# Management of Chemical Substances

The Nippon Kayaku Group handles a wide range of chemical products. As such, to ensure a safe and healthy environment, we make sure that hazardous substances are managed properly by collecting and accumulating data, tightly controlling hazardous substances and executing accident prevention measures during shipment and spills.

## Accident Prevention Measures during Shipment and Spills

### The Yellow Card System

Whenever hazardous chemicals are transported, we requirethe driver of the vehicle to carry a Yellow Card*1 as a precautionary measure for emergency situations.

### Transportation of Chloropicrin

Chloropicrin is a highly irritant agrochemical which we transport with the utmost care. As a precaution against accidental spills, we stock emergency chemical-spill supplies at our business locations nationwide in Japan and conduct regular training.

### Being Prepared for Chemical Spills

We have predetermined procedures in place that prepare us for a possible hazardous chemical spill, and conduct training to practice these procedures, including the use of self-contained compressed-air breathing apparatuses.

*1 Yellow Card: One of the voluntary activities proposed by the Japan Chemical Industry Association. A card that provides emergency instructions to the truck driver or any emergency service personnel who is at the scene of an accident that may occur during transport of chemical substances or high-pressure gases. The term " Yellow Card" comes from the color of the card.

Yellow Card

## Collection of Chemical Substance Data

Since 1990, we have accumulated data on the risks of raw materials, intermediates, and products manufactured and used by our company to ensure proper and safe handling of these chemical substances. This database can be accessed through our company's internal network.

We have classified and indexed these chemical substances into five categories based on their risk level. Risk considerations for equipment and facilities, handling procedures, protective equipment, and similar matters are made according to these risk indices.

## Management of Narcotics and Other Hazardous Materials

### Controlling Hazardous Substances in Research Laboratories using a Tag System

The Integrated Research Building and Agrochemicals Laboratories have introduced a tag system*2 to properly manage hazardous substances found on site, as our research laboratories handle a wide variety of dangerous chemicals including reagents and catalysts. The system affixes a tag to all hazardous chemical containers to identify degree of danger and quantity as a means to promoting safety and efficiency.

*2 Tag system: A system of managing hazardous substances where a tag is affixed to the container that identifies the stored quantity as a score.

### Management of Hazardous Materials at Our Plants

The receipt and shipment of goods, including raw and intermediate materials, is managed at each of our plants using computer. This system allows us to track hazardous material volume for each storage location. In the event of a fire, the system can provide an accurate count on the quantity of hazardous substances stored on site, ensuring safer and more efficient fire fighting activities.

### Handling of Narcotics

As one of our ethical drug products, we carry morphine preparations, a narcotic that can help relieve severe pain cancer patients can experience. The handling of this narcotic is managed very strictly with tight control over access, locks, inventory, shipments, disposal, and record keeping.

### Handling of Radioactive Substances

Radioactive isotopes are used effectively for the screening, evaluation and pharmacokinetic testing of drug candidate compounds. In accordance with the Laws Concerning the Prevention from Radiation Hazards due to Radioisotopes and Others, the Pharmaceutical Research Laboratories use these substances only in approved facilities, and under strict observance of approved nuclides and quantities. To ensure safety, lab technicians undergo regular training and health exams, and the work environment is tightly controlled.

Storage container for hazardous substances with IC tag (left) and internal management system (right) (Integrated Research Building)