

Reducing Use of Environmentally Harmful Substances

Chemical substances have made modern life much more convenient. However, some chemicals can have adverse effects on human health and the environment. At the World Summit on Sustainable Development in 2002, the nations of the world reaffirmed their commitment to “aim by 2020 to use and produce chemicals in ways that do not lead to significant adverse effects on human health and the environment.” Since then the international community has been working cooperatively to regulate chemical substances more strictly.

NSK’s Approach

The NSK Group is striving to create products that use no environmentally harmful substances, ahead of laws and regulations around the world and voluntary standards from its customers. Responding to stricter regulations, the Group tightly controls environmentally harmful substances through each stage of development and design, procurement, manufacturing, and distribution to ensure that safe products are delivered to customers.

Mid-Term Targets (FY2016-2018)

To ensure the products it delivers are safe, the NSK Group is reinforcing its systems for global management of environmentally harmful substances and systems for ensuring that products contain no environmentally harmful substances.

The NSK Group is also enhancing its management systems for the development and design processes and rolling out green procurement to its global production sites. The Group additionally aims to further reduce environmentally harmful substances handled during production processes. The Group is focused on establishing a global management framework by surveying the inclusion of environmentally harmful substances in parts and raw materials, based on the latest NSK List of Environmentally Harmful Substances.

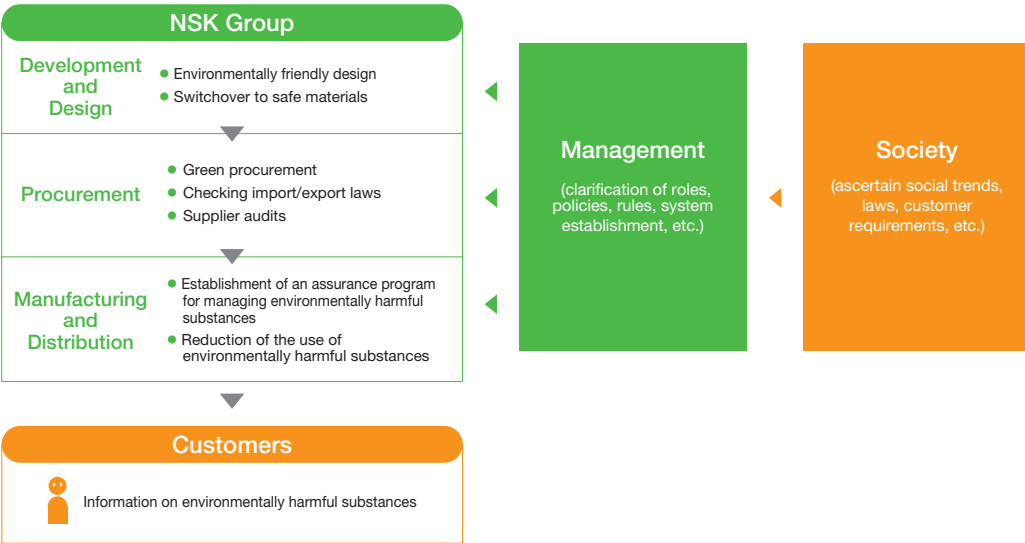
Fiscal 2018 Targets for Reducing Use of Environmentally Harmful Substances

Development and design
Establish a development and design management system that ensures environmentally harmful substances are not contained in products

Procurement
Complete the extension of NSK green procurement to key suppliers worldwide

Manufacturing
Complete a global chemical substance quality assurance system for products
In Japan: Reduce the handling of PRTR-designated substances per production unit by 26.6% compared to fiscal 2011

● Management of Environmentally Harmful Substances



FY2015 Activities

In fiscal 2015, the NSK Group again revised the NSK List of Environmentally Harmful Substances in response to legislative amendments in Europe in order to enhance management of environmentally harmful substances. It conducted a survey not only in Japan but also at production sites worldwide of environmentally harmful substances inclusion in parts and raw materials and strengthened its management so that environmentally harmful substances are not used in products. Moreover, the Group completed the total elimination of use of machining fluids containing chlorine additives in manufacturing processes.

Management System

The NSK Group is striving to strengthen its management by implementing initiatives not only in Japan but also at plants worldwide to reliably ensure that environmentally harmful substances are not included in products and then auditing the status of implementation.

In fiscal 2015, the Group conducted on-site audits at nine plants in Japan, two plants in Europe, three plants in the U.S., and one plant in India. These audits identified problems and specified points requiring further attention, and needed changes were made, reinforcing the management system. Furthermore, the Group trained 18 new environmentally harmful substance auditors in Japan and 20 outside Japan, bringing the total up to 343, so that plants around the world can autonomously conduct self-audits and supplier audits.

Design Taking Action Based on the NSK List of Environmentally Harmful Substances

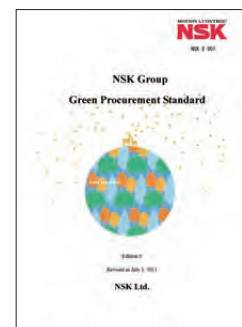
NSK has registered nearly 3,700 chemical substances in its NSK List of Environmentally Harmful Substances as Prohibited Substances, Reduced Substances, and Observation Substances. The Group is aiming for zero use of environmentally harmful substances in the manufacture of its products.

As in the previous fiscal year, the NSK Group conducted a survey in fiscal 2015 of parts and materials suppliers based on the list to make sure that substances prohibited by NSK are not included in its products. The survey was conducted on 307 suppliers in Japan and 200 suppliers outside Japan. Based on the results, NSK listed all parts that have been confirmed not to contain substances prohibited by NSK. It also used the results to build a system that ensures design departments check that products under development contain no harmful substances and production departments accept no parts that contain harmful substances.

Procurement 1 Worldwide Efforts to Increase Awareness of NSK Green Procurement Standards

The NSK Group cooperates with suppliers in an effort to strengthen the management of environmentally harmful substances and procure environmentally friendly parts and raw materials. To make the NSK Green Procurement Standards well known outside Japan, the Group holds briefing sessions for suppliers around the world and obtains agreement forms pledging adherence to the standards. The forms were obtained from 99% of all suppliers in Japan and 78% of suppliers outside Japan.

The NSK Group's production sites worldwide will continue to work with suppliers to manufacture dependably safe products.



Highlight Complying with Japan's Amended Law Concerning the Discharge and Control of Fluorocarbons*

Controlling atmospheric emissions of fluorocarbons, which are powerful greenhouse gases, is a challenge in the fight against global warming. Accordingly, Japan amended its Law Concerning the Discharge and Control of Fluorocarbons, and the amendments went into effect in April 2015.

To prevent the leakage of fluorocarbons from industrial air conditioners and other equipment, the law requires regular inspection of equipment and, where leaks are discovered, no replenishment of fluorocarbons until the leaks are completely repaired, as well as other appropriate management. It also requires records to be kept on the amount of leakage and, where leakage is confirmed to be at or above 1,000 t-CO₂ per year, a report must be submitted to the national government.

NSK conducted simple inspections of around 5,000 pieces of equipment in fiscal 2015 as well as regular inspections on around 200 pieces of equipment. The results showed that the leakage of fluorocarbons was below 1,000 t-CO₂ per year.

* Law Concerning the Discharge and Control of Fluorocarbons: Act for Rationalized Use and Proper Management of Fluorocarbons
Japan's law establishing comprehensive measures covering the entire lifecycle of fluorocarbons, from their manufacture to disposal, in order to reduce their effect on ozone layer destruction and global warming.



Reference data is available on NSK's website.

www.nsk.com > Sustainability > Initiatives in the Procurement

● NSK Group Green Procurement Standard

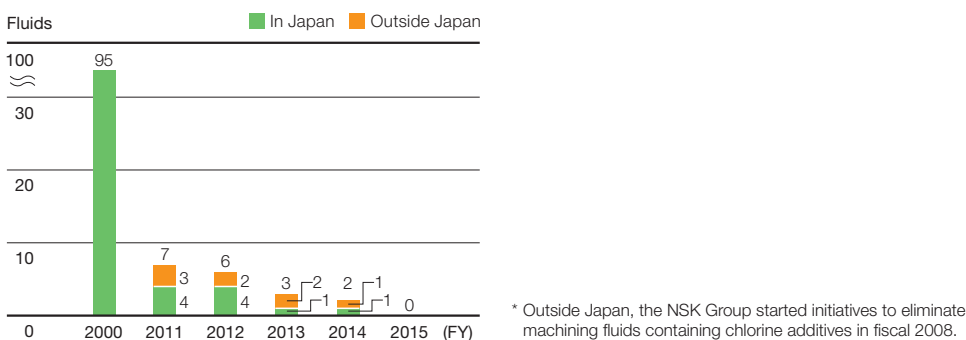
Procurement 2 Improving On-site Audits of Suppliers

The NSK Group conducts periodic audits of suppliers of parts and raw materials with a high possibility of containing or carrying environmentally harmful substances. Group employees who hold qualifications as environmentally harmful substance auditors visit suppliers and conduct the audits using an NSK audit check sheet. This has strengthened environmental initiatives throughout the supply chain. In fiscal 2015, on-site audits were conducted at 38 suppliers in Japan and 29 suppliers outside Japan. The Group is working with suppliers to follow up on improvements to issues identified through the audits. Going forward, the NSK Group will step up its audits of suppliers outside Japan, aiming to further strengthen its management system for environmentally harmful substances.

Manufacturing 1 Totally Eliminated Machining Fluids Containing Chlorine Additives

Machining fluids containing chlorine additives may generate harmful dioxins when incinerated at disposal. The NSK Group has taken initiatives to totally eliminate use of these substances. In fiscal 2015, after repeated tests to confirm effects on the machinability and quality of parts, the Group was able to eliminate the final two fluids used in machining under some of the harshest conditions for broaching and replace them with alternatives.

● Number of Machining Fluids Containing Chlorine Additives



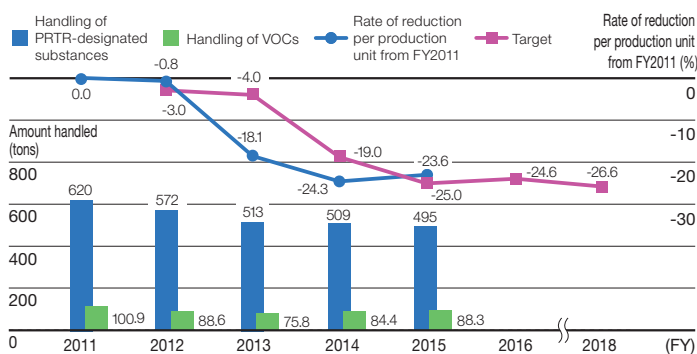
Manufacturing 2 Handling of PRTR*-Designated Substances Reduced by 23.6%

In Japan, the NSK Group set the goal of a 25% reduction in PRTR-designated substances contained in fluids and fuels used in manufacturing processes in fiscal 2015, compared to fiscal 2011. By switching the fuel used in air conditioning, the Group's handling of PRTR-designated substances per production unit in fiscal 2015 was decreased by 23.6% from fiscal 2011. In fiscal 2016, the Group set the goal of a 1% reduction.

In addition, the NSK Group promotes steady initiatives in the manufacturing process using solvents and adhesives that contain volatile organic compounds (VOC). By implementing these initiatives during those processes, emissions to the atmosphere in fiscal 2015 were reduced by 12.5% from fiscal 2011 to 88.3 tons.

* Law concerning Pollutant Release and Transfer Register (PRTR): Act on Confirmation, etc., of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof
Japan's law intended to facilitate improvement of chemical substance management by ensuring that amounts released into the environment are ascertained and reported to authorities.

● Handling of PRTR-Designated Substances (Plants in Japan)



Reference data is available on NSK's website.

www.nsk.com > Sustainability > CSR Reports > CSR Reports & Reference Data

● Air Pollutant Measurement Results (Japan) ● Water Contaminant Measurement Results (Japan) ● Volume of PRTR-Designated Substances Handled (Japan)