



# Actions for Preventing Accidents and Work-related Injuries

At Nippon Kayaku, all employees are working to prevent accidents and work-related injuries. As a result, the incidence of work-related injuries is lower than the average for the chemical industry. In addition to quality and the environment, we are also working to build a management system for employee safety and health. The actual safety and health activities include, as the two main pillars, the environment, safety, and health audits, and the safety assessment as part of the risk assessment. These safety and health activities are supplemented by daily activities at each of the worksites.

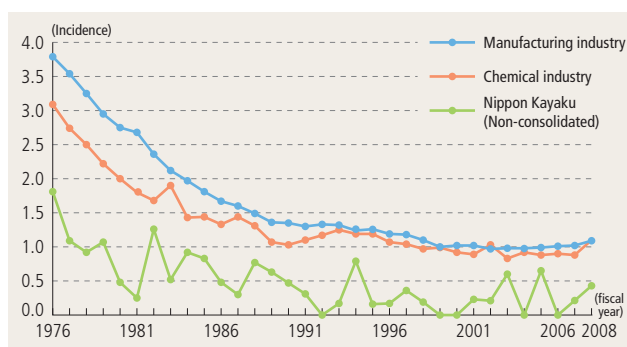


Environmental, safety, and health audits

## Safety target and performance in fiscal 2008

	Target	Performance	Content	Performance in fiscal 2007
Injuries with lost days	0	2	<ul style="list-style-type: none"> <li>Broken bone from a fall while walking</li> <li>Muscle hernia caused when pushing a cabinet</li> </ul>	1

## Changes in work accident rate



## Plant-based Daily Activities

The following daily safety activities are implemented at the Nippon Kayaku plants.

- 5S activities
- Hiyari Hatto (Near accident) activities

- Risk prediction activities
- Safety patrols, safety monitoring
- TPM activities

## Understanding potential hazards

Nippon Kayaku is working to understand the factors that can lead to serious accidents and work-related injuries when working with chemical reactions and operations so that future accidents can be prevented. Hazards involving chemical reactions are analyzed based on HAZOP (Hazard and Operability Study). Hazards involving chemical

reactions are analyzed based on Hazard and Operability Studies (HAZOP). Also, risk assessment is being promoted using Risk Analysis by Type of Accident (RAT), a technique developed exclusively by Nippon Kayaku, for risks that can lead to work-related accidents involving equipment and operations.

## Fire prevention

In the event of a fire, each workplace is equipped with fire engines, fire hydrants, and fire extinguishers for chemical substances. Besides on-site training, Nippon Kayaku has also won prizes participating in local fire-fighting contests.



Fire Protection Equipment Fukuyama Plant

**Work accident rate:** This indicates the suspension of work due to accident per one million work hours.

**5S Activities:** Five types of activities whose names in Japanese phonetically start with "S" -- "Seiri," "Seiton," "Seisou," "Seiketsu" and "Shitsuke."

• "Seiri" -- to separate necessary items from unnecessary items, and clear away the unnecessary ones • "Seiton" -- to organize necessary items so that when needed, they can be accessed quickly

• "Seisou" -- to maintain items in a clean condition • "Seiketsu" -- to keep facilities and the environment clean at all times • "Shitsuke" -- to provide and enforce rules and proper procedures

**TPM Activities (Total Productive Maintenance):** Activities to be participated in by all company members in order to maintain productivity. These activities aim for improvement in the company's business performance by completely eliminating losses and waste that interfere with efficiency including disasters, defects and failures, and by realizing the utmost production efficiency. Another aim of these activities is to help the employees find motivation in their lives through the achievement of personal fulfillment.

**HAZOP (Hazard and Operability Study):** This is a safety assessment technique for chemical plants that allows an exhaustive identification and assessment of potential hazards involving chemical reactions.

## Disaster Prevention

A disaster handbook was prepared covering earthquakes and other natural disasters for all Nippon Kayaku offices, and it was distributed to all employees. This handbook includes information about emergency actions when an earthquake occurs, how to contact others to confirm their safety, and alternative means of returning home when transportation is cut off.

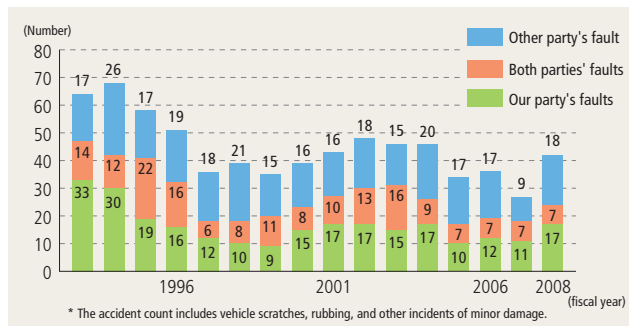
● **Use of an emergency communication system in the event of disasters**  
 Nippon Kayaku employs an emergency communication

system using Internet e-mail to check employee safety in the event of earthquakes or other disasters. Under this system, the disaster task force transmits e-mails to employees when needed to check on employee safety in the event of earthquakes or other disasters. The employees can inform the task force of their safety by replying to the e-mails according to a simple procedure. Employee safety is confirmed when an earthquake of six or higher on the Japanese earthquake scale has occurred in Japan.

## Traffic safety activities

Nippon Kayaku uses a large number of vehicles for business and commuting. In 1992, we started an initiative to prevent traffic accidents by forming a Transport Safety Action Team. We introduced "Alive," a service provided by Orix Auto Corp. to check the driving characteristics of drivers using safety recorders as part of a larger effort to prevent traffic accidents. "Alive" was used in fiscal 2006 for employees driving on work-related business. In addition to continuing this program, we have purchased similar equipment that we are using for in-house driving diagnostics for employees commuting to work. We are considering using equipment with video capabilities in the future.

### Changes in numbers of traffic accidents



## Promotion of Health Management

Periodic health examinations are provided for employees, as are special health exams for employees handling chemical or other substances and those using video display terminals (VDTs). This is followed by a one-on-one consultation with

an industry doctor for health guidance and advice. Toxicity data for chemical substances handled at Nippon Kayaku are also stored in a database and used to prevent occupational-related illnesses.

## Installation of AEDs

Automated external defibrillators (AEDs) have been installed at plants, sites, and company headquarters. We also hold first-aid classes from time to time in order to train employees to react appropriately to events such as heart attacks.



AED(Head office)

**RAT (Risk Analysis by the Type of Accident):** This is a technique for identifying and assessing all potential hazards for preventing work-related injuries and is based on operator movement at mechanical and processing equipment and other locations.  
**Safety Recorder:** A driving diagnosis unit comprising an acceleration sensor, gyrosensor, position sensor (GPS receiver) and a memory unit. This unit measures acceleration velocity and angular velocity while driving by individuals being tested, and the subjects can analyze their driving manner and habits including sudden acceleration, sudden braking and abrupt steering based on the achieved data.  
**Use of video display terminals (VDTs):** This refers to all work using computers, and specifically to work using monitors, keyboards, etc. The Ministry of Health, Labor and Welfare of Japan has established occupational health and safety environment management guidelines for use of VDTs, and employers are required to give consideration to worker safety in such use.