

Industrial Wastewater Management

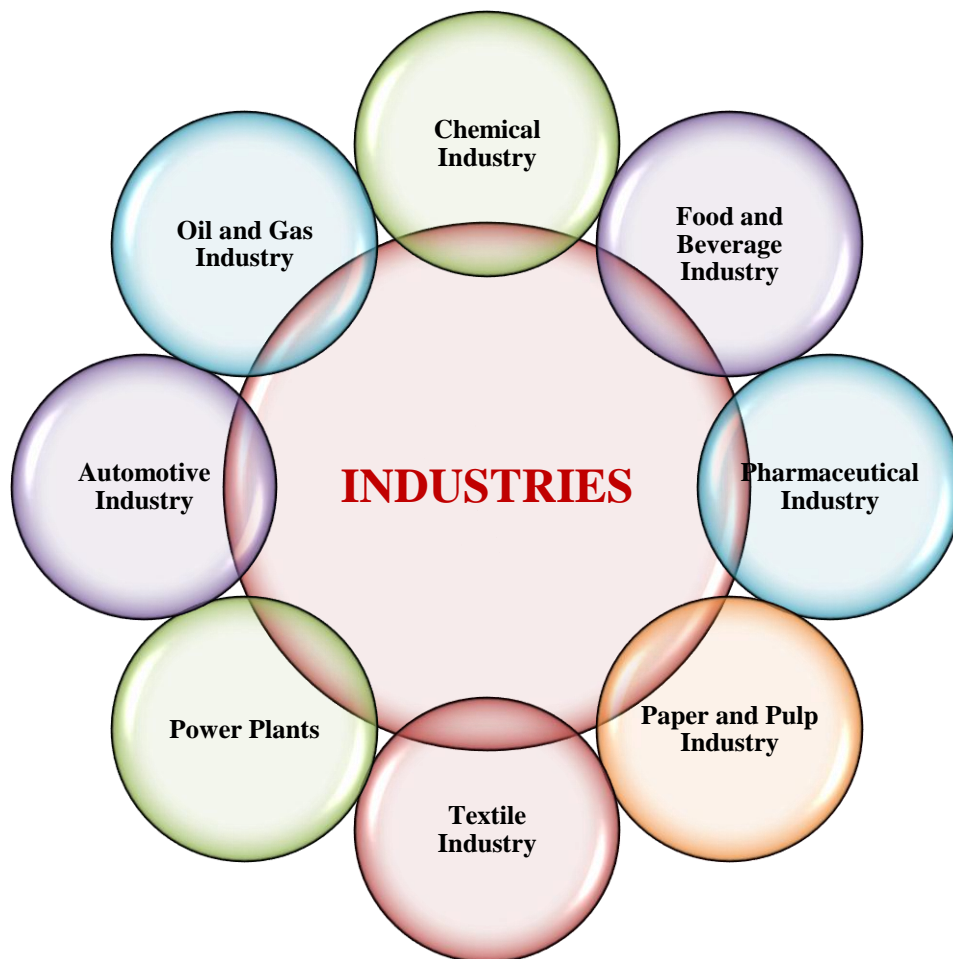


EnviroTech Consultants

Preserving Water Sustains Life

INDUSTRIAL WASTEWATER MANAGEMENT

EnviroTech Consultants offers end-to-end solutions, including design, engineering, construction, and commissioning of Sewage Treatment Plants (STPs), Effluent Treatment Plants (ETPs) & Common Effluent Treatment Plants (CETPs) for Industries, covering mechanical, piping, electrical, and instrumentation work on turnkey basis.



Government Guidelines- As per Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Water Supply and Treatment, 1999. Any Industries should have decentralized wastewater treatment systems to treat their wastewater within their premise and used the treated water within the premise for flushing, irrigation, gardening, car washing, thermal conditioning etc.

Industrial wastewater management in India is a critical aspect given the country's industrial growth, population density, and environmental challenges. The CPCB is the apex regulatory body overseeing environmental protection in India. It sets standards for industrial effluent discharge and monitors compliance.

Type	Fresh Water litres per head/day	Flushing water litres per head per day	Total water consumption litres per head per day
Factories including canteen where bathrooms are required to be provided.	30	15	45
Factories including canteen where no bathrooms are required to be provided.	20	10	30

Why is wastewater management important for industries?

Wastewater management is crucial for industries due to its pivotal role in safeguarding the environment, ensuring regulatory compliance, and promoting sustainable practices. Effective wastewater management prevents the release of harmful pollutants and contaminants from industrial processes into water bodies, thereby protecting aquatic ecosystems and public health. Compliance with environmental regulations is paramount, as improper discharge of untreated wastewater can lead to legal consequences and reputational damage.

Sustainable wastewater management practices also contribute to water conservation and reduce the demand on freshwater resources. Additionally, treating and reusing wastewater within industrial processes can result in cost savings, increased efficiency, and a minimized ecological footprint.

Industrial clusters often share CETPs for collective wastewater treatment, helping small and medium-sized enterprises comply with environmental standards. The government promotes ZLD systems, where industries treat and reuse wastewater, minimizing discharge into water bodies.

Sources of wastewater from industries-

- Industries generate wastewater from diverse sources, encompassing various manufacturing processes, cleaning and washing operations, and specific industrial activities.
- Manufacturing of goods such as chemicals, textiles, metals, and plastics contributes significantly to wastewater production.
- Cooling water discharge from power plants and manufacturing facilities, along with the cleaning of equipment, adds to the wastewater load.
- Processes like metal finishing, mining, and petroleum refining introduce contaminants such as heavy metals and chemicals into industrial wastewater.
- Sectors like food and beverage processing, pharmaceutical manufacturing, and the automotive industry also contribute to the overall industrial wastewater stream.

Treatment Scheme for Industrial Wastewater-

➤ **For SEWAGE**

Stage I: Primary Treatment

Screen Chamber cum Oil & Grease trap, Sewage Equalization Tank

➤ **For EFFLUENT**

Stage I: Primary Treatment

Screen Chamber cum Oil & Grease trap, Effluent Equalization Tank

Stage II: Chemical Treatment

Chemical Dosing System, Flash Mixer Tank, Flocculation Tank, and Primary Tube settler Tank

➤ **For COMBINED BIOLOGICAL TREATMENT**

Stage III: Secondary or biological treatment (Aerobic)

Aeration Tank & Secondary Tube Settler Tank

Stage IV: Tertiary treatment

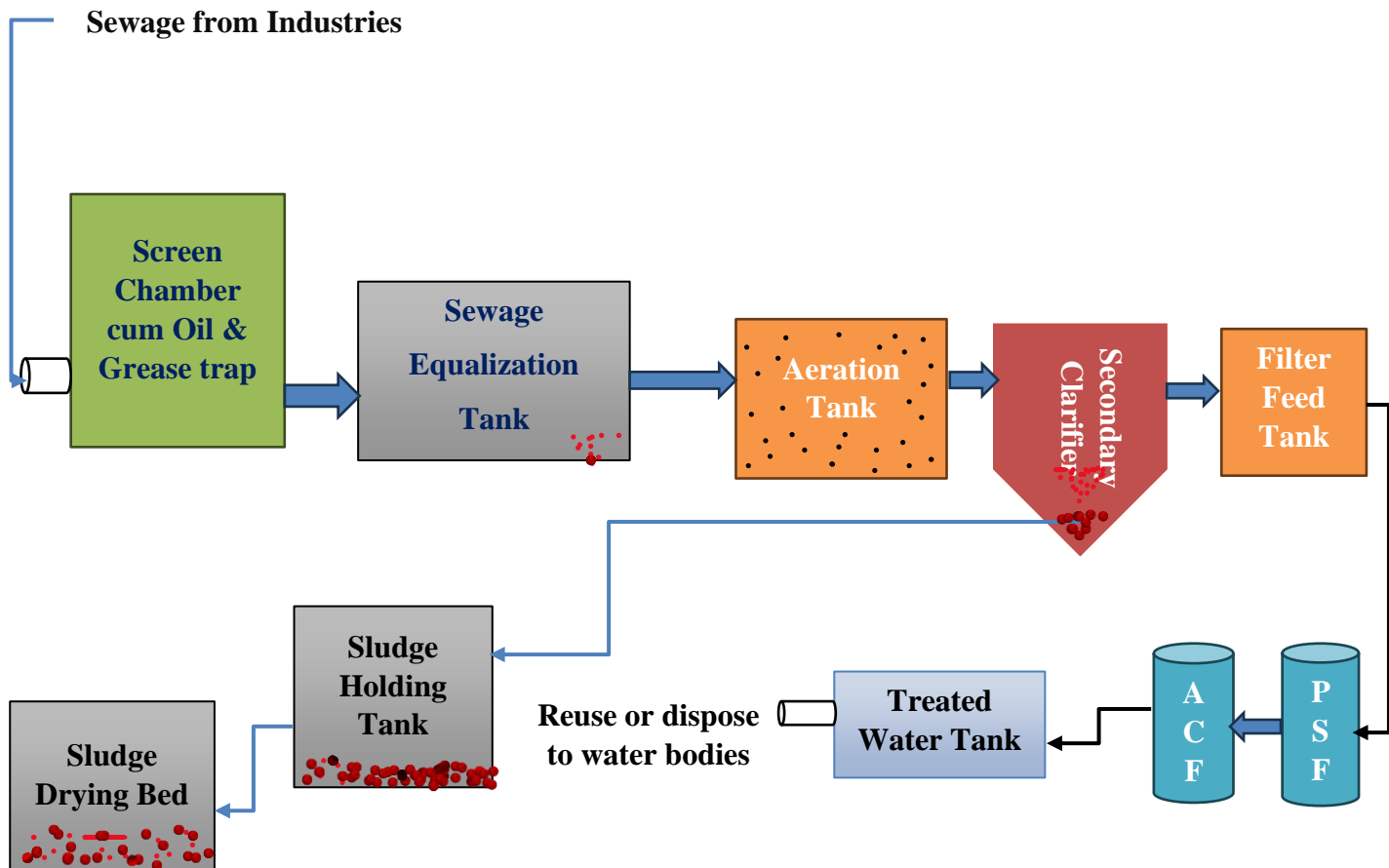
Filter feed tank, Hypo dosing system, Pressure Sand Filter & Activated Carbon Filter

Stage V: Sludge Dewatering System

Sludge Drying Beds



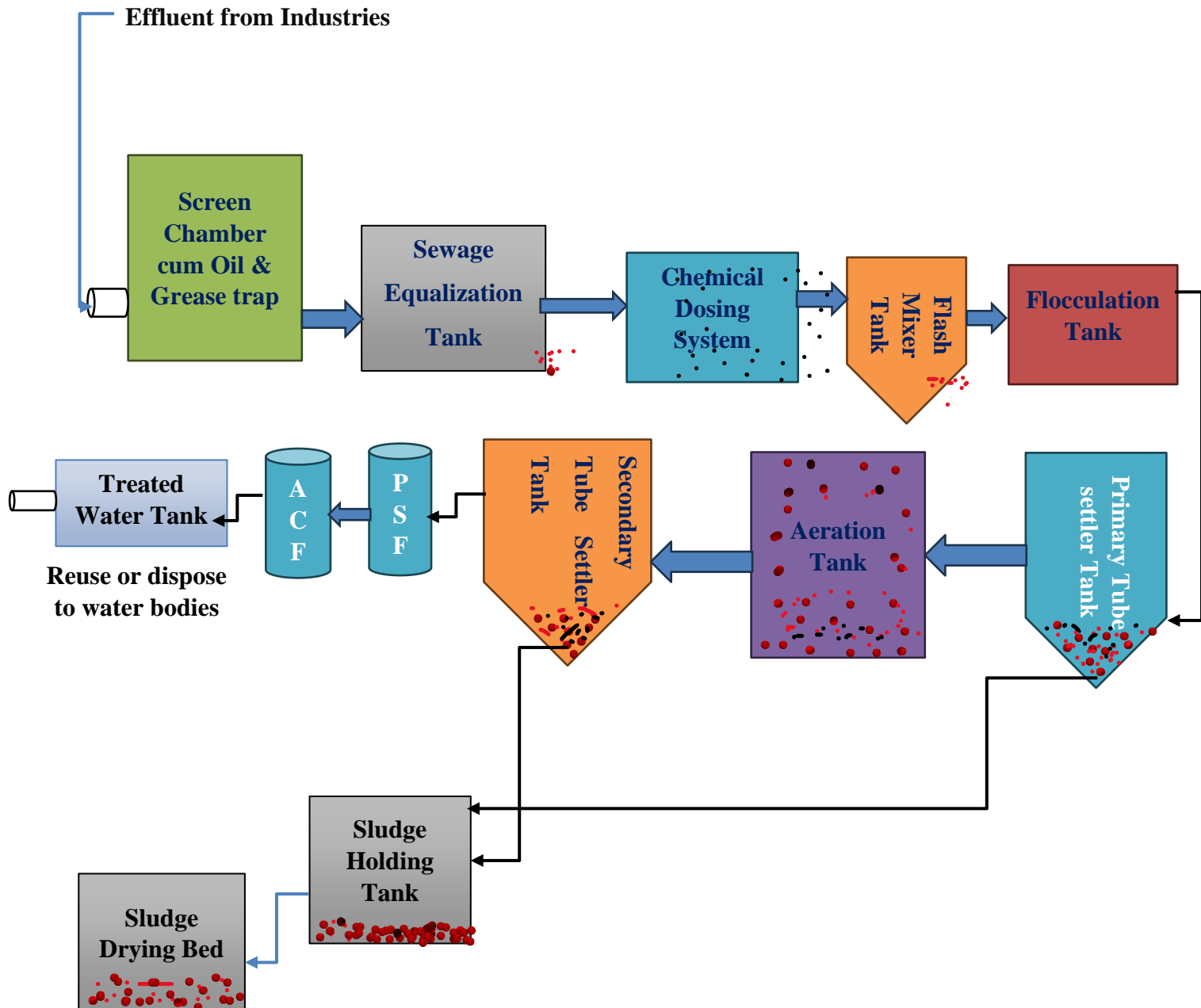
[A] Sewage Treatment Plant (STP)



Conventional STP based on MBBR Technology



[B] Effluent Treatment Plant (ETP)







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"A Step Ahead to Maintain Environmental Balance for Betterment of Mankind."