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**Infrastructure for Pollution Control**

**1. Introduction**

This document details the infrastructure necessary for effective pollution control in food manufacturing units (NIC Code 10101). Minimizing environmental impact is crucial for sustainable operations and regulatory compliance.

**2. Wastewater Treatment**

* Pre-treatment: Implement pre-treatment measures such as screening, grease traps, and equalization tanks to remove large solids and adjust the wastewater characteristics before primary treatment.
* Primary Treatment: Utilize primary treatment methods such as sedimentation tanks to remove suspended solids.
* Secondary Treatment: Employ secondary treatment processes, including activated sludge or anaerobic digestion, to biologically treat organic matter and reduce BOD (Biochemical Oxygen Demand) and COD (Chemical Oxygen Demand).
* Tertiary Treatment: If required by local regulations, implement tertiary treatment to further reduce pollutants and meet stringent discharge standards. This may include filtration, disinfection, or nutrient removal processes.
* Effluent Discharge: Ensure all effluent discharge complies with the standards set by the Central Pollution Control Board (CPCB) and state pollution control boards. Obtain necessary permits for effluent discharge.

**3. Air Pollution Control**

* Ventilation Systems: Install efficient ventilation systems to control airborne particulate matter, odors, and fumes generated during processing.
* Emission Control Equipment: If necessary, implement emission control technologies such as scrubbers, filters, or thermal oxidizers to reduce air pollutants before release into the atmosphere.
* Regular Maintenance: Regular maintenance of ventilation systems and emission control equipment is crucial for optimal performance and compliance with emission standards.

**4. Solid Waste Management**

* Waste Segregation: Implement a robust waste segregation system at source, separating different types of waste (organic, recyclable, hazardous).
* Waste Treatment & Disposal: Treat organic waste through composting or anaerobic digestion. Recycle recyclable waste materials. Dispose of hazardous waste according to local regulations and using licensed waste disposal facilities.
* Record Keeping: Maintain detailed records of all waste generated, treated, and disposed of.

**5. Infrastructure Components**

* Wastewater Treatment Plant (WWTP): A properly designed and sized WWTP is crucial.
* Air Pollution Control Equipment: This equipment selection depends on the specific pollutants generated.
* Solid Waste Storage and Handling Facilities: Secure storage areas for different waste streams are required.
* Monitoring Equipment: Install monitoring equipment to measure parameters like BOD, COD, pH, and emissions to ensure compliance with standards.

**6. Compliance and Permits**

Obtain necessary permits and approvals from the Pollution Control Board for wastewater discharge and air emissions. Regular monitoring and reporting are mandatory.

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