

Effluent Standards

Original 4 articles promulgated by Department of Health Order Wei-Shu-Huan-Tzu No. 654798 on May 5, 1987.
 Revisions promulgated by EPA Order (80) Huan-Shu-Fa-Tzu No. 00359 on January 16, 1991.
 Revisions promulgated by EPA Order (80) Huan-Shu-Fa-Tzu No. 46873 on November 29, 1991.
 Revisions promulgated by EPA Order (86) Huan-Shu-Shui-Tzu No. 09953 on March 19, 1997.
 Revisions promulgated by EPA Order (86) Huan-Shu-Shui-Tzu No. 78804 on December 24, 1997.
 Revisions to Article 6 promulgated by EPA Order (88) Huan-Shu-Shui-Tzu No. 0060545 on September 22, 1999.
 Revisions to original eight articles promulgated by EPA Order (89) Huan-Shu-Shui-Tzu No. 0004191 on February 9, 2000.
 Revisions to Articles 2 and 6 promulgated by EPA Order (90) Huan-Shu-Shui-Tzu No. 0004055 on February 7, 2001.
 Revisions to Article 2 promulgated by EPA Order (90) Huan-Shu-Shui-Tzu No. 0069097 on November 21, 2001.
 Revisions to Article 2 promulgated by EPA Order Huan-Shu-Shui-Tzu No. 09200847 on November 26, 2003.
 Revisions to original eight articles promulgated by EPA Order Huan-Shu-Shui-Tzu No. 0960065740 on September 3, 2007.
 Revisions to Articles 2 and 6 promulgated by EPA Order Huan-Shu-Shui-Tzu No. 0980065341 on July 28, 2009.
 Nine articles promulgated by EPA Order Huan-Shu-Shui-Tze No. 0990112348F on December 15, 2010.
 Revisions to Articles 2 promulgated by EPA Order Huan-Shu-Shui-Tzu No. 10000103860 on December 1, 2011.
 Revisions to Articles 2,5 and 6 promulgated by EPA Order Huan-Shu-Shui-Tzu No. 1010090770 on October 12, 2012.
 Revisions to Articles 2 promulgated by EPA Order Huan-Shu-Shui-Tzu No. 1030005842 on January 22, 2014.

Article 1

These Standards are determined pursuant to Article 7, Paragraph 2 of the Water Pollution Control Act (herein referred to as this Act).

Article 2

Water quality items and limits for effluent standards for enterprises, sewage systems and building sewage treatment facilities are as follows in the table:

Applicable scope	Effluent characteristics	Effluent limits	Notes
<p>Generally applicable to wastewater from industries, sewage systems and sewage treatment facilities attached to buildings</p>	<p>Water temperature</p>	<p>1. For effluents discharged into surface water bodies other than the ocean: A. Below 38°C (from May to September) B. Below 35°C (from October to April) 2. For effluents discharged directly into marine waters, the</p>	

Applicable scope	Effluent characteristics	Effluent limits	Notes
		temperature at the discharge point shall not exceed 42°C; and the temperature difference should not exceed 4°C for surface water at 500 meters from the discharge point.	
	pH	6.0–9.0	
	Fluorides (not including complex ions)	15	
	Nitrate nitrogen	50	Not applicable to newly established public sewers used to discharge wastewater or sewage within water source quality and volume protection areas. (Newly established public sewers means sewage systems for which planning had not been completed by November 23, 2001 or planning had been completed but project bid requests had not yet been made.)
	Ammonia nitrogen	10	1. Controls on ammonia nitrogen and orthophosphates shall apply to the discharge of wastewater or sewage in water source quality and volume protection areas. However, the competent authority in consultation with the industry competent authority shall draft a control timetable and effluent standards for
	Orthophosphates (calculated as trivalent phosphate radicals)	4.0	

Applicable scope	Effluent characteristics	Effluent limits	Notes
			<p>ammonia nitrogen and orthophosphate generated by the livestock industry. 2.Controls on the discharge of orthophosphates are not applicable to the discharge of wastewater or sewage into water source quality and volume protection areas by newly established public sewers. (Newly established public sewers means sewage systems for which planning had not been completed by November 23, 2001 or planning had been completed but project bid requests had not yet been made.)</p>
	Phenols	1.0	
	Anionic surfactants	10	
	Cyanide	1.0	
	Oil and grease (n-hexane extract)	10	
	Soluble iron	10	
	Soluble manganese	10	
	Cadmium	0.03	
	Lead	1.0	
	Total chromium	2.0	
	Hexavalent chromium	0.5	
	Methyl mercury	0.000002	
	Total mercury	0.005	
	Copper	3.0	
	Zinc	5.0	
	Silver	0.5	

Applicable scope	Effluent characteristics	Effluent limits	Notes
	Nickel	1.0	
	Selenium	0.5	
	Arsenic	0.5	
	Boron	1.0	
	Sulfide	1.0	
	Formaldehyde	3.0	
	PCBs	0.00005	
	Total organophosphorous compounds (such as Parathion, Diazinon, Tamaron, Azodrin,EPN, etc.)	0.5	
	Total aminomethyl-carbamate (such as Mipcin, Carbofuran, Lannate, Unden,BPMC, etc.)	0.5	
	Herbicides (such as Butachlor, Paraquat,2,4-D (sodium), Lasso,CNP-MCPA, Glyphosate, etc.)	1.0	
	Endosulfan	0.03	
	Endrin	0.0002	
	Lindane	0.004	
	Heptachlor and its derivatives	0.001	
	DDT and its derivatives	0.001	
	Aldrin, Dieldrin	0.003	
	Pentachlorophenol and its salts	0.005	
	Toxaphene	0.005	
	Pentachloronitro-benzene	0.00005	
	Folpet (phaltan)	0.00025	
	Captafol	0.00025	
Captan	0.00025		

Applicable scope		Effluent characteristics	Effluent limits	Notes
		Dioxin	10	1. Applicable to Existing enterprises, including pulp industry and those with the waste incinerators using wet or semi-dry scrubbers for air pollution control and producing wastewater discharged into the wastewater treatment plant. 2. Existing enterprises means those enterprises that had been completed, were in construction, or for which project bid request procedures had been completed as of October 12, 2012.
			5	1. Applicable to newly-established enterprises, including pulp industry and those with the waste incinerators using wet or semi-dry scrubbers for air pollution control and producing wastewater discharged into the wastewater treatment plant. 2. "Newly-established enterprises" means those enterprises for which planning had not been completed as of October 12, 2012, or for which planning had been completed, but project bid request procedures had not yet been completed as of that time.
Printing, dyeing, and finishing industry	Dyeing and finishing of printed and woven textiles	Biological oxygen demand (BOD)	30	
		Chemical oxygen demand (COD)	160	
		Suspended solids	30	
		True color	550	

Applicable scope		Effluent characteristics	Effluent limits	Notes
	Cone dyeing, hank dyeing and knit and unwoven textile dyeing and finishing	Biological oxygen demand (BOD)	30	
		Chemical oxygen demand (COD)	140	
		Suspended solids	30	
		True color	550	
	Finishing, paper printing, wool brushing, wool cutting, wool buffing, and others not belonging to the above two categories	Biological oxygen demand (BOD)	30	
		Chemical oxygen demand (COD)	100	
		Suspended solids	30	
		True color	550	
Leather tanning industry	Finished leather made from raw hide	Biological oxygen demand (BOD)	30	
		Chemical oxygen demand (COD)	160	
		Suspended solids	30	
		True color	550	
	Finished leather made from wet blue	Biological oxygen demand (BOD)	30	
		Chemical oxygen demand (COD)	200	
		Suspended solids	30	
		True color	550	
	Others not belonging to the categories finished leather made from raw hide and finished leather made from wet blue	Biological oxygen demand (BOD)	30	
		Chemical oxygen demand (COD)	100	
		Suspended solids	30	
		True color	550	
Pulp industry		Chemical oxygen demand (COD)	150	
		Suspended solids	50	
		True color	550	
Fermentation industries (brewing industry; MSG production industry; wine or liquor, alcohol and vinegar production industries; soy sauce)		Biological oxygen demand (BOD)	50	
		Chemical oxygen demand (COD)	150	
		Suspended solids	50	

Applicable scope	Effluent characteristics	Effluent limits	Notes
production industry; and antibiotic and organic solvent manufacturing industries)	True color	550	
Paper manufacturing industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	Not using waste paper as raw material
		180	Using waste paper as raw material (above 60%)
		160	Using waste paper as raw material (below 60%)
	Suspended solids	30	
True color	550		
Wool production and chemical industries	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	True color	550	
Pharmaceutical and pesticide manufacturing industries	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	True color	550	
Food industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	E. Coli	200,000	Applicable to the rendering process animal carcasses
Meat processing industry	Biological oxygen demand (BOD)	80	
	Chemical oxygen demand (COD)	150	
	Suspended solids	80	
	True color	550	

Applicable scope	Effluent characteristics	Effluent limits	Notes
	E. Coli	200,000	
Metal, metal surface treatment, electroplating, ship manufacturing and repair, wafer manufacturing, and semiconductor manufacturing industries	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Power plants	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	Total residual chlorine	0.5	
Rubber manufacturing industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Cement manufacturing industry	Chemical oxygen demand (COD)	100	
	Suspended solids	50	
Powder manufacturing industry	Biological oxygen demand (BOD)	50	
	Chemical oxygen demand (COD)	100	
	Suspended solids	80	
Textile industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	True color	550	
Sugar industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Mineral extraction, ceramic, and soil or rock processing and extraction industries	Chemical oxygen demand (COD)	100	
	Suspended solids	50	

Applicable scope	Effluent characteristics	Effluent limits	Notes
Automobile repair facilities	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Glass industry	Chemical oxygen demand (COD)	100	
	Suspended solids	50	
Printed circuit board manufacturing industry	Biological oxygen demand (BOD)	50	
	Chemical oxygen demand (COD)	120	
	Suspended solids	50	
Other industries	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	True color	550	
Wastewater treatment service industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	True color	550	
	E. Coli	300,000	
Livestock industry (I)	Biological oxygen demand (BOD)	80	Applicable to non-grazing animals, such as pigs, chickens, ducks and geese
	Chemical oxygen demand (COD)	600	
	Suspended solids	150	
Livestock industry (II)	Biological oxygen demand (BOD)	80	Applicable to grazing (grass fed) animals, such as cows, horses, sheep, deer and rabbits.
	Chemical oxygen demand (COD)	450	
	Suspended solids	150	
Meat markets	Biological oxygen demand (BOD)	80	
	Chemical oxygen demand (COD)	150	
	Suspended solids	80	
	True color	550	
Fish markets	Biological oxygen demand (BOD)	30	

Applicable scope	Effluent characteristics	Effluent limits	Notes
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Human waste (night soil) treatment plants	Biological oxygen demand (BOD)	50	
	Chemical oxygen demand (COD)	100	
	Suspended solids	50	
	E. Coli	300,000	
Recyclable waste recycling industry and sanitary landfills	Chemical oxygen demand (COD)	300	
	Suspended solids	50	
Waste incinerators and other waste treatment plants (facilities)	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	E. Coli	200,000	Applicable to the rendering process of animal carcasses
Photograph developing industry and plate-making industry	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Laundry industry, shipbreaking industry, ship cleaning industry	Chemical oxygen demand (COD)	100	
	Suspended solids	50	
Aquaculture industry	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Experimental, (chemical) testing and research laboratories	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	200	
	Suspended solids	50	
Hospitals and medical institutions	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
	E. Coli	200,000	

Applicable scope	Effluent characteristics	Effluent limits	Notes
Zoos	Biological oxygen demand (BOD)	50	
	Chemical oxygen demand (COD)	150	
	Suspended solids	50	
	E. Coli	300,000	
Environmental inspection and testing organizations	Biological oxygen demand (BOD)	30	
	Chemical oxygen demand (COD)	100	
	Suspended solids	30	
Tap-water plants	Chemical oxygen demand (COD)	100	Water treatment plant may, in response to a torrential rain report or natural disaster, directly discharge water not meeting these Standards when emergency response measures have been adopted as prescribed in the Water Pollution Control Measures and Test Report Management Regulations.
	Suspended solids	50	
	Total residual chlorine	0.5	
Restaurants, hotels and recreational resorts	Biological oxygen demand (BOD)	50	When simple bathing wastewater from the dining industry and tourist hotels meeting the requirements of the Water Pollution Control Measures and Test Report Management Regulations is discharged into a surface water body downstream from the hot spring source in question, only water temperature need comply with the control limits in these Standards.
	Chemical oxygen demand (COD)	150	
	Suspended solids	50	
	E. Coli	300,000	
Container freight depot operators	Chemical oxygen demand (COD)	100	
	Suspended solids	30	

Applicable scope			Effluent characteristics		Effluent limits	Notes	
Car-washes			Chemical oxygen demand (COD)		100		
			Suspended solids		50		
Coal storage yards, construction sites, sand and gravel storage (disposal) sites			Biological oxygen demand (BOD)		30	Construction and rock/soil storage (dump) site controls are solely applicable to those sites that have failed to adopt necessary measures in accordance with regulations.	
			Chemical oxygen demand (COD)		100		
			Suspended solids		30		
			True color		550		
Other industries designated by the central competent authority			Biological oxygen demand (BOD)		30		
			Chemical oxygen demand (COD)		100		
			Suspended solids		30		
			True color		550		
Sewage systems	Designated sewers	Non-petrochemical industrial parks	Biological oxygen demand (BOD)	Maximum value	30	Seven-day average values are derived by mixing four daily water samples, taken at intervals of from four to eight hours, to perform one water sample test; the average is then taken of test values for seven consecutive days.	
				Seven-day average value	25		
			Chemical oxygen demand (COD)	Maximum value	100		
				Seven-day average value	80		
			Suspended solids	Maximum value	30		
				Seven-day average value	25		
			True color		550		
			Biological oxygen demand (BOD)	Maximum value	25		1. These Standards shall take effect on January 1, 2016. 2. Applicable to sewer systems for which planning had not been completed by July 31,
				Seven-day average value	20		

Applicable scope		Effluent characteristics		Effluent limits	Notes
		Chemical oxygen demand (COD)	Maximum value	80	2009 or planning had been completed but project bid requests had not yet been made, and for which project bid requests had been made by July 31, 2009 with permit-approved effluent volume exceeding 10,000 CMD. 3. Seven-day average values are derived by mixing four daily water samples, taken at intervals of from four to eight hours, to perform one water sample test; the average is then taken of test values for seven consecutive days.
			Seven-day average value	65	
		Suspended solids	Maximum value	25	
			Seven-day average value	20	
		True color		550	
	Community sewers	Flow rate greater than 250CMD	Biological oxygen demand (BOD)	30	
			Chemical oxygen demand (COD)	100	
			Suspended solids	30	
			E. Coli	200,000	
		Flow rate less than 250 CMD	Biological oxygen demand (BOD)	50	
			Chemical oxygen demand (COD)	150	
			Suspended solids	50	
			E. Coli	300,000	

Applicable scope		Effluent characteristics	Effluent limits	Notes	
	Other designated areas or sites	Biological oxygen demand (BOD)	30	Total nitrogen and total phosphorus standards are applicable solely to newly established public sewers used to discharge wastewater or sewage within water source quality and volume protection areas (newly established public sewers refers to sewage systems for which planning had not been completed by November 23, 2001 or planning had been completed but project bid requests had not yet been made.).	
		Chemical oxygen demand (COD)	100		
		Suspended solids	30		
	Public sewers	Flow rate greater than 250 CMD	Total nitrogen		15.0
			Total phosphorus		2.0
			Biological oxygen demand (BOD)		30
			Chemical oxygen demand (COD)		100
			Suspended solids		30
			E. Coli		200,000
	Public sewers	Flow rate less than 250 CMD	Total nitrogen		15.0
			Total phosphorus		2.0
			Biological oxygen demand (BOD)		50
			Chemical oxygen demand (COD)		150
			Suspended solids		50
E. Coli			300,000		
Newly-established building sewage treatment facilities	Flow rate greater than 250 CMD	Biological oxygen demand (BOD)	30	1. Newly-established buildings refer to those buildings for which a construction permit application is made after January 1, 2009. 2. The Coliform group item is not applicable when the flow rate is less than 50 cubic meters/day.	
		Chemical oxygen demand (COD)	100		
		Suspended solids	30		
		E. Coli	200,000		
	Flow rate less than 250 CMD	Biological oxygen demand (BOD)	50		
		Chemical oxygen demand (COD)	150		
		Suspended solids	50		
		E. Coli	300,000		
Existing building sewage treatment facilities	Flow rate greater than 250 CMD	Biological oxygen demand (BOD)	30	Existing buildings refer to those buildings for which a construction permit application is made prior to December 31, 2008.	
		Chemical oxygen demand (COD)	100		
		Suspended solids	30		
		E. Coli	200,000		

Applicable scope		Effluent characteristics	Effluent limits	Notes
	Flow rate between 50 and 250 CMD	Biological oxygen demand (BOD)	50	
		Chemical oxygen demand (COD)	150	
		Suspended solids	50	
		E. Coli	300,000	
	Flow rate less than 50 CMD	Biological oxygen demand (BOD)	80	
		Chemical oxygen demand (COD)	250	
		Suspended solids	80	

Article 3

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

Article 4

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 5

The dioxin concentration is calculated as the sum of the measured concentrations of 17 compounds, including 2,3,7,8-tetrachlorinated dibenzo-p-dioxin-2,3,7,8-TeCDD, 2,3,7,8-tetrachlorinated dibenzofuran, 2,3,7,8-TeCDF and 2,3,7,8- penta-, hexa-, hepta-, and octa-chlorinated dioxins and furans, multiplied by the international dioxin toxic equivalency factors (I-TEF), and is expressed as a toxicity equivalency quantity of 2,3,7,8-tetrachlorinated dibenzo-p-dioxin quantity (TEQ).

Article 6

All values of the effluent characteristics used in these Standards constitute maximum limitations, with the exception of the lowest limits for pH, and the units for such characteristics are defined as follows:

- I. pH: Unitless
- II. True color: Unitless
- III. E. Coli: Colony count on filter membrane per 100 ml water sample (CFU/100mL).
- IV. Dioxin: pg I-TEQ/L
- V. Other characteristics: mg/L

Article 7

Apart from water temperature and pH, with regard to the limits for the various items in these Standards, these Standards shall not be applicable when an enterprise or sewage system takes non-contact cooling water from a water body for cooling or cyclic use, and discharges water into a surface water body near the original water intake location.

Article 8

If an enterprise, sewage system, or building sewage treatment facility simultaneously has, within the applicable scope of these Standards, two or more different industry types or different processes within the same industry, and wastewater is mixed during treatment and discharge, effluent standards for each industry shall be complied with. When the same control items have different control limits, the stricter limits shall be complied with. When wastewater from one industry type accounts for 75% or more of all wastewater volume, and that wastewater stream is equipped with an independent, dedicated, cumulative

flow measurement facility, the enterprise, sewage system, or building sewage treatment facility may apply to the competent authority to control common control items on the basis of effluent standards for said industry.

The wastewater volume percentage in the foregoing paragraph shall be calculated using records from the half-year prior to the application date.

Article 9

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