



# Design of Incinerators

## Technology Overview

Most of the hazardous waste resulting from various sources consists of carbon, hydrogen, oxygen, sulfur, nitrogen, heavy metals and other toxic substances in trace quantities. These hazardous wastes are detoxified by subjecting to the incineration process which is gaining popularity as a disposal technology in the field of hazardous waste management. Incineration may be defined as the thermal destruction of the waste at elevated temperature around 1100°C to 1200°C under controlled operational conditions. The products of combustion are carbon-dioxide, water, and ash as a residue. The unit in which the process takes place is termed as Incinerator. Properly controlled incineration is an effective means of reducing waste volume. It ensures cleaner and more complete combustion of waste and lends itself well to waste disposal in areas where scarce resources available for open dumping.

## Potential Application

Incinerators are used for the incineration of different types of wastes generated from various industries and other types of facilities such as solid waste, chemical waste, hazardous waste, medical waste, sewage, sludge and etc. Also, incinerators are used for the cremation purposes as well.

## Advantages

- Reduces the volume and mass of solid waste.
- Waste to energy incineration process is a sustainable source of energy where electricity is generated.
- Helps to reduce the pollution.

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