

LAO PEOPLE' S DEMOCRATIC REPUBLIC
PEACE INDEPENDENCE DEMOCRACY UNITY PROSPERITY

MINISTRY OF INDUSTRY - HANDICRAFTS

Industrial Waste Discharge
Regulation

No. 180/MIH

Part I

Article I: Authority and Purpose

The objective and purpose of this regulation is to control hazards arising from the discharge of Industrial wastewater and the waste which may affect water quality, the health of the citizens and other kinds of life.

Article II: Definitions

Waste: Sewage, wastewater, Air pollution, toxic waste, and hazardous waste, including sludge in form of solid, liquid or gas.

Central Waste water treatment system: A treatment system to service a group of industries which discharge wastewater.

Concentration-based Standards: A limitation on the amount of a given pollutant in the industrial waste water discharge, generally expressed as milligrams per liter (mg/l).

Director: The director of the Industry-Handicraft Department.

Factory Decree: The factory decree of 21/2/92, as approved by the Ministry of Industry-Handicrafts.

Industrial Wastewater: wastewater generated by industrial processing activities such as: washing, clean-up, steam boiler and others, excluding sanitary sources.

Industrial Wastewater Discharge: Industrial wastewater at its discharge point.

Point of Discharge: The location of industrial wastewater discharge outside its property boundary .

Wastewater Treatment System: The industrial system to treat its wastewater before to flow it out outside its boundary property .

Public Sewer: A man-made drain, channel, or pipe constructed in public areas.

Surface Water: Lakes, rivers, streams, and creeks

BOD₅: Biochemical Oxygen Demand

TSS: Total Suspend Solids

Part II

Discharge of Waste to Public Water

Article III. No person shall discharge waste to environment and any public water sources, which directly or indirectly be harmful or affect on ecology and public health such as:

3.1 Any waste containing toxic or poisonous solids, liquids or gases.

3.2 Any waste having a pH lower than 6.0 and higher than 9.5

- 3.3 Any viscous substances or solids of such size or in such quantity that they may cause obstruction to flow, or be detrimental to the beneficial use of the water including the following: asphalt, dead animals, offal, ashes, sand, mud, straw, organic vegetable matter, waste industrial process wood shaving, metal, glass, rags, feathers, tar, plastic bags, wood, whole blood, manure, bones, hair, paper dishes, paper cups, milk containers, or other similar products, either whole or degraded.
- 3.4 Any amounts of petroleum or any products from petroleum.
- 3.5 Any dispersed biodegradable oil.
- 3.6 Any strongly odorous waste or waste tending to create odors in the natural environment, and which would cause public nuisance.
- 3.7 Any chemical which is toxic gas.
- 3.8 Any quantities of radioactive waste .

3.9 Any coloring waste producing excessive discoloration of surface water, and which would cause public nuisance.

3.10 Any waste having a temperature higher than 40 degree Centigrade

Article 4: Concentration standards for some types of industries.

1. Sugar Mill:

<u>Parameter</u>	<u>Value</u>
BOD ₅ :	60 mg/l
TSS:	100 mg/l
pH:	6 - 9.5

2. Textile and Garment Industry:

<u>Parameter</u>	<u>Value</u>
BOD ₅ :	40 mg/l
TSS:	40 mg/l
pH:	6 - 9.5
Phenols	1 mg/l

3. Pulp Mill:

<u>Parameter</u>	<u>Value</u>
BOD ₅ :	90 mg/l
TSS:	60 mg/l
Ammonia Nitrogen:	7 mg/l
Phenols	1 mg/l
pH:	6 - 9.5

Paper Mill:

<u>Parameter</u>	<u>Value</u>
BOD ₅ :	30 mg/l
TSS:	30 mg/l
pH:	6 - 9.5

4. Slaughter House:

<u>Parameter</u>	<u>Value</u>
BOD ₅ :	40 mg/l
TSS:	40 mg/l
pH:	6 - 9.5
Ammonia	4 mg/l

5. Other Effluent Standards:

General and Specific industrial effluent standards .

General Effluent Standards:

<u>Parameter</u>	<u>Value</u>	<u>Parameter</u>	<u>Value</u>
Arsenic:	0.25 mg/l	Maganese:	1.0 mg/l
Barium:	1.0 mg/l	Mercury:	0.005 mg/l
Cadmium:	0.03 mg/l	Ammonia Nitrogen:	4.0 mg/l
Chrom (+6):	0.1 mg/l	Nickel:	0.2 mg/l
Total Chromium:	0.5 mg/l	Oil and Grease:	5 mg/l
Chloride:	500 mg/l	pH:	6 - 9.5
Copper:	0.5 mg/l	Phenols:	0.3 mg/l
Cyanide:	0.10 mg/l	Phosphorous:	1.0 mg/l
Fluoride:	15 mg/l	Silver:	0.1 mg/l
Iron:	2.0 mg/l	TDS:	3.500 mg/l
Lead:	0.2 mg/l	TSS:	30 mg/l
BOD ₅ :	30 mg/l	Zinc:	1.0 mg/l
Free chlorine	1.0 mg/l	Sulphide	1.0 mg/l

Specific Effluent Standards: Industries which predominantly discharge organic substances in their wastewater shall apply the following standards:

INDUSTRY TYPE	General Parameters		
	BOD ₅	TSS	pH
Fish Canning	40	50	6 - 9.5
Breweries	30	30	6 - 9.5
Tapioca Starch	70	80	6 - 9.5
Leather Tanning	40	40	6 - 9.5
Paint Manufacture	40	40	6 - 9.5
Pharmaceutical Industry	40	40	6 - 9.5

Industries which predominantly discharge inorganic substance in their wastewater shall apply the following standards:

Electroplating:

<u>Parameter</u>	<u>Value</u>
TSS	30 mg/l
Cyanide	2.0 mg/l
Chrom +6	0.3 mg/l
Total Chrome	2.0 mg/l
Nickel	0.2 mg/l
Copper	1.0 mg/l
Zinc	5.0 mg/l
Oil and Grease	30 mg/l
pH:	6 - 9.5
Total metals	6.0 mg/l

Battery Plants

<u>Parameter</u>	<u>Value</u>
Lead:	0.2 mg/l
Copper:	0.5 mg/l
Zinc:	1 mg/l
Antimony:	1 mg/l
Cadmium:	0.03 mg/l
Chromium:	0.5 mg/l
Nickel:	1.0 mg/l
Mercury:	0.005 mg/l
pH:	6 - 9.5

Article 5: Restaurants, Automotive Service Centers, Hospitals, and Home Operated Food preparing Centers Employing Less than 10 Persons:

(A) May discharge wastewater in a grease trap to separate oil, grease and others, (excluding paper, plastic items). The grease trap shall be appropriate

(B) Shall not discharge any pollutant and solid waste to the public sewer system.

Article 6: Grease, oil, and sand interceptors shall be installed to manage liquid waste containing excessive quantity of oil or solid inorganic substance or in flammable wastes, sand or other harmful ingredients. The owners(s) shall be responsible in limiting or discharging waste appropriately.

Part III.

Industrial Waste Treatment Systems

Article 7: The owner (s) shall provide a waste treatment system for his processing activities.

Article 8: Any industry having its own waste treatment system shall respond to the standards fixed by this regulation.

Article 9: Construction and installation costs of wastewater treatment systems, as well as costs for monitoring and analysis wastewater discharge shall be born By the owner(s).

Article 10: All sanitary sewage shall be separated from all industrial wastewater with the appropriate measures.

Article 11: Wastewater treatment system shall be efficiently kept operating and the costs shall be born by the owner (s).

Article 12: Wastewater treatment system shall be established as well as the storage of wastewater samples which will be analyzed.

Part IV.

Power and Authority of the Industrial Sector

Article 13: In accordance with this regulation, the authorized officials bearing proper identification paper signed by the minister, shall be permitted to enter in any location to inspect, observe, measure and collect samples regarding wastewater.

Article 14: The authorized officials can amass data and information concerning different industrial processing steps in relation with wastewater discharge kinds and sources.

Article 15: In their control activities, the authorized officials shall observe all safety rules established by the company.

Article 16: The Director and the Provincial Industry Service Chief may temporary suspend Industrial wastewater discharge until there is improvement of the matter.

Article 17: After the suspension notification, the owner(s) must immediately stop any wastewater discharge from his plant. In the event of compliance failure, the Director and the Provincial Industry Service Chief shall take any necessary measures.

Article 18: This regulation takes effect from the date of its signature. All prior provisions, rules which contradict with the provisions of this regulation shall be replaced by this regulation.

Article 19: The Department of Industry-Handicrafts and the Provincial Industry Service shall elaborate and introduce the guidelines for the implementation of this regulation.

Vientiane, November 3, 1994