

Efforts are being made on a global scale to reduce the amount of chemical substances used/discharged, based upon the idea of risk management.

■ Concept

The Ricoh Group is engaged in risk management of chemical substances by applying a risk evaluation method in compliance with the Strategic Approach to International Chemicals Management (SAICM) to minimize the risk throughout the lifecycle of chemicals and to share related information. All the chemical substances used, discharged, and disposed of in the manufacturing processes of Ricoh products are controlled under this management. We will establish a global scheme by fiscal 2010, whereby chemical substances will be reduced and managed after risk evaluation considering the hazard levels¹ and exposure/used amount (or discharged amount), and information on such evaluation will be shared. As a measure against chemical substances contamination of business sites and underground water, we have established a system where respective sites make efforts for prevention in compliance with the uniform standards of the Group. In case of contamination, it can be promptly detected and purified under the system. As for soil and underground water contamination, PCBs, and asbestos,

the Group promptly makes efforts to understand environmental liabilities² that could affect its financial accounting.

1. Harmfulness to human beings and the environment

2. See page 46.

■ Targets for Fiscal 2010

- ◎ Establish a chemical substances risk management system on a global scale.
- ◎ Reduce use of environmentally sensitive substances by more than 30% compared to the fiscal 2000 level (Rico's production sites and manufacturing subsidiaries).
- ◎ Reduce the amount of environmentally sensitive substances discharged by more than 80% compared to the fiscal 2000 level (Rico's production sites and manufacturing subsidiaries).
- ◎ The environmental liabilities of PCBs and asbestos in land owned by the consolidated Group companies can be estimated.
- ◎ The environmental liabilities are reflected in the financial accounting of the Rico Group.
- ◎ Chlorine organic solvents used by the Group, including companies that

become new members of the Group, are completely eliminated.

■ Review of Fiscal 2009

We made further discussions about the scheme to assess risk management. The use of environmentally sensitive substances was reduced 74.3% from fiscal 2000, while the amount emitted decreased 85.2% from fiscal 2000 (Graph ①). As part of the environmental liabilities survey, we completed a global pre-survey of the Rico Group concerning PCBs and asbestos covering the consolidated companies and calculated environmental liabilities reflecting the results. As for chlorine organic solvents used, we formulated a plan to completely eliminate the use of such solvents and started activities to achieve the goal by fiscal 2011.

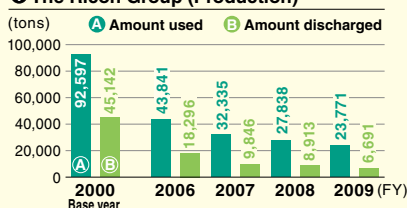
■ Future Activities

We will actively promote the establishment of a risk management system and its upgrading, aiming to realize new global management of chemical substances by the Rico Group.

<The Entire Rico Group>

Changes in the amount of environmentally sensitive substances used and discharged¹

① The Rico Group (Production)



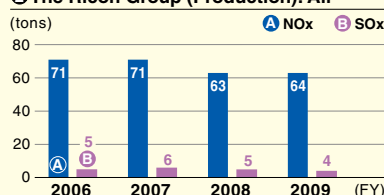
1. Data for the substances specified in the environmental action plan, which consists mainly of the substances covered by the PRTR Law and includes other chemical substances used by the Group in large quantities.

2. Represents total emissions directly released into public-use water areas.

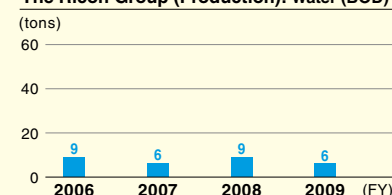
* Graph ② does not include data for Shanghai Rico Digital Equipment.

Changes in the amount of NO_x, SO_x and BOD

② The Rico Group (Production): Air



The Rico Group (Production): Water (BOD)²



Establishment of the Standard on Environmental Risk Management with Respect To Assets

<Rico Group (Global)>

The Rico Group established and enforced the Standard on Environmental Risk Management with Respect to Assets in December 2009*. The purpose of this standard is to identify major risks entailed in the acquisition/sale/lease of property and minimize their impact on business. The new standard applies to all acquisitions, sales, and lease of property within the Rico Group (all the group companies subject to the consolidated accounting). Risk management under the new standard follows three key principles:

- (1) to identify significant environmental risks related health risks when acquiring, selling and/or leasing property, including cases involved in M&A;
- (2) to develop plans to manage and reduce the identified risks and implement appropriate measures according to the plan;
- (3) to provide related parties with important information on the identified environmental/health risks at the time of acquiring, selling and/or signing a lease contract for property. If risks concerning contaminated soil, PCBs, asbestos, or other substances subject to environmental regulations are identified, the division in charge and the Environment Division will discuss and estimate the cost for future measures before deciding whether to finalize

the property transaction under negotiation. At a total of 1,022 global non-production sites of the Group, soil investigation of owned and leased land was completed by September 2006. With this completion, the Group began to keep soil contamination risk fully under control—risks identified and appropriately managed—at all production and non-production sites. Having

launched this new management standard to enhance this risk control status, the Group has a system in place to identify and manage environment/health risks related to land and buildings to be acquired or leased in the future.

* Until the establishment of these standards, regulations of environmental risks related to property, mainly soil contamination, were provided under related rules and regulations.

Chemical Substance Control

Establishment of a chemical substance risk management system

<Ricoh Group (Global)>

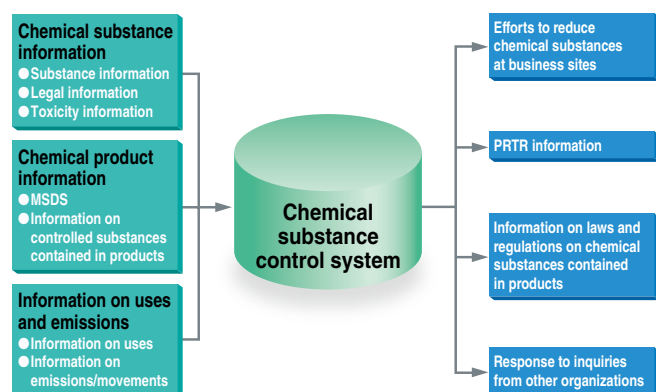
The Ricoh Group is promoting the establishment of a chemical substance risk management system across the Group based upon the concept of risk management. The Ricoh Group is seeking to establish a risk management system that will satisfy the following four requirements: (1) assure safety regarding chemical substances used in the manufacture of Ricoh products and discharged/emitted into the environment, by identifying and managing the amounts used and discharged; (2) evaluate the lifecycle risks of chemical substances that have the potential to affect local residents and/or local ecosystems; (3) eliminate risks that exceed acceptable levels through management and reduction efforts; and (4) effectively share information on risks obtained through such evaluations with related parties. Based on this plan, in fiscal 2009, we established a Group-wide system to manage risks that may impact local residents in relation to the chemical substances used in the manufacturing processes.

Chemical substance control and information disclosure

<Ricoh Group (Global)>

The Ricoh Group uses its chemical substance control system to monitor data on chemical substances used, discharged, and disposed of at business sites. The system is designed to promote the reduced use of chemical substances, to prepare materials for PRTR reporting, and to speedily respond to inquiries received from around the world.

Chemical substance control system



Schedule of activities for establishment of risk management system

March 2009	• Material balances of processes are made clear for chemical substances used in large quantities.
March 2010	• A risk management system covering human beings and the environment is established and put into operation.
March 2011	• Risk management and reduction activities are being carried out through the introduction of green and sustainable technology. • Information on risks is shared with the related parties through good communication.

Hazard indicator	Hazard classification in GHS*
Environmental risk of chemical substances	Risk = hazard class x exposure amount
Evaluated substances	Chemical substances used for industrial (manufacturing) and/or laboratory (research) purposes
Managed group	Global (Ricoh Group)
Action	<ul style="list-style-type: none"> • Clarification of material balances (PRTR calculation method) • Registration of MSDS (including GHS hazard classification) • Establishment of risk evaluation procedures (scenario setting, hazard evaluation and setting reference value for evaluation, exposure evaluation, risk rating) • Development of a system to manage/reduce risk • Realization of risk communication

* GHS (Globally Harmonized System of Classification and Labeling of Chemicals): System to classify chemical substances in accordance with the internationally standardized rules according to types and level of hazardousness, and to label chemicals with their classified hazard information and provide material safety data sheets.

Efforts for the complete elimination of chlorine organic solvents

<Yamanashi Electronics Co., Ltd. (Japan/Thailand)>

Chlorine organic solvents are used for the production of organic photoconductors (the imaging components of copiers and printers). Recognizing the possible considerable risks of these chemical substances affecting the environment and human beings, the Ricoh Group completely eliminated the use of the solvents for the production of its products in fiscal 2005, including those produced by companies outside the Group on consignment. After this, however, we discovered that Yamanashi Electronics Co., Ltd., which joined the Group in November 2006, used chloroform and dichloromethane as chlorine organic solvents. To remedy this problem, Yamanashi Electronics has been striving to reduce the amounts of these solvents used and discharged since the latter half of fiscal 2006. Furthermore since fiscal 2008, the company has been working to develop a solvent formula that does not use chlorine organic solvents. Due to its ongoing efforts, the total removal of the hazardous solvents from production processes at its plants in Thailand and Japan is expected to be realized by the end of fiscal 2010 and 2011, respectively.

Efforts Concerning Soil and Underground Water Contamination, Asbestos, and PCBs

Asbestos and PCBs

<Ricoh (Japan)>

As for asbestos used at Ricoh's business sites and facilities, a survey was conducted on sprayed asbestos. Measures to prevent dispersal, such as containment and enclosure, have been taken at all relevant sites and the substance has been confirmed at a level that will not negatively affect human beings, people in adjacent neighborhoods or employees. We will continue our systematic efforts for improvement and removal of asbestos. In the meantime,

Ricoh has surveyed all the PCB-containing products held by the company, and has managed them and completed notification in compliance with the relevant laws and regulations. In fiscal 2008, related measures were introduced at three business sites. Ricoh plans to introduce similar measures at other sites successively and complete their disposal by fiscal 2016.

Understanding environmental liabilities

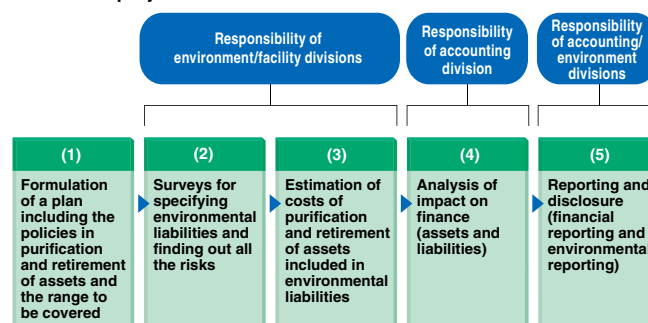
<Ricoh Group (Global)>

Companies are responsible for environmental contamination and anything that can lead to environmental contamination, whether caused by their past, current, or future business activities, and they must therefore make efforts into the future to prevent contamination or its expansion. They must also take all necessary measures such as purification and repair if and when contamination occurs. In fiscal 2007, the Ricoh Group began to examine sites for soil/underground water contamination, asbestos and PCBs. Ricoh takes its responsibility to recover sites to their original state seriously, with the accounting, environment, and facility divisions cooperating to appropriately reflect the impact on corporate performance of fulfilling the obligation that should be assumed by companies (environmental liabilities) in financial accounting. In light of assessments of our facilities, the Group estimated (1) the amount of asset retirement obligations¹ calculated in compliance with the accounting standards, (2) the amount that could become liabilities in financial accounting in the future in compliance with laws or contracts, and (3) the costs of purification the Ricoh Group will carry out according to its own policies, although such purification is not required by laws or contracts. The estimated future expenditure for asset retirement obligations of the Ricoh Group to dispose of

asbestos and PCBs and to return buildings and land to their original state was ¥1,230 million² as of the end of fiscal 2009. In addition, the Group provided ¥970 million in reserves for soil purification. [See page 47.](#)

1. Payment obligation required by laws or contracts concerning the future retirement of fixed assets. This obligation includes that for the retirement of harmful substances contained in fixed assets, as well. In Japan, the Accounting Standard for Asset Retirement Obligations will be introduced in fiscal 2010.
2. Asbestos: ¥945.1 million; PCBs: ¥8.3 million; returning buildings and land to their original states: ¥280.4 million

Implementation flow and roles of the environmental liabilities calculation project



Views held by employees

INTERVIEW

Improving the Precision of the Disclosure and Tracking of Environmental Liabilities

We participated in a project to disclose and track environmental liabilities.

Activities through the partnership between Accounting, General Affairs, and Environmental Divisions

We have been participating in an internal project with the goal of improving the precision of the disclosure and tracking of environmental liabilities since fiscal 2007. This project team consists of the accounting, general affairs (in charge of facilities), and environment divisions as well as external specialists. The team estimated the costs for purification, and other appropriate measures, of facilities based on the results of soil and building tests, and calculated the amount of asset retirement obligations (costs required to recover the original states as well as costs for purification or processing of pollution). Asset retirement obligations are a new component of corporate accounting. The accounting standards for them have been disclosed but their calculation flow has not yet been established. There were very few precedents regarding what exactly to cover or how to make estimates. Therefore, this project worked to “specify environmental liabilities” from scratch. In addition, regarding the “identification of pollution risks” and “estimate of asset retirement costs”—which are considered the most time-consuming of all the calculation processes—we were able to largely reduce the time required for the task because as of 2007 we had completed the calculation of costs for the examination and purification of soil and underground water contamination on a global basis and had finished testing asbestos and PCBs in Japan.

Kenji Takeue
Senior specialist
Accounting Section
Accounting Department
Finance and Accounting Division



Extremely smooth cooperation between divisions

Due to the project activities, the Ricoh Group has been able to disclose its environmental liabilities since the end of fiscal 2007. We still continue to cooperate with the other divisions and conduct examinations of the small amounts of asbestos contained in flooring material, etc., with the goal of boosting the level of calculation precision. The accounting division has been able to learn that we could confirm with very high accuracy not just soil and underground water pollution, but also the amount of asbestos and PCBs in facilities. Although until recently we had little interaction with other divisions, and this was our first participation in this kind of project, I believe we were able to interact well with other divisions. On the other hand, the asset retirement obligations calculated during this project were not very significant in terms of affecting the financial statements. However, we felt that the numbers were very meaningful in that tracking and appropriately disclosing asset retirement obligations shows one aspect of our corporate responsibility and our stance toward environmental issues.

Management of the contamination risk of soil and underground water**<Ricoh Global (Global)>**

The Ricoh Group addresses the issue of soil and underground water contamination from the three viewpoints of social responsibility, environmental risks, and financial risks. With this recognition, the Group established the Standards for the Management of Risks Related to Soil and Underground Water Contamination and has been working in conformity with basic policies set under the standards. At sites where contamination has been detected, appropriate measures are underway according to the specific scenario that each site has drawn up for complete purification. These contaminated sites estimate the costs that will be required before purification is completed, aiming to ensure optimized costs in the medium and long term for all necessary work. The cleanup status is checked on a regular basis, and if unexpected discoveries are made, the purification plan is reviewed without delay and revised as appropriate.

Pollution cleanups are often costly, and there is a good likelihood that a cleanup may cause a heavy loss to business. Ricoh sets aside adequate reserves for possible future losses from repairs of environmental damage based on reasonable cost estimates. As of March 31, 2010, Ricoh had set aside ¥970 million in reserves for soil purification.

The Ricoh Group's Basic Policies Concerning Soil and Underground Water Contamination

- (1) Top priority is given to preventing health hazards.
- (2) Efforts will be made to carry out surveys and measures to cope with contamination caused by the Ricoh Group's business activities.
- (3) Laws, regulations, and ordinances set by national and local governments shall be observed.
- (4) Efforts will be made to establish risk communication with local governments and residents.
- (5) Soil is checked for contamination when land is purchased/transferred or rented/returned.

Survey results for underground water pollution and purification efforts at Ricoh Group production sites (average for fiscal 2009)

Business site		Pollutant	Survey result (mg/l)	Standard value in Japan (mg/l)
Japan	Ricoh Optical Industries	1,2-dichloroethylene	0.077	0.04
		Trichloroethylene	0.35	0.03
		Tetrachloroethylene	0.59	0.01
	Ricoh Elemex, Okazaki Plant	Trichloroethylene	3.4	0.03
		Vinyl chloride monomer	0.0024	0.002
		Hexavalent chromium	2.8	0.05
		Cadmium	0.065	0.01
	Ricoh Elemex, Ena Plant	1,2-dichloroethylene	0.14	0.04
		Trichloroethylene	1.0	0.03
		Vinyl chloride monomer	0.066	0.002
		Carbon tetrachloride	0.0034	0.002
		Hexavalent chromium	0.68	0.05
		Fluorine	5.8	0.8
	Ricoh Keiki	Vinyl chloride monomer	0.027	0.002
Outside of Japan	Ricoh Electronics Inc., Irvine Plant (U.S.A.)	1,2-dichloroethylene	0.27	
		Trichloroethylene	0.16	
		Tetrachloroethylene	2.6	
	Ricoh Industrie France S.A.S. (France)	Tetrachloroethylene	0.17	
	Ricoh UK Products Ltd. (U.K.)	1,2-dichloroethylene	12	
		Trichloroethylene	2.1	
		Tetrachloroethylene	16	
		Vinyl chloride	0.85	

* The highest yearly-averaged densities recorded at the monitored spots are shown in the above survey results.