

Safety Reporting

Corporate Statements

The Kuraray Group
Code of Conduct

Compliance Handbook

TOP STATEMENT

Sustainability
Management

Safety Report

Process Safety and
Disaster Prevention,
Occupational Safety,
Logistics Safety

Chemical Products
and Product Safety

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Process Safety and Disaster Prevention,
Occupational Safety, Logistics Safety

Chemical Products and Product Safety

Kuraray's Approach to Safety

For the Kuraray Group's business activities, safety is an absolute necessity, and the cornerstone of everything we do. Building "Trustful workplaces, and a safe and accident-free company" is a key theme required for maintaining stable product supply and trustworthiness for society.

With these concepts in mind, the Kuraray Group has established and implemented a safety management system to undertake various activities. A number of initiatives are being promoted to raise the safety awareness of our employees and to have safety behavior and confirmations established as common practice at work.

Each worksite discovers process safety risks and occupational risks through risk assessment activities, and prevents the occurrence by promoting inherent safe measures for facilities. In preparation for accidents or disasters, we make efforts to prevent the recurrence of accidents or disasters, in ways such as by holding emergency drills to minimize the damage and sharing information on the accident or lessons learned, or by disseminating information regarding measures across the company.

Guiding Principle on
Ensuring Safety

**Safety is the
cornerstone of
everything we do**

Action Courses on Ensuring Safety (FY2019)

- 1. Ensuring "Safety First, Production (Construction and R&D) Second"**
- 2. Ensuring a check is performed before and after taking action**
- 3. Take action toward Zero Occupational Injuries and Zero Process Accidents as the Responsibility of Each Employee**

Safety Activity Management

In accordance with the Company's Safety Activity Management Regulations, the Kuraray Group develops a safety plan every fiscal year and implements it to ensure occupational safety, process safety, and disaster prevention. To be more specific, at the Safety Promotion Committee attended by the President and executives in charge, we make an overall assessment and have a discussion on safety activity performances of the current fiscal year and establish an activity policy for the coming fiscal year. This policy is reflected in and implemented through specific action plans of each plant and department. A group of safety representatives from headquarters, including executives in charge of safety, visit every plant in Japan twice a year to examine their activity plans, the management of implementation progress, and the results. In addition, staff from headquarters visit affiliated companies overseas once every three years to confirm their statuses. We perform an overall assessment on results based on the challenges found through the surveys made at each plant, the safety results for that year, and other factors. We incorporate this assessment into the formulation of company-wide policies for the next year, thereby operating a management system for safe operations.

In 2018, we created and began operating a global management system. In order to enhance the effectiveness of this system, we held a global meeting at the Okayama Plant by gathering people from inside and outside Japan in charge of environmental safety, with the aim of sharing principles and policies for environmental safety. Each person at the meeting showcased their safety activities and exchanged opinions. We plan to hold similar meetings from the next fiscal year onward.



Verification of safety activities at Saijo Plant

Targets and Performance in Safety Priority Activities

Evaluation: O Accomplished, Δ Nearly accomplished, X Not accomplished

	FY2018			FY2019 Priority Activities
	Target	Performance	Evaluation	
	Promote integration of safety activities and operations	In addition to reviewing formal activities and promoting efficiency, the incorporation of safety activities into the daily work has progressed.	○~Δ	

	FY2018			FY2019 Priority Activities
	Target	Performance	Evaluation	
Process safety and disaster prevention Occupational safety	Fostering a sense of satisfaction with safety activities	In addition to promoting to understand the purpose of the activity through personal interviews, the sense of participating in activities was increased by thinking and participating in activities ourselves.	○~△	<ul style="list-style-type: none"> • Prevention of occupational accidents caused by personal carelessness / unconscious behavior • Promotion of proactive safety activities • Promotion of workplace (equipment, work) improvement by finding "uneasiness" on the site • Accident and trouble prevention by thorough confirmation • Finding of potential risks in security disaster prevention and implementation of measures to minimize the actual risks • Firm operation of global management system
	Finding of potential risks and implementation of measures to minimize actual risks	Risk extraction and its response have been firmly established from the perspective of preparation work, work at idle hours, breakdowns and troubles. In an effort to improve training for emergencies, clarification of judgment criteria for abnormalities progressed.	○	
	Prevention of disasters derived from personal insecurity and unconscious behavior	Focusing on pointing and calling, thoroughly checking with one breath before taking action was implemented. However, many accidents due to personal carelessness and unconscious behavior happened, and continuous efforts are necessary.	△	
	Establish and operate a global management system	Global safety activity management system was launched and strated operation. In April, security personnel from around the world were gathered in Okayama plant to hold a global meeting to promote information sharing.	○	

Numerical Target and Performance

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		FY2018			FY2019	
		Target	Criteria for evaluation	Actual	Target	Criteria for evaluation
Process safety and disaster prevention	Japan	Zero	Process accident: Zero	9	Zero	Process accident: Zero
	Outside Japan		Process accident: Zero	1		
Occupational safety	Japan	Zero	AB rank accident: Zero ^{*1}	0	Zero	AB rank accident: Zero ^{*1}
	Outside Japan		AB rank accident: Zero ^{*1}	1		
	Japan		Frequency rate of all occupational incidents: 0.5 or less ^{*2}	2.08		Frequency rate of all occupational incidents: 1.5 or less ^{*2}
	Outside Japan		Frequency rate of all occupational incidents: 3.0 or less ^{*2}	5.52		

^{*1} Rank A and B: An evaluation ranking of occupational incidents using Kuraray's proprietary system that rates the seriousness of occupational incidents from A to D in accordance with the levels of potential disorders and with the levels of faults that caused such incidents. An incident rated A or B is considered to be a serious incident.

^{*2} The frequency rate of all occupational incidents: The number of all occupational incidents requiring medical attention per million working hours.

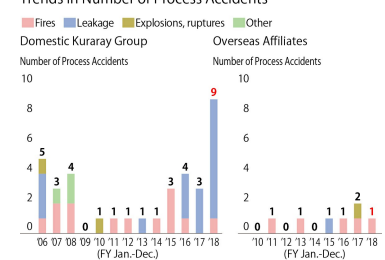
Process Safety and Disaster Prevention

At the Kuraray Group, we consider it our major responsibility to prevent the occurrence of explosions or fires, leakage of hazardous materials and other accidents that could have an immense impact on society, as well as to minimize any damage in the event of such occurrence. For this purpose, we have continuously undertaken activities such as risk assessment related to process safety and disaster prevention, and strive to take earthquake and tsunami countermeasures for buildings and plants, and organize the safety management system for facilities.

After a recent accident occurred at another company, we paid particular attention to the risk assessment of unusual tasks and situations such as the starting and ceasing of an operation, a power and water outage and an emergency shut-down. Moreover, we extract various risks that may arise in the event of a failure of safety equipment or incompliance with a rule, and consider countermeasures thereto.

Additionally, we develop ideas and human resources that can promptly respond to an unusual situation before an

Trends in Number of Process Accidents



accident occurs through implementing education to raise the members' sensitivity to risks and clarify standards to determine an unusual situation, so that they can detect a sign of abnormalities.

Employees are regularly trained through on-site drills on various situations including the night time, holidays, when managerial personnel are absent and situations that occur without notice, in a drill using an external facility or a joint drill with a local fire department.

We are engaging in initiatives for receiving evaluations from an external organization about our safety-related foundations and culture, and we aim to be a safe company that does not suffer any accidents or disasters by operating the PDCA cycle with a thorough understanding of which areas need further reinforcement.

In the event of a significant accident, the Emergency Command Center led by President is ready to be established to promptly respond to the situation and provide on-site support. In fiscal 2018, a company-wide drill involving the Emergency Command Center, assuming that a fire had broken out at a plant. Media training is also provided to key managerial personnel in charge of public relations to enable them to appropriately provide information to the regional community and media in case of such an accident.

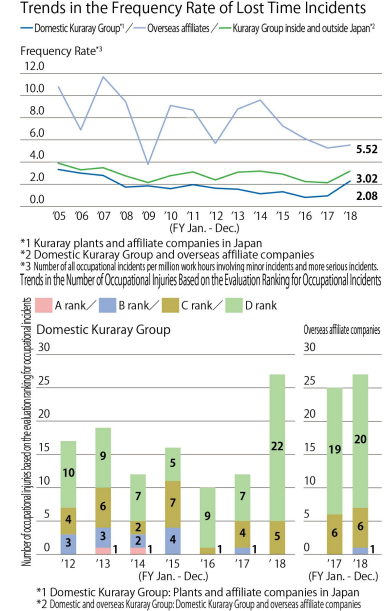
In fiscal 2018, we regret we had ten accidents across the whole Kuraray Group, including eight cases of minute leakages of hazardous substances and one minor fire in an exhaust duct in Japan, and a fire that harmed personnel and which occurred during the start of operations outside of Japan. We will strive to prevent accidents with an aim of thoroughly preventing the recurrence of these incidents, and we will continue with our disaster prevention activities.

Occupational Safety

Realizing that the safety and health of its employees are the basis of business activities, the Kuraray Group aims to create safe and accident free workplaces by striving to enhance the safety level of each of its employees and organizations. It does this through appropriately implementing its occupational safety management system. Through the Company-wide policies and activity items including Guiding Principles and Action Courses on Ensuring Safety, policies and plans are developed and put into practice according to each plant's and division's situations and their unique ideas. Safety activities and their challenges are discussed among workers and employers at the Safety and Health Committee held by each of the domestic plants and factories every month, aiming to realize "trustful workplaces, and a safe and accident-free company."

Through risk assessment activities and inherent safety measures of equipment, activities to reduce equipment-caused accidents have successfully decreased serious occupational incidents. However, many occupational incidents caused by an individual's lack of preparations or unconscious behavior still occur. Therefore, education to raise the members' sensitivity to risks is promoted to eliminate these types of occupational incidents.

In fiscal 2018, the frequency rate for all occupational incidents of the Kuraray Group in Japan was 2.08, while that for international affiliates was 5.52 (3.02 across the entire Group). These rates have worsened both inside and outside Japan, and as such, we have severely failed to achieve our target. Kuraray has implemented an evaluation system to rank the seriousness of occupational incidents from A to D, with goals set regarding the number of incidents rated A or B, which indicates serious incidents. The Group has achieved its target in Japan with regard to incidents rated A or B, but it failed to meet this target internationally as one such incident occurred. There were many occupational incidents caused by an individual's lack of preparation or unconscious behavior, such as toppling, falling or collisions. We will continue to firmly proceed with our initiatives, including the newly identified challenges, and going forward, we will strive with the objective of achieving a safe workplace that does not encounter disasters.



Evaluation and Classification of Occupational Incidents

Generally, categories based on the severity of actual incidents, including fatal incidents, lost time incidents and non-lost time incidents, are used as an indicator for occupational incidents. In particular, the frequency rate of lost time incidents is often used to assess the level of or establish a target for organizational safety. However, actual safety levels may deviate from the results of this assessment method for the following reasons:

- (1) The severity of injuries is unpredictable in many cases.
- (2) The occurrence factors of an accident are not taken into consideration.
- (3) (When it is applied to global management) criteria of determining the degree of injuries depends on the country.

We therefore have established a proprietary evaluation and classification of occupational incidents by subtracting unpredictable factors and adding an assessment of occurrence factors. This quantifies not the actual severity of injuries but the potential severity of injuries that could have been caused by an occupational incident. Moreover, faults that caused such incidents are divided into human, equipment and managerial, rated numerically, and added to the potential severity of injury to determine the ranking from A, B, C to D.

As a result, the number of severe occupational incidents ranked A and B serves as an indicator for evaluating the level of organizational safety.

Focus: Held First Global Meeting on Environmental Safety

With the aim to share principles and policies and with the expectation of achieving synergy, we held our first global meeting at the Okayama Plant, which featured participants from environmental safety departments in America (KAI, MonoSol), Germany (KEG), Belgium (EE), Singapore (KAP), Australia (Plantic), Korea (Kuraray Korea), and Japan. At this inaugural meeting, each participant showcased their safety activities and exchanged opinions, resulting in an excellent opportunity for sharing information. We plan to hold similar meetings from the next fiscal year onward.



Logistics Safety

To prevent damage to society at large caused by logistics accidents, the Kuraray Group is engaged in an ongoing promotion of activities to ensure logistics safety from the aspects of product shipment and storage.

The Kuraray Logistics Safety Conference, which is the core organization for these activities, marked its 18th year. In fiscal 2018, a “Practical Seminar on Measures to Prevent Human Error” was held, with a speaker invited from the Japan Industrial Safety & Health Association. Discussions were held on case studies of accidents and strategies to tackle them, and measures to prevent significant accidents were shared among participant companies (namely, nine hazardous materials transportation contractors). We will continue to maintain and enhance logistics safety while cooperating with various external related organizations, with our target to achieve a zero-level of significant accidents.

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			Initiatives, etc.	