

# Eco-factories

## Strategies to Regulate Chemical Substances in Production Processes

**Comprehensive data on usage conditions is applied to promote substitution and reduction of chemical substances.**

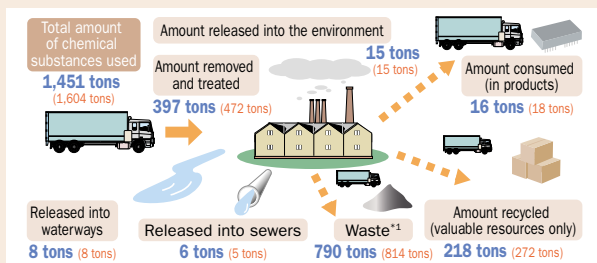
The chemical substance database built by NEC Electronics contains a wide range of information concerning green procurement as well as laws and regulations. We refer to this database when conducting assessments. This makes it possible to identify the total amount of chemical substances in use and manage chemical substances from the viewpoint of toxicity, which serves as the foundation for R&D activities intended to create green products and eco-factories. In 1998, NEC Electronics joined a pilot PRTR scheme, under which we provide information required by law (such as reporting the use of chemical substances in amounts of five tons or more per year until March 2003, and one ton or more per year from April 2003). We also perform more precise chemical input/output numerical control for risk management. In addition, we are strengthening management of volatile organic compounds (VOC), which we now manage in the same way as PRTR-targeted substances.

Besides reporting, we also analyze the data and relay feedback to enhance efforts to introduce substitutes for and minimize the use of hazardous chemical substances. Among the activities undertaken by our plants, those of NEC Semiconductors Kyushu Yamaguchi's Kumamoto Kawashiri Plant (former NEC Kyushu) received the PRTR Award for Excellence and Judges' Special Award in the 4th PRTR Awards 2007, in recognition of the company's proactive efforts to reduce environmental impact and promote risk communication with local citizens.

The progress of chemical substance regulation activities, our database, and other information is available on our company website (in English and Japanese) to facilitate global information sharing by our subsidiaries in Japan and overseas.

\*PRTR Awards: An award scheme established in 2004 by the Center for Environmental Information Science to award corporate activities by business operators that take the lead in regulating chemical substances and engage in proactive communication with local citizens to obtain public understanding for the importance and implications of this effort.

### PRTR data for fiscal 2008



\*1 Includes recycling paid for by NEC Electronics.  
 \*2 The above figures are rounded to the nearest whole value.  
 Fiscal 2007 results are indicated in parentheses.

### Activities to reduce VOC emissions

Until now, we have treated organic gas emissions containing VOCs to detoxify emissions released into the atmosphere by our factories.

In addition to this measure, during fiscal 2008 we worked on optimizing gas usage conditions in the manufacturing process for development in our high-volume production facilities, and were successful in reducing the amount of VOCs we use by approximately 400 tons compared with the amount used in fiscal 2007. In the future, we will continue to actively work on reducing VOC emissions by implementing both emission-related and process-related measures.

## Management of Banned Chemical Substances

**We manage regulated chemical substances according to a set of voluntary guidelines that are more exacting than requirements of relevant laws.**

In addition to responding to social trends reflected in relevant laws and regulations and the requirements of our customers, we perform voluntary toxicity tests on each chemical substance used and evaluate potential risks. The results are recorded in our Guidelines for the Handling of Chemical Substances, which are more exacting than those of relevant laws. Substances are graded and classified into four categories—banned, phased out, avoided, and controlled—and are strictly managed in accordance with the guidelines. In fiscal 2008, in compliance with regulations we strengthened regulation of PFOS (perfluorooctane sulfonate) and other organic fluorine compounds, whose bioaccumulation potential is a cause for concern for the environment.

### Voluntary corporate guidelines for regulated chemical substances

