Waste-reduction efforts are being made in consideration of the amount of chemical substances used/discharged and based upon the idea of risk management.

● Concept

The Ricoh Group categorizes and controls chemical substances that are regulated in various countries around the world according to whether they are to be prohibited, reduced, or controlled. As for chemical substances classified as those to be reduced, the Ricoh Group is engaged in reduction based on a concept of risk management. This is a method to reduce chemical substances whose environmental impact is serious. The environmental impact is determined by calculating the amount of chemical substances used/discharged and the environmental impact potential[1]. Additionally, the Group sets a standard to prevent environmental risk from occurring. Based on the standard, each business site thoroughly controls the amount of chemicals used, emitted, discharged, and disposed of in order to prevent percolation or outflow to the environment.

1. The environmental impact potential is set by Ricoh, taking toxicity, carcinogenicity, and the possibility of ozone depletion into consideration.

● Targets for Fiscal 2007

◎ Completely eliminate chlorine organic solvents used in manufacturing Organic Photo Conductors at manufacturing contractors as well as at Ricoh manufacturing divisions.

● Review of Fiscal 2005

The substitution of chlorine organic solvent dichloromethane used in the manufacturing of photoconductors—supplies for copiers—which had been realized at Ricoh Group companies, was expanded to manufacturing contractors. As a result, Ricoh completely eliminated the use of chlorine organic solvents in the consignment production of photo conductors at plants other than Ricoh's by the end of fiscal 2005. The use of environmentally-sensitive substances was reduced 48% from fiscal 2000 and about 5,200 tons from the previous fiscal year[2]. The amount emitted decreased 88% from 2000 and about 2,500 tons from the previous fiscal year[2] (see graph ❶).

2. The figures have been converted with an environmental impact coefficient.

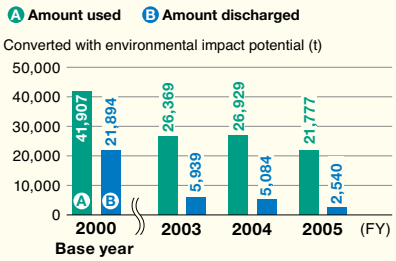
● Future Activies

We will continue our efforts to reduce the use and emissions of chemical substances so that they are kept at current levels even though business operations will be significantly expanded under the leadership of respective divisions and business sites. In fiscal 2006, we plan to introduce solvent-combustion equipment to Numazu Plant, aiming to reduce emissions of VOC. In addition, we will strive to upgrade efforts toward the management of chemical substances and risk communication.

<The Entire Ricoh Group>

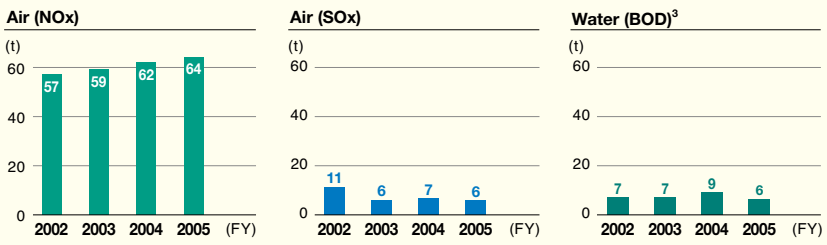
Changes in the Amount Used and Discharged of Ricoh Target Substances for Reduction

❶ The Ricoh Group (production)



Changes in the Amount of Nox, SOx and BOD

❷ The Ricoh Group (production)



3. Represents total emissions directly released into water areas for public use.

* The Ricoh target substances for reduction are defined as the PRTR substances designated by four electric/electronic industrial associations in Japan between fiscal 1998 and fiscal 2000. Coverage of chemical substances by Ricoh may differ slightly from those provided by the PRTR Law. As for the uses and emissions of respective substances, please refer to our Web site at http://www.ricoh.com/environment/data/index.html

*Graphs ❶ and ❷ do not include data for Ricoh Printing Systems and Shanghai Ricoh Digital Equipment.

Segment Environmental Accounting of Pollution Prevention Activities at Business Sites (The Entire Ricoh Group)

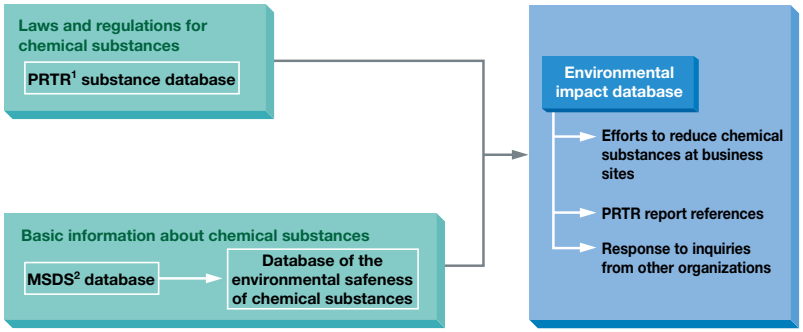
Costs			Effects			
			Economic benefits		Effect on environmental conservation	
Item	Main cost	Costs	Items	Benefits	Items	Amount
Business area cost	Pollution prevention cost	¥486.6 million	Reduction in social cost	¥378.6 million	NOx SOx BOD PRTR substances (calculated with the conversion potential)	–1.3 (t) 0.6 (t) 3.2 (t) 2,543.8 (t)
			Amount of risk avoidance effect (incidental effect)	¥1,127.5 million		

Chemical Substance Control Using IT System and Information Disclosure

<Ricoh Group (Global)>

The Ricoh Group established RECSIS to monitor data on chemical substances used, discharged, and disposed of at business sites. RECSIS is designed to promote reduction in the use of chemical substances, to prepare materials for PRTR reporting, and to speedily respond to inquiries from customers around the world, original equipment manufacturers, and citizens' groups.

Environmental and Chemical Safety Information System for Business Sites



1. Pollutant Release and Transfer Register
2. Material Safety Data Sheet

INTERVIEW

Employee Interview | Management of Chemical Substances at the Plant

Numazu Plant Receives PRTR Merit Award. "Our strengths and weaknesses will be reflected in our future activities."

Akiyoshi Nagakura (left) and **Hiroki Kato** (right)
Environment Safety Promotion Group, Numazu General Affairs Center, RS Products Division

Innovative efforts, such as the SS monitor system and coefficient setting, are greatly appreciated.

Under the leadership of the PRTR Reduction Working Group, Ricoh Numazu Plant has traditionally striven toward the management of chemical substances, but such efforts have not been objectively appreciated. We, however, applied for the PRTR Awards 2005[1] to clarify our own strengths and weaknesses and have them reflected in our future activities. PRTR Awards are given to companies that have made excellent efforts in the management of chemical substances and actively promoted the communication of risks to citizens. We eventually won the PRTR Merit Award. This was mainly because the system and scheme for the management of chemicals were firmly established at our plant; innovative efforts were made, including the setting of discharge coefficients for respective types of chemical substances in accordance with their environmental impact; and continuous efforts were made in communicating risks in cooperation with local residents through the social satisfaction (SS) monitor system[2].

1. Sponsored by the Center for Environmental Information Science, PRTR Awards were held twice in 2005.
2. SS monitors selected from neighboring areas are requested to present their opinion on activities of the plant through questionnaires or meetings to exchange information.

PRTR Merit Award certificate and trophy

Encouraged by the winning of the award, we will further upgrade our activities and strive for the solution of problems.

Also, comments from judges and examples from other companies, including the one that won the grand prize, helped us clarify our own issues to be addressed, such as those on the evaluation of environmental risks, clarification of our stance on risk communication, and disclosure of information on respective substances. We have taken measures for some of these problems, including the monitoring of chemical substances emitted. For other issues, we intend to hold discussions in working groups as soon as possible and take concrete measures. In particular, many companies have yet to solve problems in risk communication, and it will be necessary to quickly promote efforts toward their solution. Because we do not usually appear front and center, winning the award gave us courage. We will endeavor to continue raising the level of our activities.