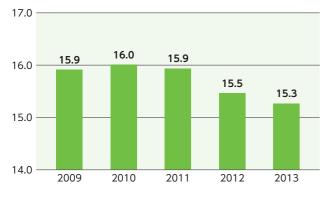
# **Environmental Load Reduction**

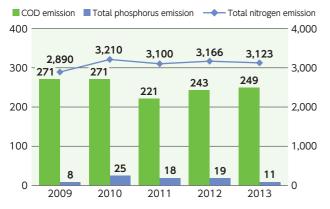
## Control of Waste Water

As for the waste water, we also comply with the standard specified by the "Water Pollution Prevention Act" and the regulation levels that are determined based on the agreement with the region. While controlling the total waste water amount, we also monitor the concentration level of chemical oxygen demand (COD), total nitrogen and total phosphorus in the waste water. We have also responded to the "Water Pollution Prevention Act" amendment for prevention of groundwater pollution.

#### Total emission [million m<sup>3</sup>]



#### COD, total phosphorus, total nitrogen emission [ton]





Construction work to reinforce waste water treatment facility

## Control of Exhaust Gas

Each plant complies with the emission standards specified in the "Air Pollution Control Law" but also observes regulation values that are determined based on the agreement with the region. We try to maintain proper condition of desulfurization facility, denitrification facility and electrostatic precipitator and control emission volume of sulfur oxide (SOx), nitrogen oxide (NOx) and dust.

Transition of Sox, NOx emission [ton]



Transition of dust emission [ton]



### Environmental Event Report

Because some of our laboratories are located in the residential areas or land development for housing is progressing in the neighboring areas of some plants, we give sufficient consideration in terms of noise, vibration and odor.

During FY2013, there was no environmental event that affected the surrounding areas.

# Control of Chemical Substances and **Emission Reduction**

Confirming the Intended Use of the Substances Subject to the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

The Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. issued in 2012 stipulates that companies that manufacture or import 1 ton or more of chemical substances must notify the amount of manufacturing or import, and intended use for each year. We have 31 general substances and 2 priority assessment substance that are subject to this Act. For these substances, we try to confirm consignees' intended use and report the information to the government.

### Reducing Emission of Substances Specified in the Pollutant Release and Transfer Register Act (PRTR)

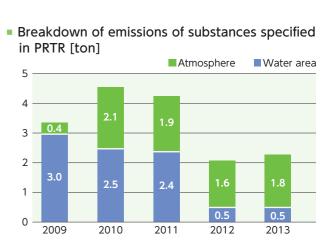
In FY 2013, we had 62 substances that are subject to notification under the "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof". The major substances are formaldehyde and normal- hexane. The former is used as reaction solvent and the latter is derived from naphtha that we use as fuel or raw material.

Reduction of emissions of substances specified in PRTR

Name of substance	Emission volume (ton)				
	2009	2010	2011	2012	2013
Formaldehyde	2.3	2.6	2.4	0.5	0.5
Normal-hexan	Exempt	1.5	1.2	1.2	1.4
Others	11.5	0.5	0.7	0.3	0.4
Total	3.4	4.6	4.3	2.0	2.3

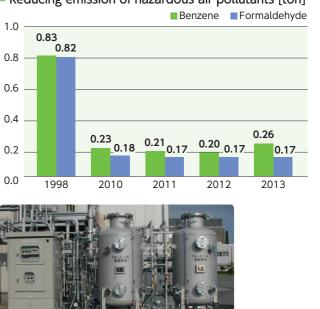
The total emission amount is 2.3 tones: 1.8 tons to the air and 0.5 tons to the water area. Although it showed a slight increase from the previous fiscal year (2.0 tons), we are continuously working on emission control. There is no emission to the soil

to the Society



# Reduce Emission of Volatile Organic Compounds (VOC)

We are continuously trying to reduce emission of volatile organic compound (VOC) that generates photochemical oxidant. There is no atmospheric emission of 1,2-dichloroethane that is used for reaction solvent since 2006 as a result of countermeasures such as sealing of equipment and introduction of combustion exhaust gas treatment. We are trying to reduce emissions of chemical substances including the ones that are not included in the PRTR Law.



#### Reducing emission of hazardous air pollutants [ton]

Device to remove VOC