

Management of Chemical Substances



Basic Approach

Based on laws and regulations such as the Pollutant Release and Transfer Register (PRTR) Law, the JXTG Group strives to properly manage chemical substances and reduce emissions of such substances. In addition, we are shifting to chemicals with lower impacts on health and the environment.

We are also committed to properly managing chemical substances not covered by these laws and regulations.

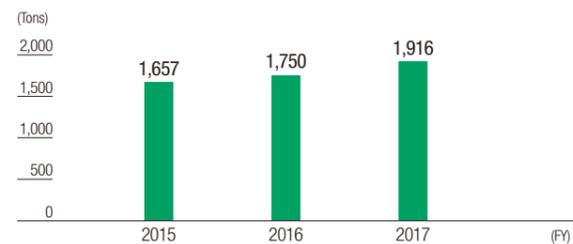
Major Initiatives

Management and Monitoring of Specified Chemical Substances under Japan's Pollutant Release and Transfer Register Act

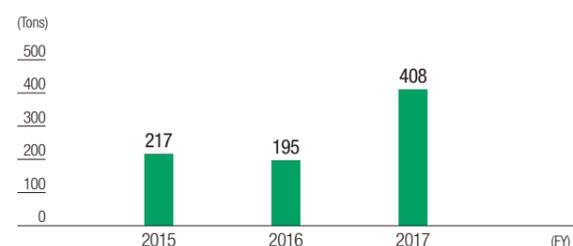
The JXTG Group manages and monitors the release and transfer amounts of specified chemical substances—such as benzene, toluene, and xylene, which are found in gasoline—based on Japan's Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (Pollutant Release and Transfer Register Act).

For fiscal 2017, the emission volume of these

Release of Specified Chemical Substances



Transfer of Specified Chemical Substances



Note: For detailed data, see p. 79 of the Data section.

substances was 1,916 tons, an increase of 166 tons from the previous fiscal year, while the transfer volume was 408 tons, an increase of 213 tons from the previous fiscal year. This was due to the increase in the volume of products handled that contain specified chemical substances.

Management and Detoxification of PCB¹ Waste Based on the PCB Special Measures Act

The JXTG Group carries out storage notification and systematic treatment of PCB waste based on Japan's Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes (PCB Special Measures Act).

JX Nippon Tomakomai Chemical Co., Ltd., which has been certified by the Minister of the Environment to provide low-concentration PCB waste treatment, carries out detoxification operations, thereby contributing to compliance with the Stockholm Convention on Persistent Organic Pollutants.²

For details, refer to p. 38.

¹ PCB: Abbreviation for polychlorinated biphenyl. Due to its excellent electric insulation properties, this chemical compound was used mainly in applications such as insulating fluids for transformers and capacitors, and carbonless copiers. However, its production and import are now prohibited.

² Stockholm Convention on Persistent Organic Pollutants: A treaty regulating the production, use, and proper treatment of persistent organic pollutants, including PCB.

Detoxification of Waste Asbestos

The treatment of waste, including asbestos, which was used in large quantities in the past, has become a major social issue.

JX Nippon Environmental Services Co., Ltd. melts down and detoxifies asbestos, responding to society's need for waste treatment. In fiscal 2017, the company treated approximately 5,600 tons of waste asbestos.

Compliance with the REACH Regulation

The European Union's Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH Regulation) went into effect in June 2007. The purpose of this regulation, which is based on precautionary principles, is to standardize the management of chemicals that are distributed within the EU in order to identify these chemicals, as well as their risks and environmental impacts.

The JXTG Group respects the intent of the REACH Regulation. The JX Nippon Mining & Metals Group has completed preliminary registration of products that are subject to the regulation, and plans to complete official

registration by 2018. In addition, JXTG Nippon Oil & Energy has completed registration of chemicals that it may export to Europe as follows.

Export volume 1,000 tons or more per year	November 2010
Export volume less than 1,000 tons per year; 100 tons or more per year	May 2013

Guidelines on Chemical Substances in Our Products and Management of Chemical Substances

JXTG Nippon Oil & Energy has voluntarily established standards for managing the chemical substances used in its products.

We have specified prohibited or obsolete substances (such as PCB, asbestos, and lead compounds) and substances that require monitoring (metallic compounds and VOCs such as xylene) to better manage their use in products, and are working to mitigate any harmful effects they may have.

In addition, we provide essential product safety information to customers and others involved with our products using methods such as safety data sheets (SDS). In the event that we obtain new information about any hazards or environmental impacts of our products, we promptly update the relevant SDS.

Low-Concentration PCB Waste Detoxification (JX Nippon Tomakomai Chemical Co., Ltd.)

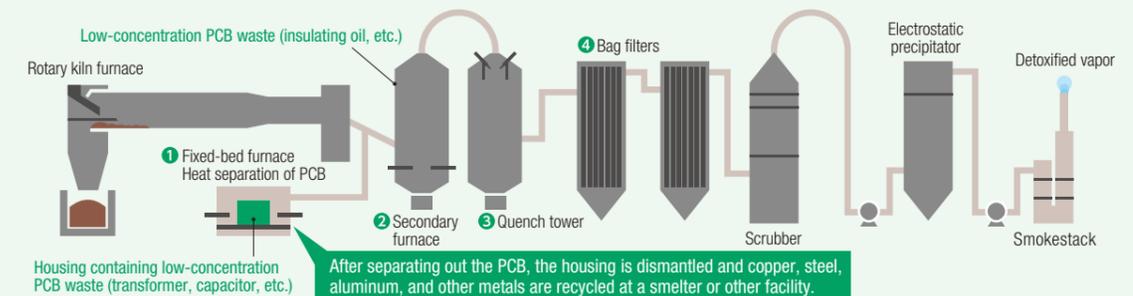
Since March 2014, when JX Nippon Tomakomai Chemical received certification from the Minister of the Environment as the first low-concentration PCB waste detoxification facility in Hokkaido, the company has been working to improve its treatment capacity.

A deadline of March 31, 2027 has been prescribed by law for disposal of waste materials containing PCB. By that date, the owner must either dispose of such materials or have their disposal handled by an agent. However, as of March 2018, there were only 24 incineration facilities in

Japan, including JX Nippon Tomakomai Chemical, capable of detoxifying not only low-concentration PCB waste materials but also the transformers, drums, and other housings that contain them. Moreover, there are only 11 treatment facilities that perform decontamination by means of cleaning processes. The number and capacity of these facilities is still inadequate to meet the demand for low-concentration PCB waste disposal.

Moving forward, we will maintain stable operations for the treatment of industrial waste as part of our efforts to contribute to the environmental conservation of local communities.

Process for Complete Detoxification of Low-Concentration PCB Waste



JX Nippon Tomakomai Chemical rotary kiln furnace

Changes Since Initial Certification

	Treated items	Treatment capacity
March 2014 (certification by Minister of the Environment)	Transformers Metal scrap (drums, etc.) Waste oil containing low-concentration PCB	Solids: 6 tons/day (3 batches of 2 tons each) Waste oil: 8.4 kL
March 2015	Waste materials from outside Hokkaido can be accepted without the need for advance consultation with local governments	
September 2015 (additional certification by Minister of the Environment)	Additional treated items: Capacitors Metal coating scrap containing low-concentration PCB	Increase in treatment capacity Solids: 12 tons/day (3 batches of 4 tons each)
April 2016	Additional treated item: Ballast contaminated with low-concentration PCB	
March 2017	Additional treated item: Inorganic sludge (concrete scrap)	