



Health and Safety, and Quality Assurance Initiatives

The Nippon Kayaku Group engages in a wide range of health, safety, and quality assurance activities.

We conduct a safety screening whenever we institute new work flows or changing facilities and existing work flows, in order to prevent accidents, injuries or environmental accidents from happening. As part of our efforts, we also conduct risk assessments to ascertain inherent risk factors.

We have also created a database of troubles we have experienced in terms of our environmental, safety, and quality assurance initiatives that is used across all of our business sites. Central integrated environment, health and safety reviews and central integrated quality reviews are conducted on our business sites and certain Group companies.

Health and Safety Initiatives and Results

The Nippon Kayaku Group takes a systematic approach to eliminating accidents and injuries at its business sites. As a result of our efforts, in fiscal 2013 there were a total of three no-lost worktime accidents and two lost worktime accidents.

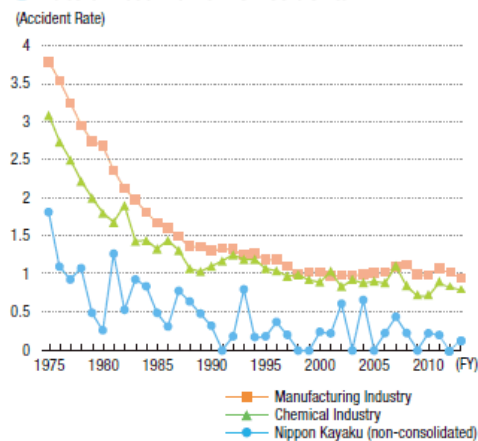
In terms of traffic safety, there were 46 traffic accidents involving company-owned vehicles or employees during the commute, representing an accident rate of 11.8% which represents a small decline year on year. However, the number of traffic accidents continues to remain above the level seen in fiscal 2010. As a result, we will continue with safe driving reviews as well as assure safer driving habits by combining these reviews with a driving aptitude test approved by the National Police Agency.

We are also working to share safety awareness across different workplaces by distributing work flow checklists to help eliminate shortcuts or omissions, having employees issue a safety declaration to prevent shortcuts and omissions, as well as displaying this safety declaration clearly in each workplace.

● Fiscal 2013 Safety Targets and Performance

Items	Target	Actual
Major Injury / Accidents	0	0
Serious environmental accidents	0	0
Lost worktime accidents	0	1 case
Accidents not accompanied by lost worktime	Rate of lost worktime accidents*1 of under 1	0.51
	Less than 5 cases	3 cases
Work and commute-related automobile collisions	Less than 4%	11.8 %
	Less than 15 cases	46 cases
Non-injury workplace accidents	0	1 case

● Rate of Lost Worktime Accidents



*1 Rate of lost worktime accidents: The number of lost worktime accidents that occur in every 1 million work hours.

Initiatives to Enhance Quality Assurance Functions

In order to promote training on and the percolation of quality management technologies, we send employees to participate in external lectures, hold group training sessions on statistical calculation methods, and conduct onsite presentations at our plants on internal audits. Additionally, we publish a compilation of quality improvement case studies and seek to encourage greater use of statistics to improve quality, such as the experimental design method.

We also hold practical training programs that promote actual operational improvements or reform based on the challenges faced by individual business sites. In fiscal 2013 we carried out activities to reinforce quality assurance at the Kashima Plant.

Occupational Health and Safety as well as Quality Assurance Initiatives

1. Safety and Quality Assurance Activities at Work Sites

We are undertaking a wide range of safety and quality assurance activities. We are also compiling databases on environmental, safety, and quality issues to be used across our business sites.

Safety Activities	Quality Assurance Activities
◦ Risk Assessment	◦ Quality Risk Assessment
◦ 5S Activity ^{*2}	◦ Quality Patrol
◦ Hiyari Hatto Activity	◦ Trend Management (Visualization)
◦ KYT Activity	◦ Campaign to Prevent the Reoccurrence of Quality Problem
◦ TPM Activity ^{*3}	◦ Quality Technology Training

^{*2} 5S Activity: An acronym of five Japanese words phonetically starting with the letter "S".

^{*3} Total Productive Maintenance (TPM): Activities that maintain equipment and facilities in good working order to ensure safety and maintain productivity.

2. Conducting Safety Assessments (Risk assessment, understanding potential risk factors)

Each of our business sites performs safety reviews for new processes and facilities and whenever changes are made to existing processes and facilities and implements risk assessments in order to prevent business sites accidents and injuries as well as environmental accidents. Risk factors in chemical reactions are analyzed primarily based on HAZOP.^{*4}

^{*4} HAZOP: Hazard and Operability Study. A safety evaluation methodology used at chemical plants. Potential hazards associated with chemical reactions can be comprehensively extracted for evaluation.

3. Elimination of Shortcuts and Omissions

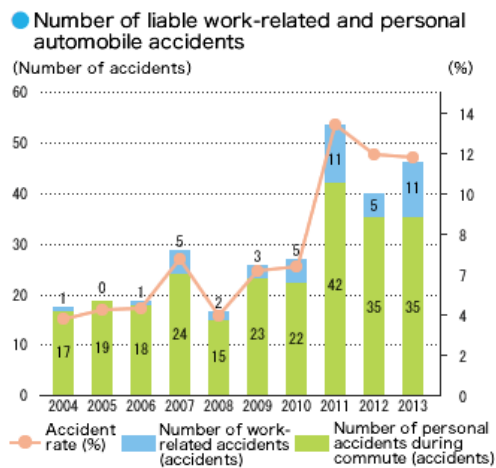
Accidents that have occurred within the Nippon Kayaku Group in recent years have tended to result from shortcuts or omissions. As a result, the Nippon Kayaku Group is working to share safety awareness across different workplaces by distributing work flow checklists to help eliminate shortcuts or omissions, having employees issue a safety declaration to prevent shortcuts and omissions, as well as displaying this safety declaration clearly in each workplace.

4. Traffic Safety Initiatives

Many Nippon Kayaku Group employees drive a car as part of their work duties or to commute to work. We perform safe driving reviews using a camera-equipped drive recorder^{*5} as well as assure safer driving habits by combining these reviews with a driving aptitude test approved by the National Police Agency^{*6}. Our ratio of liable accidents is half of the average for the Japan Pharmaceutical Manufacturers Association. In fiscal 2013, this number was 11.8%, marking a slight decrease compared to the previous year, but it still remains somewhat elevated compared to fiscal 2010 and before. We will continue with our safe driving reviews and work toward reducing the number of traffic accidents.

^{*5} Camera-equipped drive recorder: A recorder that can analyze bad driving habits, such as sudden acceleration, sudden braking, and sudden turns using sensors for front/back and right/left acceleration, gyrocompass and GPS system.

^{*6} Driving aptitude test approved by the National Police Agency: An exam that measures the aptitude of driving based on seven written questions covering 11 topics, including decision making skills, ability to prevent collisions, and mental stability test.



*Fiscal 2012 represents 10 months of data due to a change in the fiscal term.

5. Promoting Health Management

Our employees undergo regular health checkups as well as special physical examinations because chemical substances are regularly handled on the job. Employees meet with an industrial physician following their regular health checkup to receive guidance and instructions on their health management and awareness. We also manage a database of information on the hazardous properties of chemical substances and utilize this information to prevent work related illnesses.

6. Deployment of AEDs

Driving aptitude test approved by the National Police Agency: A driving aptitude test that measures driving ability based on responses to seven questions covering 11 items including situational awareness, collision prevention ability, and mental stability, among others.

Responding to Accidents and Disasters

1. Fire response

Each business location is equipped with a fire truck, fire hydrant, and fire extinguisher for chemical substances in preparation for potential fire hazards. In addition to holding on-site training, employees also participate in local fire fighting competitions at which they have achieved strong results.

2. Natural disaster response

As a precaution for earthquakes and other natural disasters at each workplace, we have compiled and distribute the Employee's Handbook of Disaster (Earthquake) Prevention to each and every employee. This handbook contains instructions on emergency response when an earthquake occurs, how to make contact and confirm one's safety, and alternative methods to reach home when public transportation is unavailable.

Employee safety during a disaster is monitored by a safety reporting and communication system that uses email. As an earthquake strikes, the disaster response headquarters will send out an instruction by email to all employees. Employees can reply to the email by a simple touch of a button, which allows data to be collected. This system will be used to confirm employee safety during an earthquake of a seismic intensity of 6 or higher in Japan.

Management of Chemical Substances

With countries around the world moving to tighten the management of chemical substances, we have seen a growing importance in complying with chemical related laws both in Japan and abroad and being able to aptly respond to customer requirements for chemical substances contained in our products.

The Functional Chemicals Group established the Chemical Management Office, which collects the latest information on laws and regulations around the world, instructs related departments with their response and provides training on general chemical substance related laws. Through these efforts, the Chemical Management Office is striving to maintain and improve compliance as it relates to chemical substances.

A representative of the Chemical Management Office has been assigned to the Functional Chemicals R&D Laboratories to closely monitor product safety and compliance with legal requirements from the development stage.

In fiscal 2014, we will continue to comply with Europe's REACH*7 and CLP regulations*8 as well as with new legislation and legal revisions being made in China, South Korea and other parts of Asia.

*7 Registration, Evaluation, Authorization and Restriction of Chemicals (REACH): An EU regulation for registering, evaluating, approving and restricting chemical substances.

*8 Regulation on Classification, Labeling and Packaging of substances and mixtures (CLP): An EU regulation on the classification, labeling and packaging of chemical substances based on GHS.

GHS Compliance

With each country implementing GHS *9, companies are now required to provide SDS *10 compliant with local laws and regulations that are written in the local language. The Functional Chemicals Group has instituted an SDS compilation system (MSDgen) that contains a large database of bilingual documents as well as data on the laws of various countries and data on the properties and toxicity of chemicals. This system enables it to create SDS that are fully compliant with local laws and regulations. The 2013 system update complies with the US version of GHS, which complements its prior compliance with GHS in Japan, Europe and Asia.

The Functional Chemicals Group manages and uses a database of SDS and SDS history to ensure that it always provides the most up to date information on GHS compliance.

*9 GHS: Globally Harmonized System of Classification and Labeling of Chemicals

*10 SDS: Safety Data Sheet.



Sample GHS-compliant label