

# Maintenance and Management Plan of an Industrial Waste Management Facility

Plant Site: Befu Works, Sumitomo Seika Chemicals Company, Limited

Facility: Submerged combustion equipment

Effective April 1, 2011, the establisher of an industrial waste management facility became obligated to publicize maintenance and management plans, as well as information on the status of such maintenance and management, via the internet (or by making CD-ROMs, print media, or other records available for inspection).

The maintenance and management information shall remain public for three years from its publication.

The following laws and regulations serve as the basis for the above.

Article 15-2-3, paragraph (2), Act on Waste Management and Public Cleaning

Article 12-7, item (i) (matters to be publicized) and Article 12-7-3, items (i)-(iii) (timing of publication), Regulation for Enforcement of the Act on Waste Management and Public Cleaning

## Matters Concerning the Maintenance and Management Information to be Publicized

Maintenance and Management Information to be Publicized	Disclosure deadline
Types and quantities of industrial waste disposed of each month	Last day of the following month
Records of continuous measurements of temperature inside the combustion furnace and gas temperature at the outlet of the cooling can	Last day of the month following the date the results were obtained
Date when soot dust is removed from the exhaust gas treatment equipment*	Last day of the month following the date of removal
Measurement records of concentrations of dioxins and soot and smoke concentrations in exhaust gas	Last day of the month following the date the results were obtained

\* This facility uses a submerged combustion system. Since exhaust gas from incineration passes through water before being discharged, no soot dust accumulates. During regular inspections, when replacing filter fabrics at the exhaust outlet, we confirm that no soot dust has built up.

### Matters Concerning Temperature of Combustion Gas

Control parameters		Legal standard value (Regulatory value)	Maintenance and management plan value (Notified value)	Frequency of measurement
Combustion gas temperature inside the combustion chamber	°C	800 or higher	850 or higher	Constant monitoring by measuring equipment
Temperature of combustion gas flowing into the dust collector	°C	200 or below	100 or below	Constant monitoring by measuring equipment

### Matters Concerning Waste Water

Measurement parameters		Legal standard value (Regulatory value)	Maintenance and management plan value (Notified value)	Frequency of measurement
pH	–	–	6 – 9	Constant monitoring by measuring equipment

### Matters Concerning Soot and Smoke Concentrations (Density Equivalent to Value on the Basis of 12% Oxygen)

Measurement parameters		Legal standard value (Regulatory value)	Maintenance and management plan value (Notified value)	Frequency of measurement
Sulfur oxides (SOx)	–	Backcalculated K-value: 1.75	25ppm	Once every two months
Nitrogen oxides (NOx)	ppm	250	220	
Soot dust	g/Nm <sup>3</sup>	0.15	0.15	
Hydrogen chloride (HCL)	mg/Nm <sup>3</sup>	700	–	

## Matters Concerning Concentrations of Dioxins

Measurement parameters		Legal standard value (Regulatory value)	Maintenance and management plan value (Notified value)	Frequency of measurement
Exhaust gas from the submerged combustion furnace	ng-TEQ/m <sup>3</sup> N	5	1 or below	Once every three months
Wastewater from the submerged combustion furnace	pg-TEQ/L	10	—	Once a year
Total plant wastewater	pg-TEQ/L	10	—	

## Matters Concerning Continuous Measurement of Carbon Monoxide Concentrations

This facility is an incineration facility (vaporizing combustion furnace of a submerged combustion system) designated by the Minister of the Environment in the Ministry of the Environment Notification dated October 19, 2001 (*Kanhaitai* No. 441, *Kanhaisan* No. 460), for which it is deemed inappropriate to use carbon monoxide concentrations as an indicator for maintenance and management of combustion processes aimed at curbing dioxin emissions in exhaust gases. Facilities that meet the above criteria and measure and record dioxin concentrations in exhaust gas at least once every three months are exempt from the requirement to maintain incineration at a carbon monoxide concentration standard of 100 ppm or below. Notwithstanding the above, we continuously measure and record carbon monoxide concentrations in exhaust gas and verify the results as part of our voluntary management efforts.