Reducing Hazardous Chemical Substances

In keeping with its provision of Citizen environmental products, the Group strives to eliminate or reduce hazardous chemical substances in its production processes.

Reducing the Use of Hazardous Chemical Substances

Since 2003, the Group has worked to reduce usage of chlorinated organic solvents and chlorofluorocarbon alternatives (HCFCs), which had been used in fabrication processes for a variety of parts. After investigating the ideal replacements for each process, we started changing production processes and installing new equipment. Although we had aimed for complete elimination of dichloromethane in fiscal 2005, Citizen Miyota had been unable to do away with the chemical for quality assurance reasons. However, changes in cleaning processes and the introduction of new cleaning devices finally enabled complete elimination in April 2008.

The Group is currently pursuing alternatives to cyanide compounds as a priority initiative. Each Group company is also setting specific goals and working to cut down on hazardous substances according to their actual operating situations, led by Citizen Watch's goal of eliminating mercury in its primary batteries in 2008.

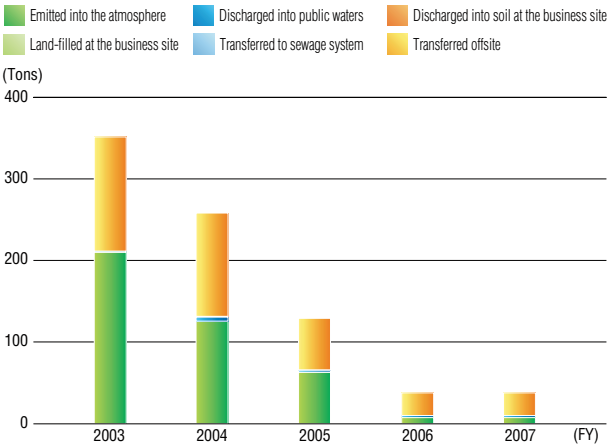
Compliance with PRTR Law*

Each company in the Group conducts its own notification regarding PRTR substances. The chart below summarizes the data submitted for the whole Group in fiscal 2007.

We have succeeded in decreasing the number of substances requiring notification from 7 to 6, and have curtailed the amount handled to 41 tons, from 47 tons in fiscal 2006—a 13% year-on-year decrease.

Total substances discharged and transported came to 28 tons in fiscal 2007, representing a 92% reduction from 351 tons in fiscal 2003.

Amount of PRTR Substances Discharged and Transported



Example Initiative Citizen Seimitsu

Activities to Reduce Cyanide Usage

The Group is actively working to reduce cyanide compounds by advancing alternatives as a priority initiative in its chemical substance management. Known most commonly in the form of hydro-cyanic acid, which is a useful substance in surface treatment and plating processes, yet it is highly toxic.

Citizen Seimitsu uses cyanide to remove burr (residual material) and surface dirt from watch parts, in the process for dissolving small copper balls in order to add luster to automotive parts , and in the process for removing film prior to plating watch parts and trim parts.

In fiscal 2007, the company conducted surveys on cyanide alternatives and experiments to substantiate such alternatives, and completed the transition to alternative substances in pre-plating processes at all its factories in Japan. At overseas factories, possible alternatives have been narrowed down, processing conditions have been fully set and proving tests will be commenced. On the other hand, alternatives for use in processes for removal by dissolving of copper balls are in the experimental stages, but are scheduled to be fully implemented in fiscal 2008.

As a result of these steps to introduce alternatives, we are predicting an 85% reduction in total cyanide usage as of March 31, 2009, compared with 4,508 kilograms in fiscal 2006.

Alternative testing device

Amount of PRTR Substances Discharged and Transported in Fiscal 2007

(Tons)

Chemical Substance	Amount Handled	Amount Discharged				Amount transferred	
		Emitted into the atmosphere	Discharged into public waters	Discharged into soil at the business site	Land-filled at the business site	Transferred to sewage system	Transferred offsite
Xylene	15.4	2.5	0.0	0.0	0.0	0.0	4.4
Nickel compounds	14.7	0.0	0.3	0.0	0.0	0.0	13.1
Hydrogen fluoride and its water-soluble salts	5.3	0.0	0.3	0.0	0.0	0.0	2.7
Bisphenol-A epoxy resin	3.2	0.0	0.0	0.0	0.0	0.0	3.2
Inorganic cyanide compounds	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Dichloromethane	1.1	0.8	0.0	0.0	0.0	0.0	0.2
Total	41.0	3.3	0.6	0.0	0.0	0.0	23.6

* The Pollutant Release and Transfer Register (PRTR) Law mandates the ascertainment, tabulation and declaration of data by the government, businesses and other entities on the source and volume of hazardous chemical substances discharged into the environment or the volume contained in waste transported from business locations.