

# Prevention of Work-related Accidents

The entire Nippon Kayaku Group endeavors to prevent work related accidents. As a result, our rate of lost worktime accidents\*<sup>1</sup> has always been lower than the chemical industry average. Additionally, although we have yet to receive external certification in occupational health and safety, we are currently using a proprietary management system for each of these areas. Actual health and safety activities consist of a combination of the environment, health and safety assessment, safety inspections, and the day-to-day safety activities implemented at each workplace.

## Implementation of Environment, Safety and Health Review (Integrated Review)

The environment, safety and health review is implemented for each Nippon Kayaku workplace and certain Group companies based on an annual plan. The environment, safety and health review are combined with the quality review in an integrated review starting in February 2010. In the review, environment, safety and health policy, goals, plans, and activity progress of those targeted workplaces and Group companies are studied while any problem areas are critiqued through meetings, document screening and on-site inspections. Each targeted workplace and Group company compile an improvement implementation plan in order to improve current conditions.



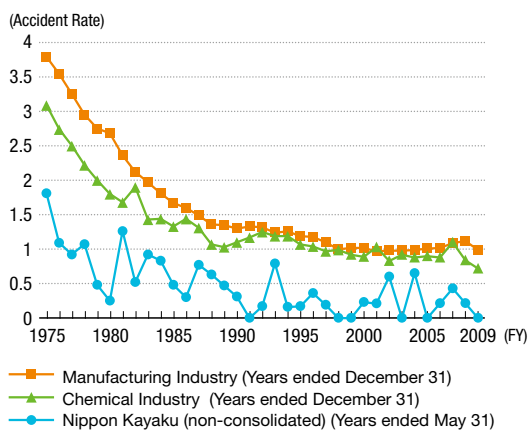
Central Integrated Review (Kashima Plant)

## Fiscal 2009 Safety Targets and Performance

Items	Target	Fiscal 2009			Evaluation
		Nippon Kayaku	Group Companies on Site	Cooperating Companies on Site	
Major Injury / Accidents	Zero	0	0	0	○
Lost worktime accidents	Zero	0	1	0	×
Accidents not accompanied by lost worktime	Frequency rate under 1 (under 5 cases)	6	1	0	×

(Years ended May 31)

## Rate of Lost Worktime Accidents



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

## Topics



Takao Izawa  
Kashima Plant

### Reaching 10,000 Consecutive Days without an Accident

Kashima Plant has operated without an accident for 10,000 consecutive days from the day it began operations on December 1, 1982 to April 18, 2010.

As a factory that is involved in synthesizing chemicals for pesticides, and handling hazardous materials and harmful substances, our track record of having zero lost work time accidents over 27 and half years proves that a culture of safety is alive and well within the Nippon Kayaku Group.

This was not achieved by having any particular safety technology in place, but was rather made possible by the steady practice of work safety passed on from generation to

generation, which I feel is more important.

In fiscal 2009, we started the Safety Operation Project which aims to update old equipment, and strengthen our production base under a five year plan. Our goal is to continue making products that will contribute to society and striving to build on the past record of zero accident at the Kashima Plant.



Kashima Plant

## Day-to-day Activities in the Plant

Many safety related activities are conducted at our plants.

- Risk Assessment
- 5S Activity<sup>\*2</sup>
- *Hiyari Hatto* Activity
- Hazard Anticipation Activity
- TPM Activity<sup>\*3</sup>

<sup>\*2</sup> 5S Activity: An acronym of five Japanese words phonetically starting with the letter "S". Seiri, or organize, is the act of separating the necessary from the unnecessary and to store away the unnecessary. Seiton, or neatness, describes the ability to immediately access a necessary item. Seiso, or clean-up, is the act of keeping your surroundings clean. Seiketsu, or hygiene, is to maintain the equipment and environment in a pristine state. Shitsuke, or discipline, is the act of ensuring that rules are obeyed and proper work procedures are followed.

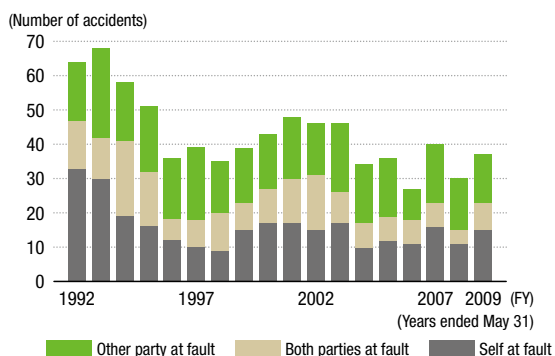
<sup>\*3</sup> TPM Activity: Total Productive Maintenance Activity. A business performance improvement activity involving every person in the organization. Ultimate productivity improvement is pursued by eliminating all efficiency inhibiting losses or waste by setting specific targets such as zero accidents, zero defects, and zero breakdowns. It also aims to motivate workers by providing a sense of self-accomplishment.

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

Whenever new work procedures or a new equipment is introduced, or when existing procedures or equipment undergo change, safety assessments are conducted to prevent accidents, injuries, or environmental accidents. Risk factors in chemical reactions are analyzed primarily based on HAZOP<sup>\*4</sup>.

<sup>\*4</sup> 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.

### Work Related Traffic Accidents



## Traffic Safety Initiatives

Many Nippon Kayaku Group employees use automobiles on a daily basis for both work and commuting purposes. To date our traffic safety activities have helped to reign in our average rate of traffic accidents to one-third the industry norm of the Japan Pharmaceutical Manufacturers Association (47 companies; 47,000 vehicles). In order to further reduce traffic accidents, starting in 2009 we have conducted a safe driving review of our MRs that combines a driving test approved by the National Policy Agency with a camera-attached safety recorder<sup>\*5</sup>. By conducting an integrated review internally using this safety

recorder and driving test, we are able to provide advice directly to employee drivers based on images captured from the safety recorder and driver behavior. This has proven effective in reducing the number of traffic accidents. (This integrated review was performed for 25% of our MRs in September 2010.)

We have also started providing the same driving test for employees who commute to work at plants and affiliated companies in an effort to prevent traffic accidents and violations within the entire Nippon Kayaku group.

<sup>\*5</sup> Safety Recorder: A driver diagnostic device comprising an acceleration sensor, gyro sensor, position sensor (GPS receiver), and a memory unit. By measuring the acceleration and angular velocity while driving, the device is able to diagnose individual driving habits such as abrupt acceleration, braking, or steering.



Camera-Equipped Safety Recorder

## 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.

## Response to Fire

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.

## Response to Accidents

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. The handbook contains instructions on emergency responses 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 communication system using an email feature. 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.