The Nitto Denko Group mainly manufactures adhesive tapes and optical films; and in the manufacturing process, the impact the Group has on the global environment stems from its use of energy and organic solvents and its generation of industrial waste. Recognizing this fact, we have been vigorously conducting environmental conservation activities to minimize our environmental impact. These activities include energy saving activities, the promotion of a more efficient manufacturing process, and the treatment and recycling of substances of concern according to their individual nature.

1 Reducing Industrial Waste: Resource and Cost Saving

Waste generated in the manufacturing process includes waste from the tape cutting process, punching process, and defective products. We sort this waste into two categories: waste to be reused as materials (waste suitable for material recycling) and waste to be incinerated to generate usable heat (waste suitable for thermal recycling). In this way, we are able to make effective use of waste through recycling measures.

Additionally, we promote the development of manufacturing methods that will not generate waste (waste control at the source) to achieve total low-cost manufacturing.


To reduce CO₂ emissions, we are positively introducing energy-saving equipment, cogeneration systems, and solar power generation systems while replacing fuels with ones that emit less CO₂.

CO₂ is emitted when vapors from organic solvents used in manufacturing tapes are incinerated. In response, we have installed equipment that recovers heat generated in the incineration process in order to utilize the recovered heat energy to reduce fuel consumption.

History of the Nitto Denko Group’s Environmental Conservation Activities

<table>
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<th>Nitto Denko Group’s Activity</th>
<th>Environmental Legislation in Japan and Other Trends</th>
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| 1960s                       | Installed solvent vapor recovery equipment 1  
Began using low-sulfur heavy oil 2  
Started producing adhesive tapes without the use of solvents 3  
1970s                       | Est. other an oxidizer to incinerate organic solvent vapors 4  
Recycled industrial waste as fuel 5  
1992                        | Established the Environment Committee 6  
Established Nitto U-tech (present Aichi Nitto Denko) to expand the recycling business 7 |
| 1967                       | The Basic Law for Environmental Pollution Control was enacted. 8  
1968                       | The Air Pollution Control Law was enacted. 9  
1970                       | The Water Pollution Control Law and other environmental laws were enacted. 10  
1991                       | The Keidanren Global Environment Charter was established. 11  
1999                       | The Law for the Promotion of Effective Utilization of Resources was enacted. 12 |
| 1993                       | Established a sector to manage environmental issues for the entire Group  
Formulated the Nitto Denko Environmental Conservation Activities Plan (Voluntary Environmental Plan) 13  
Discontinued the use of specified CFCs 14  
Established the Regulations on the Management of Special Chemical Substances 15  
Established the Regulations on the Preliminary Safety Assessment of Materials, Work in Process, and Products 16  
Established the Corporate Environmental Policy  
Built a database of materials regulated under laws and regulations 17  
Nitto Denko Kyushu Plant (present Nitto Electronics Kyushu) became the first site to acquire ISO 14001 certification in the Nitto Denko Group. 18 |
| 1996                       | The Keidanren Appeal on Environment was announced. 19  
1997                       | ISO 14001, an international standard on environmental management, was issued. 20 |
| 1998                       | Added "acquisition of ISO 14001 certification" and "giving environmental consideration when expanding business overseas" to targets in the Voluntary Environmental Plan to incorporate the ideas described in the Keidanren Appeal on Environment. 21  
Established the Regulations on the Management of Chemicals 22  
Nitto Denko Corporation plants acquired ISO 14001 certification. 23  
1999                       | Installed a cogeneration system (supplying both heat and electricity) 24  
Began relevant reporting under the Pollutant Release and Transfer Register (PRTR) system 25  
Published its first environmental report  
Established the Regulations on the Management of Chemicals 26 |
We use organic solvents as solvating media in manufacturing adhesives. These solvents, if vaporized and emitted into the air, will cause air pollution.

To prevent organic solvent vapors from being emitted into the air, we use equipment to recover and reuse it as organic solvents. In addition, we incinerate the vapors using an oxidizer and use the heat generated in the incineration process as thermal energy. Also, to reduce the total use of organic solvents, we are revising our manufacturing process and developing products that can be manufactured without the use of organic solvents.

Approximately 2% of the amount used is emitted into the air.
- Solvent vapors escape from gaps in the drying equipment used in the coating process.
- Solvent vapors that are unrecoverable even with the use of solvent vapor recovery equipment with 99% recovery efficiency.

We have set up a chemical substance management database to properly manage chemical substances used as product materials as well as those used in some of our manufacturing processes, thereby preventing these substances from causing damage to human health, ecosystems, and the environment.

In developing a new product, all related departments and sections work together to confirm that the product can be manufactured without the use of regulated substances, referring to relevant laws and regulations implemented around the world. Additionally, we change the materials used in existing products from time to time in response to revisions to related laws and regulations of each country. For substances that are not regulated under any laws or regulations but may adversely affect the environment or human health, we look into alternatives as much as possible.