

# Development of Environment-conscious Products System for Producing Environment-conscious Products

Nitto Denko currently produces and sells about 12,600 types of products in 1,400 categories. The products are used constantly by consumers in a wide variety of industrial fields. Recognizing reduction of its products' impact on the environment to be an important theme for its environmental conservation activities, the company promotes development and popularization of environment-conscious products.

## Definition and standards

### Definition of environment-conscious Products

When obtaining ISO 14001 certification in 1997, Nitto Denko took the opportunity to establish its own original product assessment. The company uses the assessment as a guideline for product development. The company assesses environmental impact according to the life cycle of the product, and uses the following four conditions to determine if a product is environment-conscious.

**1** Products must have less impact on the environment during production.

Products that use less solvents or solvent substitutes

**2** Product must contribute to environmental conservation for customers and local area.

Lead-free products and halogen-free products

**3** Product must contribute to reducing impact on the environment when used.

Air/exhaust cleaning products, wastewater cleaning products, energy-saving products, resource saving products

**4** Product must be easily recycled when disposed of.

Easy-to-peel products, products that do not produce toxic substance when burned

### New standards for assessing environment-conscious products

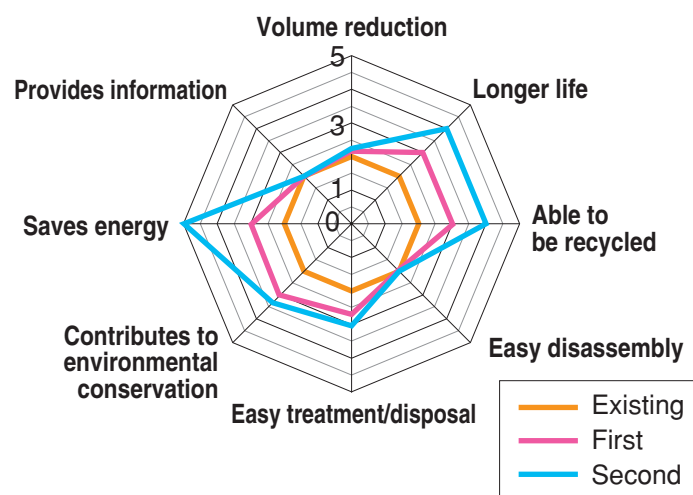
In order to realize a better quantitative and qualitative product assessment, new standards were introduced in 2001, and the company is planning development of environment-conscious products. The company plans to publish products that meet these standards on the company's Web site to better disseminate this information.

#### Examples of new product assessment

Environment-consciousness of products is examined from eight perspectives and development proceeds according to the assessment. A scale of 1 to 5 is used with existing products being a 2. Product totaling a 3 or better are considered to be environment-conscious. The assessment is conducted in two parts, with the first being the stage at which product development begins, and the second being the stage where the product goes into production.

#### Total assessment

	Existing	First	Second
Volume reduction	2	2.2	2.3
Longer life	2	3	4
Able to be recycled	2	3	4
Easy disassembly	2	2	2
Easy treatment/disposal	2	2.8	3
Contributes to environmental conservation	2	3	3.3
Saves energy	2	3	5
Provides information	2	2	2
<b>Total assessment</b>	<b>2</b>	<b>2.6</b>	<b>3.2</b>



## Producing initiatives

### Research and development

From the perspective of "expanding business opportunities through development of environmental technologies," the research and development departments of the main office and its divisions/departments have established technologies for reducing solvents and eliminating lead and halogen, and are developing products that help reduce impact on the environment.



■ Observing adhesive tape through an optical microscope



■ Electrical conductivity assessment

### Production technology development

Along with developing technology for improving production by enhancing speed and precision, the Production Engineering Departments of company plants and the Production Engineering Development Center are involved in establishing mass-production technology from the initial stage of product development in cooperation with the Research and Development Division. The Production Engineering Departments and the Production Engineering Development Center are also involved in developing technologies to reduce industrial waste based on the results of the previously described project for reducing value of industrial waste.

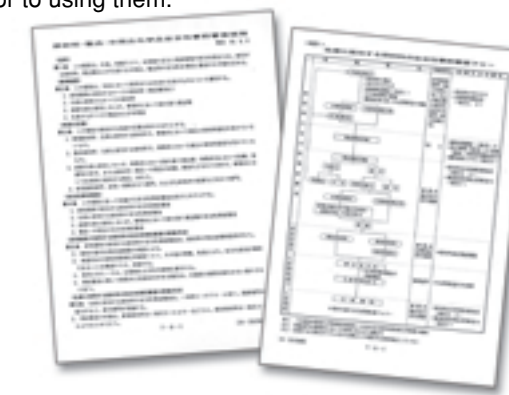


■ Solvent-free adhesive tape prototype fabrication machine



### Chemical substance management

Nitto Denko has created and has been using a database of information on chemical substances centered around regulation and law information based on MSDS (Material Safety Data Sheet). The company conducts a study of all chemical substances and makes sure they can be properly controlled prior to using them.



■ Regulations concerning preliminary study of safety of raw materials, products and intermediate chemicals

■ Flow of preliminary safety study of raw materials used in production

### Green procurement and green purchasing

Nitto Denko has started a green procurement initiative following its own original guidelines in order to reduce impact on the environment when purchasing materials beginning fiscal 2001. Applicable items include raw materials, subcontractor's works, and general office supplies, and has added taking the environment into account as one of the guidelines for evaluating suppliers.

The guidelines are posted on our Web site at (<http://www.nitto.com>)



■ Green procurement guidelines