF<sub>6</sub> unit emissions to 90% and over 90% respectively compared with FY1995, as well as the maintenance of this level. Since FY2014, Kanto Denka has continued to achieve this target independently.

### Trends in Reduction of PFCs and SF<sub>6</sub> Emissions



\*Greenhouse Gases  
Greenhouse gases are substances that have been designated as causing global warming, including perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), carbon dioxide, dinitrogen monoxide, methane, hydrofluorocarbons (HFCs), and nitrogen trifluoride (NF<sub>3</sub>).  
\*PFCs  
PFCs are the generic name of the compounds consisting of fluorine and carbon. Kanto Denka produces tetrafluoromethane (CF<sub>4</sub>), hexafluoroethane (C<sub>2</sub>F<sub>6</sub>), octafluoropropane (C<sub>3</sub>F<sub>8</sub>), and octafluorocyclobutane (C<sub>4</sub>F<sub>8</sub>).



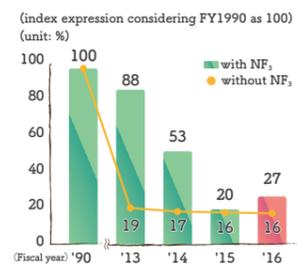
## Reduction of Greenhouse Gases Emissions

### RC action target

Reduce CO<sub>2</sub> equivalent greenhouse gases emissions by 84% of FY1990 levels  
...Reduction of 2% every year.

From an early stage, Kanto Denka has been working to reduce nitrogen trifluoride (NF<sub>3</sub>) emissions, which was newly designated as the subject of reductions. While we have made efforts to further reduce greenhouse gas emissions by utilizing abatement equipment based on a combustion system, emissions increased during FY2016 due to overhaul inspections of the work process among other reasons. In the next fiscal year, emissions are expected to be significantly reduced as the amount of abatement equipment will be increased.

### Trends in Greenhouse Gases Emissions



## Saving Resources

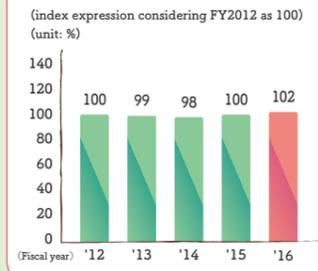


### RC action target

Reduce the quantity of principal raw materials against plant production volume by 3% of FY2015 levels  
...Reduction of 1% every year

Kanto Denka is switching over to a calculation method (\*) that can accurately display results without being affected by unspecified elements such as unit cost of raw materials. In FY2016, some manufacturing processes involved production with multiple equipment due to increased production, resulting in a 2% increase compared to FY2015. Going forward, we will strive to consolidate equipment.

### Trends in Raw Material Consumption



\*Base Unit = Quantity of Raw Materials Consumed (t) / Production Volume (t)

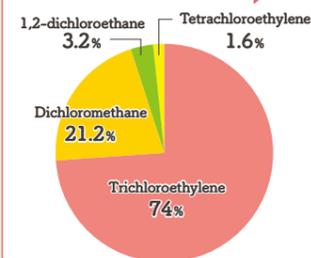
## Substances Specified by JRCC Voluntary Management Standards, Reduction of Emissions

### Target

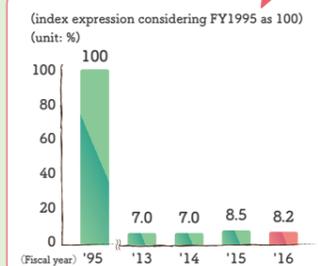
Reduction of emission of substances specified by JRCC Voluntary Management Standards released from manufacturing facilities

Kanto Denka currently manufactures four out of 12 substances specified by the Japan Responsible Care Committee (JRCC) for priority reduction in atmospheric emissions, which are trichloroethylene (TCE), tetrachloroethylene (PCE), 1, 2-dichloroethane (EDC), and dichloromethane.

### Breakdown of Emissions in FY2016



### Trends in Emissions of Substances Specified by JRCC Voluntary Management Standards



## Reduction of Carbon Dioxide Emissions

### Target

10% reduction compared with FY1990

Carbon dioxide emissions have increased, but an over 10% reduction against the base year has continued compared with FY1990 results. Since FY2015, we have implemented fuel substitution as part of the manufacturing process. Due to this initiative, reduction rate has been increasing year by year.

### Trends in CO<sub>2</sub> Emissions



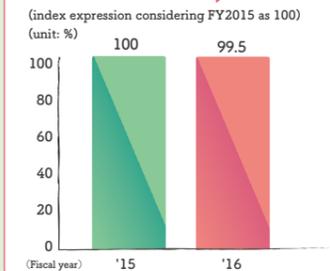
## Reduction of Energy Consumption

### RC action target

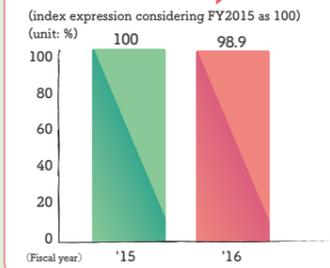
Reduce energy consumption (crude oil equivalent) per unit of production volume by 3% of FY2015 levels...Reduction of 1% every year

The situation of specific energy consumption is improving at both plants through the promotion of energy conservation at power-intensive facilities. As a result of making continuous efforts to enhance production efficiency and contain energy use, the Mizushima Plant has cleared the newly set reduction target.

### Trends in Specific Energy Consumption



### Trends in Specific Energy Consumption



\*Specific energy consumption: This index indicates the amount of energy required in the production of a certain given quantity of products. The lower the figure, the more advanced the energy conservation is.

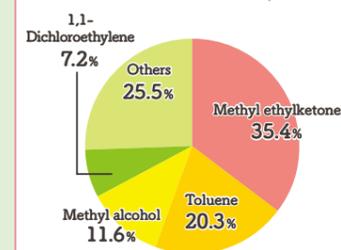
## Reduction of the emissions of environmental pollutants

### RC action target

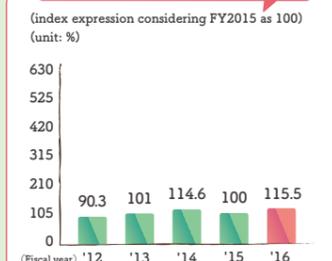
Reduce the emission intensity of chemicals specified as PRTR by JCIA by 30% of FY2015 levels...Reduction of 10% every year.

Kanto Denka handles 18 substances (including those less than 1 ton) that are specified as PRTR by law, but we manage substances in accordance with the JCIA method with a larger range of substances specified by JCIA. In FY2016 we handled 244,000 tons of the 29 substances specified as PRTR based on the JCIA method. The emissions amount was 29.0 tons, and the emissions unit was 119g for every 1 ton handled. Going forward, we will take measures to deal with the four substances with high emissions.

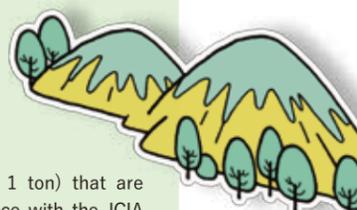
### Breakdown of the 29.0 tons of Emissions in FY2016



### Trends in Emissions of PRTR-designated Chemical Substances



\*PRTR  
This is a reporting and management system to help identify the quantity of chemical substances released into the environment, including the atmosphere, water sources, and the soil, and the quantity processed as waste materials. The release and transfer quantities reported by companies are made public by the relevant authorities annually.





## Reduction of Plant Waste Water and COD

### Target

Reduction of the amount of plant waste water and COD emissions

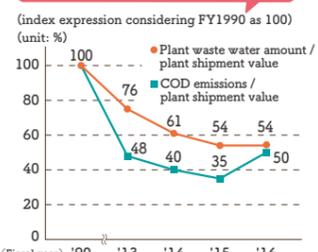
Kanto Denka has been working to reduce the volume of plant waste water and COD emissions via actions like the recovery of pollutant substances in our manufacturing facilities. In FY2016, the volume of plant waste water stayed at the same level as the previous year, while the volume of COD emissions increased. We will work to develop measures to respond to this as a future issue.

\*COD (Chemical Oxygen Demand)  
COD is an indicator showing the level of pollution in water. It indicates the amount of oxygen necessary to decompose pollutants and other substances in water. The lower this figure is, the cleaner the water is.



Discharged water (cleaned at the plant)

### Trends in Plant Waste Water and COD



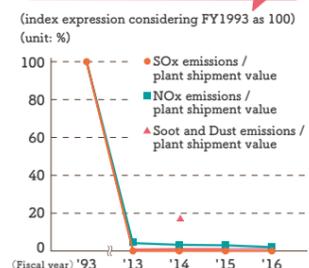
## Reduction of SO<sub>x</sub>, NO<sub>x</sub>, and Soot and Dust Emissions

### Target

Reduction of emissions in accordance with voluntary management standards

We are working to reduce the emissions of atmospheric pollutants, namely, SO<sub>x</sub> (sulfur oxides), NO<sub>x</sub> (nitrogen oxides), and Soot and Dust through stable operation of abatement equipment. In recent years, we have maintained low levels of emissions for all of these substances.

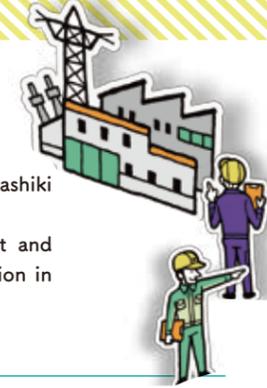
### Trends in SO<sub>x</sub>, NO<sub>x</sub>, Soot and Dust Emission Levels



## Site Report

Kanto Denka has manufacturing plants in two locations; Shibukawa (Shibukawa City, Gunma) and Mizushima (Kurashiki City, Okayama). These plants supply various chemical products to the industrial world.

The two plants respond to industry developments and technological innovation through creative development and high-quality product manufacturing, while at the same time focusing on safe operation and environmental protection in order to maintain trust in the respective communities and in society.

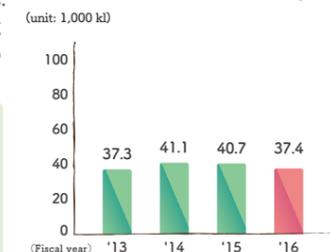


### Shibukawa Plant: 1497 Shibukawa, Shibukawa City, Gunma, Japan

A wide range of products are manufactured at this plant including special gas products used for manufacturing semiconductors and LCD panels as well as a carrier to be used for photocopiers and printers. The plant is supporting the development of the industry by making efforts to ensure safe and stable operations as well as working to improve its capability.

- Plant area: approximately 138,000 square meters
- Number of employees: 275 (as of March 31, 2017)
- List of products:
  - [Ferrochemicals] carriers, magnetite
  - [Fluorochemicals] sulfur hexafluoride, carbon tetrafluoride, tungsten hexafluoride, nitrogen trifluoride, hexafluoroethane, trifluoromethane, hexafluoro-1,3-butadiene, and others

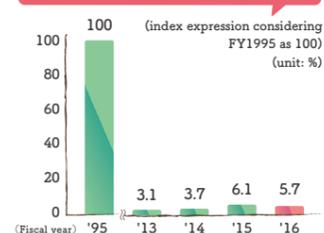
### Trends in Energy Consumption in Crude Oil Equivalent



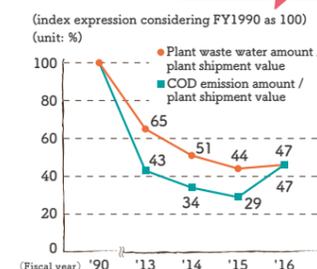
### Trends in CO<sub>2</sub> Emissions



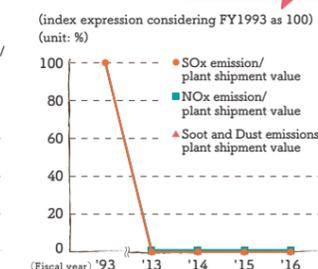
### Trends in Emission Amounts of Substances Specified by JRCC Voluntary Management Standards



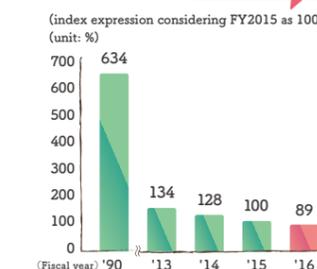
### Trends in Plant Waste Water and COD



### Trends in SO<sub>x</sub>, NO<sub>x</sub>, Soot and Dust Emission Levels



### Trends in Industrial Waste Amount Levels



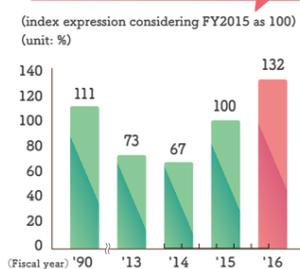
## Reduction of Industrial Waste

### RC action target

Reduce landfill industrial emissions outside our plant by 15% of FY 2015 levels by raising the recycling ratio  
...Reduction of 5% every year.

In FY2015, the volume of waste increased due to the significant production increase in some products. While Kanto Denka has been working on the reduction of the volume of waste based on the company's new target, production volume in some products has continued to increase since FY2015. Partly due to this increase, the volume of waste in FY2016 increased significantly. Going forward, we will discuss more effective measures to deal with this issue and make an effort to reduce the volume of waste.

### Trends in Industrial Waste Amount Levels



## The Emissions of Greenhouse Gases: Report based on the Law Concerning the Promotion of Measures to Cope with Global Warming

Kanto Denka reports data in accordance with the "Mandatory Greenhouse Gas Accounting and Reporting System." The volume of CO<sub>2</sub> equivalent emissions in FY2016 amounted to 482,000 tons. Because NF<sub>3</sub> has been designated as a greenhouse gas in Japan as well, we have included NF<sub>3</sub> emissions since the FY2015 report.

	Figures for 2013	Figures for 2014	Figures for 2015	Figures for 2016
Originating from energy	23.2	23.1	22.4	21.9
*Emissions of PFCs, etc.	11.7	7.3	6.4	6.7
Emissions of NF <sub>3</sub>	—	—	7.5	18.9
Originating from distribution fuel	0.6	0.6	0.6	0.7
<b>Total</b>	<b>35.5</b>	<b>31.0</b>	<b>36.9</b>	<b>48.2</b>

\*Emissions of PFCs etc. Emissions of PFCs+HFCs+SF<sub>6</sub>  
Unit: 10,000 tons of CO<sub>2</sub>

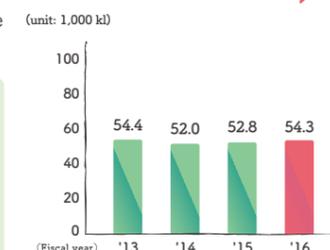


### Mizushima Plant 4-4-8, Matsue, Kurashiki City, Okayama, Japan

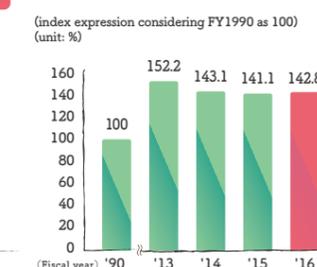
In addition to "lithium hexafluorophosphate (LiPF<sub>6</sub>)" battery material, for which demand has been increasing year by year, this plant focuses on unique technological development and production innovation to provide world-leading chemical products that can contribute to the manufacturing of diverse products which will open up a new era.

- Plant area: approximately 185,000 square meters
- Number of employees: 173 (as of March 31, 2017)
- List of products:
  - [Fundamental chemicals] caustic soda, sodium hypochlorite, hydrochloric acid, trichloroethylene, vinylidene chloride and perchloroethylene
  - [Fluorochemicals] lithium hexafluorophosphate, silicon tetrafluoride, chlorine trifluoride, and organic fluorine compounds

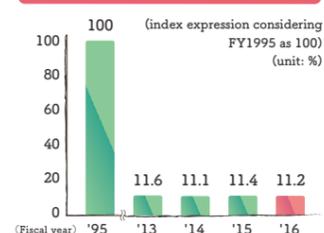
### Trends in Energy Consumption in Crude Oil Equivalent



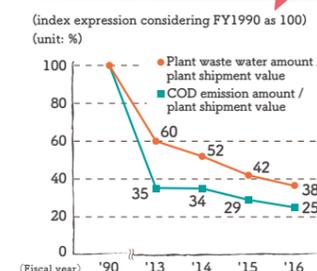
### Trends in CO<sub>2</sub> Emissions



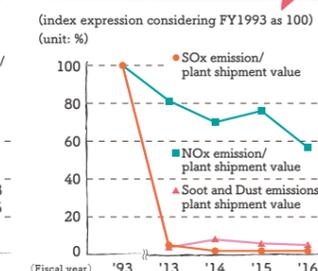
### Trends in Emission Amounts of Substances Specified by JRCC Voluntary Management Standards



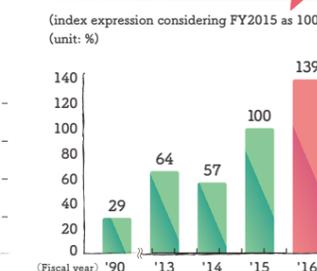
### Trends in Plant Waste Water and COD



### Trends in SO<sub>x</sub>, NO<sub>x</sub>, Soot and Dust Emission Levels



### Trends in Industrial Waste Amount Levels



# Interaction with the Local Community



Kanto Denka as a company cooperates with local events and its employees actively participate in local activities. It strives to be a company that is trusted and loved by the local community.

## Maebashi/Shibukawa City Marathon (as volunteers)

The Shibukawa Plant volunteered to participate in the management of a citizen marathon event with the course set in the city center of Maebashi City and Shibukawa City. Participating staff from the Shibukawa Plant handed water to the marathon runners at specified water points along the course and engaged in other activities to support the success of this local event. They also interacted with other volunteers and runners.



Preparing water points on the marathon route



Handing out water as runners come one after another



Cheering the runners on until the end of the event

## Local Community Social Gathering

Kanto Denka holds the "Local Community Social Gathering" event several times a year. Local residents living in close proximity of the plant are invited to the gathering where we introduce and provide information on our activities, as well as listen to the views of the local community and answer their questions.

## Blood Donation Activities

With cooperation from many employees, both the Shibukawa and Mizushima plants have conducted blood donations twice a year for many years. These blood drives attracted the attention and recognition of the Japanese Red Cross Society and the Ministry of Health, Labour, and Welfare, for which we previously received commendations.

## Clean-up Activities

In addition to cleaning the area around its plants, Kanto Denka also participates in city-led clean-up events and clean-up activities organized by neighboring communities. We consider these activities to be good opportunities which remind us of our status as members of the communities.



## Participation in the "Kurashiki Cotton Project"

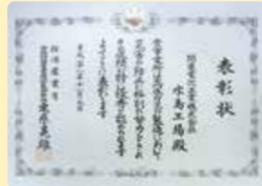
Kurashiki City, in which the Mizushima Plant is situated, has flourished with the textile industry and is still well-known for its jeans manufacturing. Kanto Denka participated in the "Kurashiki Cotton Project" organized in association with this history. The project involves making jeans by gathering cotton grown by Kurashiki citizens. At the Mizushima Plant, we grow cotton on the plant premises and look forward to the harvest.



Cotton grown on the premises of Kanto Denka's plants

## Commendation for Safe High Pressure Gas Use

The Mizushima Plant was commended for "Recognition for FY2016 High Pressure Gas Safety by Director-General of the Chugoku Shikoku Industrial Safety and Inspection Department" by the Chugoku Shikoku Industrial Safety and Inspection Department, Ministry of Economy, Trade and Industry. This recognition is given to businesses and individuals that have strived to prevent high pressure gas-related accidents and achieved successful results. Kanto Denka was commended as a good manufacturing site.



A scene from the commendation ceremony



## Internship

Kanto Denka offers an internship program for students that provides an opportunity to gain work experience. Selected students experienced daily tasks at our company and deepened their understanding of Kanto Denka and other chemical manufacturers.

## NPO "Shibukawa Wide Area Manufacturing Council"

Shibukawa Wide Area Manufacturing Council works on the environment beautification of the community and the prevention of global warming by growing flowers and greenery. Employees at the Shibukawa Plant participate in the Council's activities carried out near the plant to interact with local people.



Participating in greenery activities along the local road

# Aiming to Create a Dynamic Workplace



## Creating a Pleasant Working Environment

Kanto Denka offers maternity leave, childcare leave and a reduced working hours scheme, and has also established nursing care leave regulations and senior employee (re-employment) regulations. Furthermore, the company has made efforts to create a working environment in which the employees can use the welfare programs and schemes at ease on a regular basis, by establishing childcare leave programs for male employees and encouraging employees to take paid leave. A hotline for consultation regarding mental healthcare and various types of harassment is open, and experts from relevant fields provide support with our employees.

## Offering a Wide Range of Employee Training Programs

Kanto Denka offers foreign language training sessions, sexual harassment awareness sessions, and other training sessions depending on employee rank. We also offer elective correspondence courses to support the personal development of employees.

## Holding a variety of workshops and lectures

Kanto Denka holds events, lectures and workshops that will be useful for the employees' day-to-day health and safety, such as stress check conducted by industrial physicians, AED workshop by instructors from the Regional Fire Bureau, and lectures and exhibitions regarding maintenance.



A scene from the maintenance exhibition



AED workshop



Training for new employees

## K-SF<sup>3</sup> Activities

As a business improvement activity, we operate our unique K-SF<sup>3</sup> (Kantodenka Step Forward Cube) system. "Cube" indicates our initiatives from the viewpoint of productivity (product quality), safety and the environment. We receive approximately 600 proposals annually. In addition, for further activation of this activity, we have established a "small improvement system" in which employees can feel free to make proposals, no matter how small. This is a mechanism that allows our employees to propose ideas for improvement which come to mind through their daily work, quickly discuss the proposal in their office, and put the idea into practice if the idea is good. It is also an initiative for raising employee awareness and encourage participation in workplace improvement activities.

## Participated in the 66th "Nihon no Mannaka Shibukawa Ekiden (marathon relay race)"

The Kanto Denka Track and Field club participated in the 66th "Nihon no Mannaka Shibukawa Ekiden," which is a project related to the "Shibukawa Citizen Education Day." Through participation in the event outside the company, the staff were able to deepen their friendship with the runners from other participating companies.



The starting line



Safely arrived at the finish line, Well done!

## Cultural Festival

The Mizushima Plant annually holds a cultural festival to exhibit works created by its employees and their families. These great works include photography, crafts, and bonsai. The exhibition is also open to visitors, and has received favorable reviews.



Exhibition venue of the Cultural Festival