

Petrochemical Industry Effluent Standards

Ten articles promulgated by Environmental Protection Administration Order Huan-Shu-Shui-Tzu No. 1000103848 on December 1, 2011.

Article 1

These Standards are determined pursuant to Article 7, Paragraph 2 of the Water Pollution Control Act.

Article 2

Terms used in these Standards are defined as follows:

- I. "High-nitrogen processes" means the following nitrogen-including processes, where the volume of process wastewater exceeds 40% of the permit-approved effluent volume at the discharge point:
 - A. Nitrogen trifluoride and electronic-grade liquid ammonia manufacturing process.
 - B. Methyl methacrylate (MMA) chemical manufacturing process.
 - C. Acrylonitrile manufacturing process.
 - D. Acrylonitrile-butadiene copolymer (AB) chemical manufacturing process.
 - E. Acrylonitrile-butadiene-styrene copolymer (ABS) chemical manufacturing process.
 - F. Acrylonitrile styrene copolymer (AS) chemical manufacturing process.
 - G. Caprolactam manufacturing process.
 - H. Ammonium sulfate chemical manufacturing process.
 - I. Polyamide plastic (nylon) manufacturing process.
- II. "Newly-established enterprises" means those enterprises for which planning had not been completed as of December 1, 2011, or for which planning had been completed, but project bid request procedures had not yet been completed as of that time.
- III. "Existing enterprises" means those enterprises that had been completed, were in construction, or for which project bid request procedures had been completed as of December 1, 2011.

Article 3

These Standards are applicable to petrochemical enterprises announced as regulated in the enterprise classification and definitions of the Water Pollution Control Act.

Article 4

See the Attached Table for the water quality items and limits prescribed in these Standards.

Article 5

The industries, their associations, or relevant environmental groups may submit detailed scientific data and information to the Responsible Agency at the central government level to support argument for revision of these Standards.

Article 6

The COD limits determined in these Standards shall be tested using the potassium dichromate oxidation method; the true color shall be tested using true color colorimetry.

Article 7

Concerning the limits in the foregoing paragraph, apart from the pH, which is defined as a range and not in units, the rest are defined as the maximum allowed value using the following units of measure:

- I. Water temperature: Celsius (°C)。
- II. True color: Unitless

III. Other items: Milligrams per liter (mg/L)。

Article 8

With regard to the limits for the items in these Standards, apart from water temperature and pH, these standards shall not apply when an enterprise obtains water from a water body for non-contact cooling or circulating cooling and such water is discharged to the surface water body from which it was originally obtained.

Article 9

When an enterprise belongs to two or more industry types or belongs to one industry type but operates different production processes, the mixing, treatment and discharge of wastewater shall comply with the effluent standards for each industry type. When identical control items have different control limits, effluent shall comply with the stricter of the two limits. When the quantity of wastewater from one industry type is 75% or more of the total wastewater quantity from all industry types and independent cumulative measuring equipment has been installed, the enterprise may apply with the competent authority to make the effluent standards of the said industry type the basis for all control items.

The percentage of wastewater as stated in the foregoing paragraph shall be calculated according to records starting from six months prior to the date of application.

Article 10

Unless an enforcement date is separately designated, these standards shall take effect on the date of promulgation.

Attached Table

Item	Limit	Remarks
Water temperature	38 °C (applicable to the period from May to September)	Applicable to the discharging of effluents into surface water bodies other than the ocean:
	35 °C (applicable to the period from October to April of the following year)	Applicable to the discharging of effluents into surface water bodies other than the ocean:
	42 °C, and the temperature difference may not exceed 4 °C for surface water at 500 meters from the discharge point.	Applicable to effluents directly discharged into the sea.
pH	6.0 - 9.0	
Nitrate nitrogen	50	
Ammonia	10	Applicable to enterprises discharging wastewater or sewage into water source water quality protection zones.
	20	Applicable to newly-established enterprises not discharging wastewater or sewage into water source water quality protection zones.
	20	Applicable to existing enterprises with no high-nitrogen processes not discharging wastewater or sewage into a water source water quality protection zones; enforced from July 1, 2012.
	150	Applicable to existing enterprises with high-nitrogen processes not discharging wastewater or sewage into a water source water quality protection zones; enforced from December 31, 2014.
	60	Applicable to existing enterprises with high-nitrogen processes not discharging wastewater or sewage into a water source water quality protection zones; enforced from July 1, 2016.
Orthophosphates (calculated as trivalent phosphate radicals)	4.0	Applicable to enterprises discharging wastewater or sewage into water source water quality protection zones.
Phenols	1.0	
Anionic surfactants	10	
Oil and grease (n-hexane extract)	10	
Sulfides	1.0	
Chemical oxygen demand (COD)	100	
Suspended solids	30	
True color	550	

Item	Limit	Remarks
Benzene	0.05	<ol style="list-style-type: none"> 1. Enforced from July 1, 2012. 2. When a project or other improvement measure is involved, the enterprise shall submit an effluent pollutant reduction management plan by March 31, 2012, and shall implement the content of said plan after approval by the special municipality, county, or city competent authority; enforced from July 1, 2014.
Ethylbenzene	0.4	
Dichloromethane	0.2	<ol style="list-style-type: none"> 1. Applicable to petrochemical basic raw material manufacturing industry, and downstream raw or product manufacturing industries; enforced from July 1, 2012. 2. When the foregoing types of enterprises use a project or other improvement measure, the enterprise shall submit an effluent pollutant reduction management plan by March 31, 2012, and shall implement the content of said plan after approval by the special municipality, county, or city competent authority, where the control of dichloromethane, chloroform, 1,2-dichloroethane, and vinyl chloride shall be enforced from July 1, 2014.
Chloroform	0.6	
1,2-Dichloroethane	0.10	
Chloroethene	0.10	
Dimethyl phthalate (DMP)	0.2	
Diethyl phthalate (DEP)	0.4	
Dibutyl phthalate (DBP)	0.4	
Benzyl butyl phthalate (BBP)	0.4	
Di-n-octyl phthalate (DNOP)	0.6	
Di(2-ethylhexyl) phthalate (DEHP)	0.2	