

## Chemical substance management

### Compliance with laws and setting goals for reduction of chemical substances

When using chemical substances, the effects on human health and ecological systems must be fully considered. The JR East Group not only rigidly adheres to established standard values, but sets its own ambitious targets as well. As much as possible, we restrict the use of such substances and adopt substitutes that have less impact on the environment.

### Reducing and replacing ozone depleting substances<sup>☆</sup>

We endeavor to reduce the use of substances specified as controlled substances under the Ozone Layer Protection Law and adopt substitutes that have less impact on the environment.

- **Large heat exchangers (large cooling units)**—Having steadily replaced air conditioning units using specified chlorofluorocarbons (CFCs) with systems that do not use them, we completed the removal of such units from buildings by the end of March 2008.
- **Rolling stock**—Except for some diesel railcars, all of our cars use CFC substitutes. As of March 2013, we were using 1.3 tons of CFCs and 89 tons of CFC substitutes. We routinely check for gas leaks, and collect the refrigerants when scrapping retired railcars in accordance with applicable laws and regulations.
- **Fire-extinguishing agent**—Although 67 tons of halon gas was still in use as a fire-extinguishing agent as of March 2013, we have it under proper control and are replacing it with non-halon agents (such as powder agents and CO<sub>2</sub>) when building new facilities or renovating existing ones.

### Chemical substance management<sup>☆</sup>

As JR East uses chemical substances primarily for painting and repairing our railcars, we take rigorous steps for their use and management in order to prevent spills. We are a company that handles a certain amount of specified chemical substances, and 13 JR East facilities submitted the data regarding the release and transfer of these substances to relevant authorities in the fiscal year ended March 2013, pursuant to the PRTR System.\*

We have also been introducing stainless steel railcars that do not require painting. At the end of March 2013, as many as 83% of the 11,052 cars operated on our conventional lines were stainless steel railcars. Beside their use for railcars, we used 448 tons of organic solvents for painting railway facilities and stabilizing track beds in the fiscal year ended March 2013.

\* **PRTR system:** A system where companies notify their releases and transfers of chemical substances as required by the PRTR Law. It encourages the monitoring and control of toxic chemical substances emitted into the environment and measures to prevent negative impact on the environment.

### ■ Amount released and transferred from 13 reporting-required facilities

Chemical substance	Handled	Released into air	Released into sewerage	Transferred to other facilities		Chemical substance	Handled	Released into air	Released into sewerage	Transferred to other facilities
1,2,4-Trimethylbenzene	68,024.3	2,575.0	0.0	8.5		Dichloromethane (Methylene chloride)	4,726.1	1,182.7	0.0	3,543.0
2-Aminoethanol	1,407.3	0.0	0.0	260.0		Toluene	26,226.5	5,341.0	0.0	9,862.0
4,4'-methylenedianiline	4,921.8	0.0	0.0	3,691.4		Nickel	4,709.4	0.0	0.0	0.0
Ethylbenzene	6,817.2	2,424.1	0.0	4,072.7		n-Hexane	2,507.7	227.0	0.0	0.0
Xylene	109,916.3	15,067.0	0.0	10,024.0		Methylnaphthalene	55,796.6	2,041.4	0.0	0.0
Chromium and Chromium(III) compound	2,415.4	0.0	0.0	0.0		Molybdenum and its compounds	1,483.6	10.0	0.0	0.0
						<b>Total</b>	<b>288,952.2</b>	<b>28,868.2</b>	<b>0.0</b>	<b>31,461.6</b>

### Management of PCBs (polychlorinated biphenyls)<sup>☆</sup>

Equipment containing PCBs is securely stored in exclusive storage locations and reports on it are filed as required by laws and regulations. We render this equipment harmless to the extent that can be done by PCB waste treatment facilities. In the fiscal year ended March 2013, we had 638 units of equipment such as transformers and capacitors treated at PCB waste treatment facilities.