

Medical Waste Management

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Situation

“Medical waste can be defined as waste produced by hospitals, clinics, doctors' and dentists' offices, veterinary clinics, and medical research labs. “ [1]

- ❖ 85% of Medical Waste is non-hazardous
- ❖ 15% of Medical Waste is hazardous (infectious and non-infectious) [1]

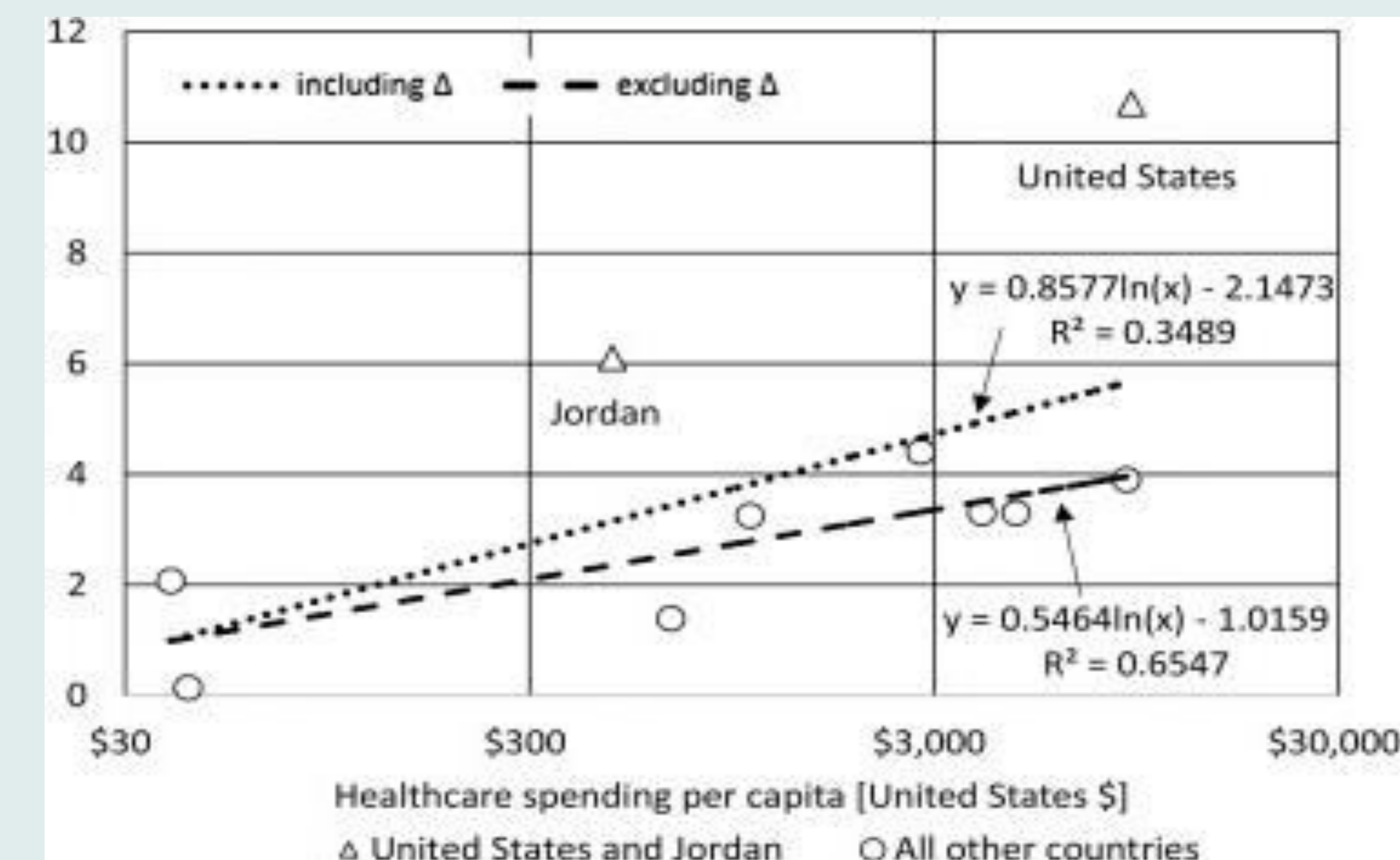
Companies that manage Medical Waste in the UAE:

- ❖ Wekaya
- ❖ DulSCO

Problems

1. Cost
 - ❖ In 2012, the United States spent up to \$2.5 billion for the secure disposal of medical waste.
 - ❖ By 2017 the annual market is expected to \$3.2 billion.[6]
2. High Medical Waste generation.
3. Consequences of mishandling hazardous materials.

Table.1: Total Medical Waste production [2]



Solutions

Steps to managing medical waste:

1. Segregation is the separation of infectious medical waste (e.g., placing each waste item into the proper containers) [3].
First, determine the source and types of waste. Then, waste is weighed and the data is electronically recorded, the waste is then treated and the suitable disposal method is chosen.
2. Incineration: Is the process of removal or reduction of waste materials by burning, this leads to volume reduction up to 90%.
3. Steam sterilization, better known as *autoclaving*, is the exposure of waste to saturated steam under pressure in a pressure vessel or autoclave [4].

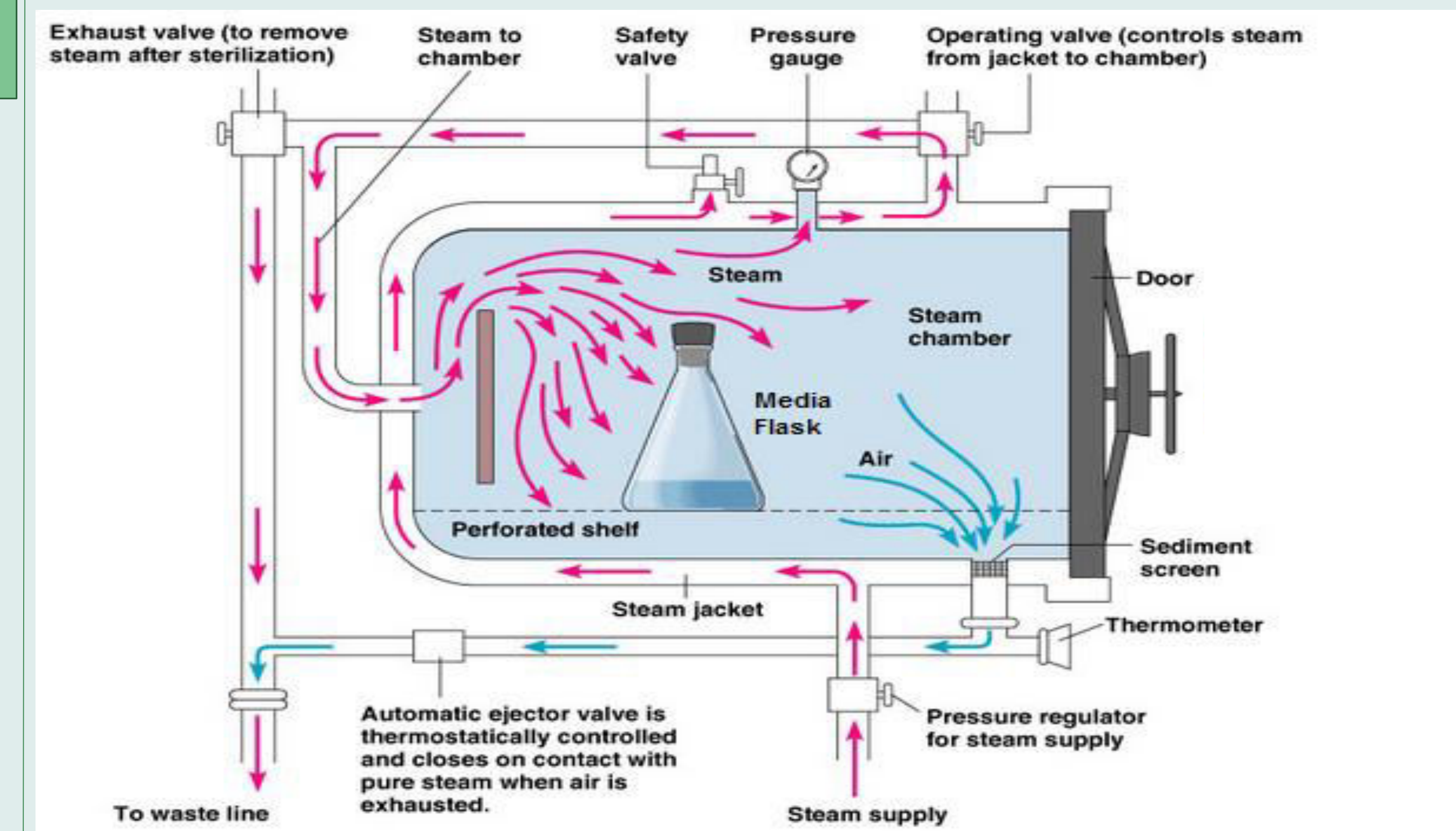


Figure. 2: Sterilization process in an autoclave [4]

Evaluation

- ❖ Segregation is crucial for selecting the best way to handle the medical waste
- ❖ Incineration of medical waste can pollute the air by generating dioxins and furans
- ❖ Sterilization needs operatives to undertake careful disinfection in order to prevent contamination and disease spreading
- ❖ The cost of managing medical waste is high due to the secure system needed when collecting, handling, storing, transporting, treating or disposing of waste.

References

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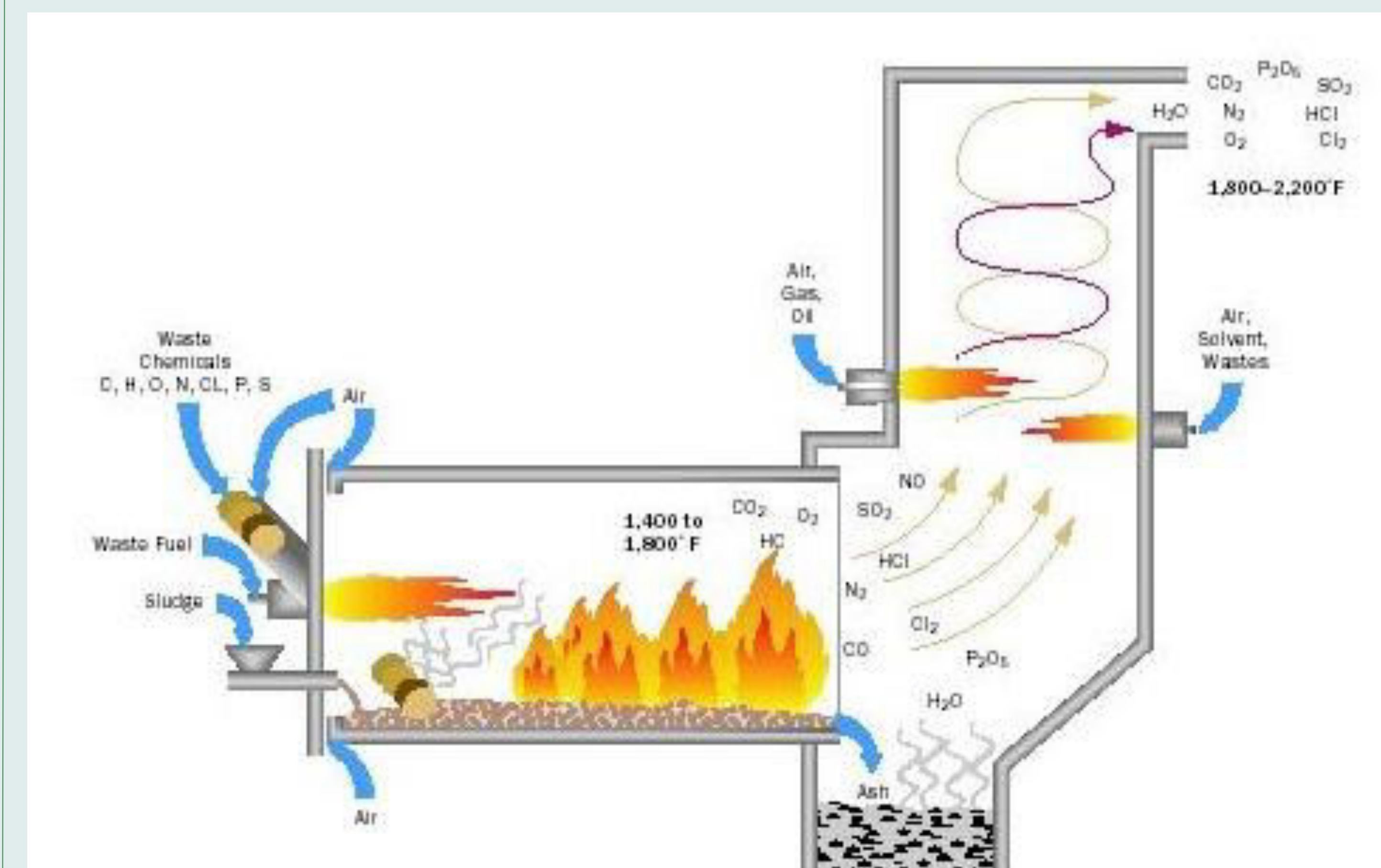


Figure.1: Incineration Chamber [5]