

We offer products that are kind to the environment and people by reducing and strictly managing environmentally-sensitive substances.

■ Concept

Aiming to reduce the impact on the global environment and enhance end-user comfort and safety levels, the Ricoh Group is tackling important issues by establishing a strict management system for environmentally-sensitive substances contained in its products, reducing ozone, dust, and volatile organic compounds (VOCs) emitted when products are used, and ensuring that its supplies are safe. Environmentally-sensitive substances contained in products will affect the environment when the products come to the end of their lifecycle and are improperly disposed of. An ecobalance assessment shows that reducing the use of these substances will ultimately lessen the environmental impact a product has during its lifecycle and reduce recycling costs to a great extent. The Ricoh Group is making efforts to reduce environmentally-sensitive substances and create a reliable management system that covers the entire manufacturing flow, including suppliers.

■ Targets for Fiscal 2010

- ◎ Observe Ricoh standards that cover such substances as ozone, dust, and VOCs.
- ◎ Strengthen the system for management and communication to comply with the REACH Regulation.

■ Review of Fiscal 2008

Concerning emissions of environmentally sensitive substances generated by products, Ricoh was also able to quickly satisfy the Blue Angel requirements,

which came into force in January 2007, and all the copiers, multifunctional copiers, and printers of 17 series launched in fiscal 2008 meet the Ricoh standards for ozone, dust and VOCs.

■ Future Activities

We will continue our efforts to further reduce the use of environmentally sensitive substances in products.

<Global>

● Achievement of standards for environmentally-sensitive chemical substances

	Ricoh standards (mg/h) ¹ (Blue Angel requirements enforced in January 2007)		Models that achieved the standards ²
	Color	Monochrome	
Ozone	3.0	1.5	17
Dust	4.0	4.0	
Styrene	1.8	1.0	
Benzene	< 0.05	< 0.05	
TVOC	18	10	

1. Ricoh standards also meet the Blue Angel requirements.

2. Figures indicate the number of product series, including copiers, multifunctional copiers, and printers, launched in fiscal 2008 that achieve these standards.

Controlling the use of environmentally-sensitive substances

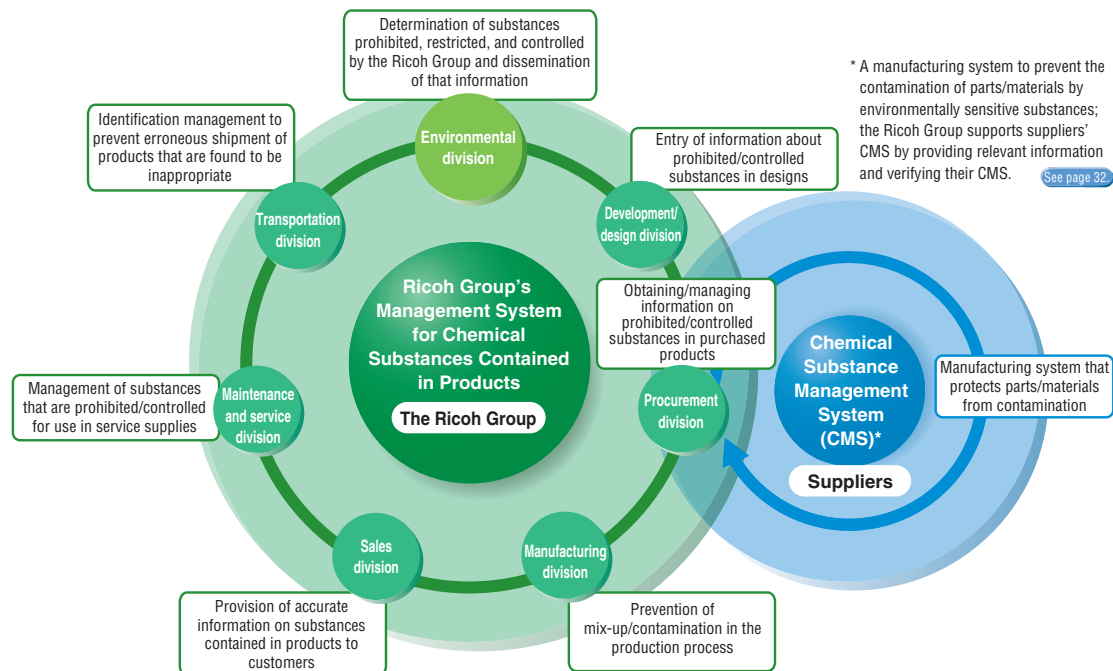
<Ricoh Group (Global)>

Ricoh set original standards for environmentally sensitive substances that could be used in its products in 1993 as part of efforts to reduce these substances. Since then, it has regularly reviewed the standards to incorporate the latest regulations and scientific knowledge and has controlled chemical substances accordingly. In addition, all the divisions engaged in production (design, procurement, manufacturing) have jointly worked to improve the chemical substance control system. As of the end of March 2006, a chemical substance management system (CMS) for suppliers was created

on a global basis. At the same time, the chemical substance control system within the Ricoh Group was strengthened, completing the management system for chemical substances contained in products within Japan. We completed a system for use outside Japan in July 2006. Ricoh is currently working on upgrading the management system for chemical substances contained in products by establishing a “first response flow” in case any harmful chemical substances should find their way into products to prevent the expansion of pollution (shipment of parts or products) and the recurrence of such an

accident. In addition, Ricoh also began—as part of its risk management—to review the list of chemical substances controlled by the Group in fiscal 2007 to tighten the restriction and control of the use of chemical substances that can potentially cause harm to the human body and the environment, and we expanded the list to about 3,400 substances in fiscal 2008. To comply with the REACH Regulation*, we have also been working since fiscal 2007 on the establishment of a communication system to ensure that chemical substance information is communicated to every corner of the supply chain. ^{*} See page 28.

Management system for chemical substances contained in products and CMS



Compliance with the REACH Regulation

<Ricoh Group (Global)>

The REACH Regulation ¹, a new European regulatory framework on chemical substances, requires all chemical substances contained in products and parts exported to Europe which exceed a certain quantity to be registered by May 2018. The communication of information regarding equipment and other articles containing such chemical substances is also mandatory under the regulation, and it is said that the number of chemical substances subject to this regulation will eventually exceed 1,500. The Ricoh Group established the REACH Compliance Working Group with 180 attendees from the production division (including the general sales division) in February 2008 to solidify Ricoh's REACH compliance system. The core mission of the working group is to develop a system that will allow us to collect and manage chemical substance information accurately and efficiently from partners both upstream and downstream in the supply chain, including manufacturers of materials, chemicals, and parts, as well as Ricoh Group's production facilities, and to provide the information to customers upon their request.

In fiscal 2008, the working group prepared common rules regarding, and a database for, the communication of chemical substance information on the basis of the system of the Joint Article Management Promotion-consortium (JAMP) ². We held an explanation meeting for 408 Japanese suppliers in November 2008 and requested them to provide their chemical substance information. We also held a similar meeting for 693 Chinese suppliers in February

2009, and 92 South Korean suppliers in April 2009. In fiscal 2009, we will further strengthen and improve our system to ensure it works smoothly in the future, aiming to start REACH registration in 2011.

1. REACH Regulation

This is a new EU regulatory framework for Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). It requires the registration and management of all chemical substances used in business in accordance with their conditions of use to ensure safe assessment of chemical substances. It came into force on June 1, 2007, and regulations have been gradually enforced since June 1, 2008.

[2. See page 29.](#)

The relationship among substance groups whose use for equipment is either prohibited, restricted, or controlled by the Ricoh Group and substance groups regulated by the European RoHS Directive

Substance groups whose use for equipment is controlled by the Ricoh Group

Substance groups regulated by the European RoHS Directive (6 substance groups)

Substance group whose use for equipment is restricted by the Ricoh Group (1 substance group)

- PVC

Substance groups whose use for equipment is prohibited by the Ricoh Group (16 substance groups)

- Lead and its compounds
- Hexavalent chromium and its compounds
- Cadmium and its compounds
- Mercury and its compounds
- PBB
- PBDE

- Asbestos
- PCB
- PCN
- PCT
- Short-chain chlorinated paraffin
- Ozone-depleting substances
- TBTO
- TBTs, TPTs
- PFOS
- Some azo dyes and pigments that compose specific amines

Collaboration with JAMP

<Ricoh Group (Global)>

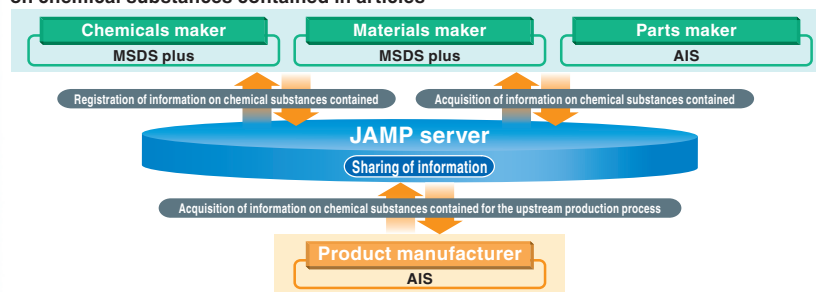
In accordance with the REACH Regulation, all manufacturers exporting products to Europe now need to get ready for full compliance. Since this regulation is being applied across the entire supply chain, manufacturers of materials, chemicals, and parts in the upstream and middle-stream must provide information on chemical substances used by them to each client they deal with. To ensure this information is communicated and disclosed efficiently and smoothly, it was recognized in the industry that there is a need to develop common rules, formats, and a database that can be shared by all manufacturers. Based on this recognition of the need to develop and disseminate the common industry-wide communication system to share information on chemical substances contained in articles¹ to enhance the competitiveness of the industry, the Joint Article Management Promotion-consortium (JAMP) was established in September 2006. Ricoh agrees with the purpose of JAMP, and,

as one of the promoter companies, supports the operation of its organization and database sharing and the related system development. One of the major missions of JAMP is to create the Material Safety Data Sheet plus (MSDS plus) and the Article Information Sheet (AIS)², which are basic sheets used for the communication of information on chemical substances contained in products. JAMP is also developing a portal system to allow manufacturers to register their chemical substance information in the JAMP server and share it among members. This will

eliminate the need for each manufacturer to develop their own communication systems, and enable them to meet the details of the REACH Regulation efficiently. Through the activities of JAMP, Ricoh will continue to play an important part in the realization of a society in which the impact of chemical substances on the environment is minimized.

1. All objects that have a shape and whose size is measurable, including manufactured goods, semi-manufactured goods, and components.
2. The basic communication sheets recommended by JAMP to provide information on chemical substances contained in products.

Communication system developed by JAMP to communicate information on chemical substances contained in articles



Views held by JAMP

INTERVIEW

Japan Environmental Management Association for Industry (JEMAI) (JAMP Secretariat)

Realizing seamless communication of chemical substance information through the cooperation of the Ricoh Group and other environmentally advanced companies

The world's first industry-wide organization

Unlike traditional regulations that restrict the use of chemical substances proved to be hazardous to people and the environment, the REACH Regulation takes a new approach under the concept of risk management and places focus on the assessment of the hazard level, quantity, conditions, and risk of exposure of each chemical substance. If this kind of risk management spreads, we can grasp a better understanding of how to manage and use a huge number of chemical substances in an effective and appropriate manner, and thereby realize a society in which the impact of chemical substances on the environment is minimized on a global scale. JAMP was established under the leadership of 17 promoter companies including manufacturers of electrical machinery, chemicals, and precision machinery for the purpose of developing a mechanism for seamless communication of information on chemical substances contained in products. JAMP is said to be the world's first industry-wide organization of this kind.

Mr. Hiroshi Yokoyama
Vice President, Department of Environmental Business and Technology, JEMAI (JAMP Secretariat)



Efficient communication of information to be provided along with products

The number of JAMP member companies was more than 345 as of May 2009, and the JAMP Global Portal System will be put into full operation in June. Thanks to this system, information on chemical substances, which is currently provided upon request from downstream manufacturers to upstream manufacturers, will be delivered from the upstream to the downstream along with products in a smooth manner. Ricoh has been playing an important role in JAMP as a member of the Project Planning & Implementation Committee and the Internationalization Planning & Implementation Committee to support the administrative work for the operation of the organization, and to improve the performance of JAMP's system and ensure its international harmonization. The supply chain of Japanese manufacturers covers the entire Asian region, and therefore JAMP's system is expected to improve the competitiveness of the Asian region as a whole. I ask for Ricoh's continued active support in the international standardization of the JAMP system.

* JAMP's URL: <http://www.jamp-info.com/>

Chemical substance control for supplies

<Ricoh Group (Global)>

Various chemical substances are used in supplies, including toner and developer. Based on the belief that “product safety is a basic condition for customer satisfaction,” the Ricoh Group ensures the safety of its supplies through appropriate chemical substance control. We use an information system called RECSIS¹ to evaluate safety. Depending on the type of product, we set items for which safety should be confirmed, create MSDS², evaluate new chemical substances, check on the method of treatment and disposal, consult the relevant laws and regulations, and prepare safety specification data for products. RECSIS can also be used to make automatic safety judgments by referring to the laws and regulations of different countries as well as Ricoh’s standards for the chemical substances contained in supplies. In fiscal 2008, using this system’s raw material database, we took further steps to satisfy the REACH Regulation³, for which a pre-registration process commenced in June 2008.

1. Ricoh Environmental & Chemical Safety Information System

2. Material Safety Data Sheet

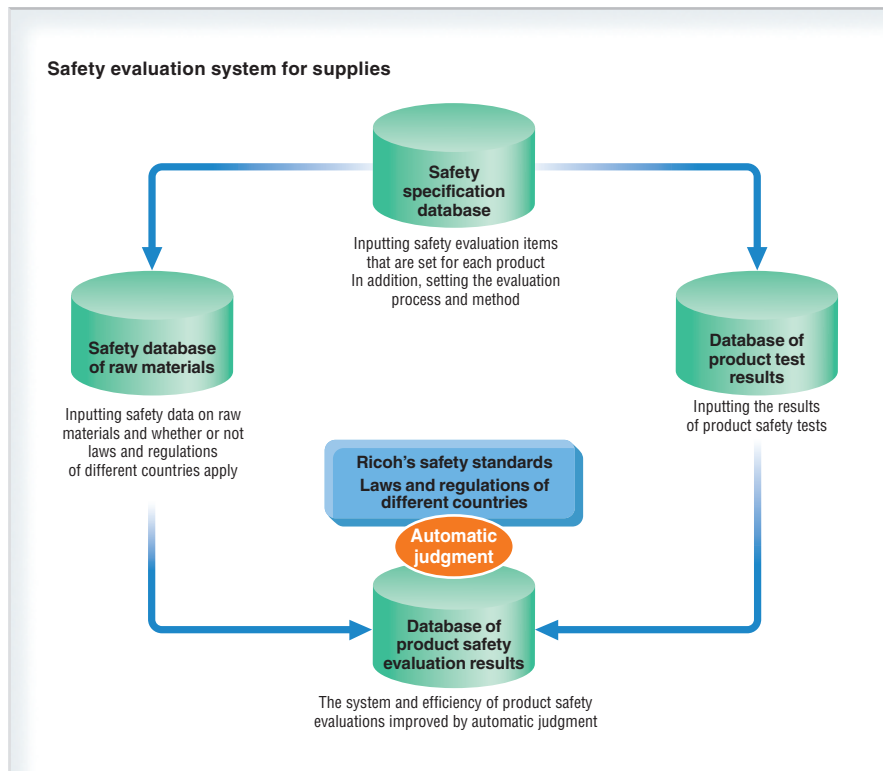
3. See page 28.

Reduction in environmentally-sensitive substances generated while in use

<Ricoh (Japan)>

Ricoh has established its own standards on chemical emissions* generated by products while in use and endeavors to reduce these emissions. Chemical substances emitted by products like copiers and printers are measured at the emission-measuring testing laboratory located within the company. Ricoh is certified as an official testing laboratory by Germany’s BAM (Bundesanstalt für Materialforschung und -prüfung; Federal Institute for Materials Research and Testing), and measurement data from Ricoh’s testing laboratory will be recognized in registering for the Blue Angel, a German environmental label.

* Chemical emissions are chemical substances emitted by products and include ozone, dust, and volatile organic compounds (VOCs).



Emission-measuring testing laboratory
(Ricoh Ohmori Office)