What is a Thermal Desorption Unit (TDU)??



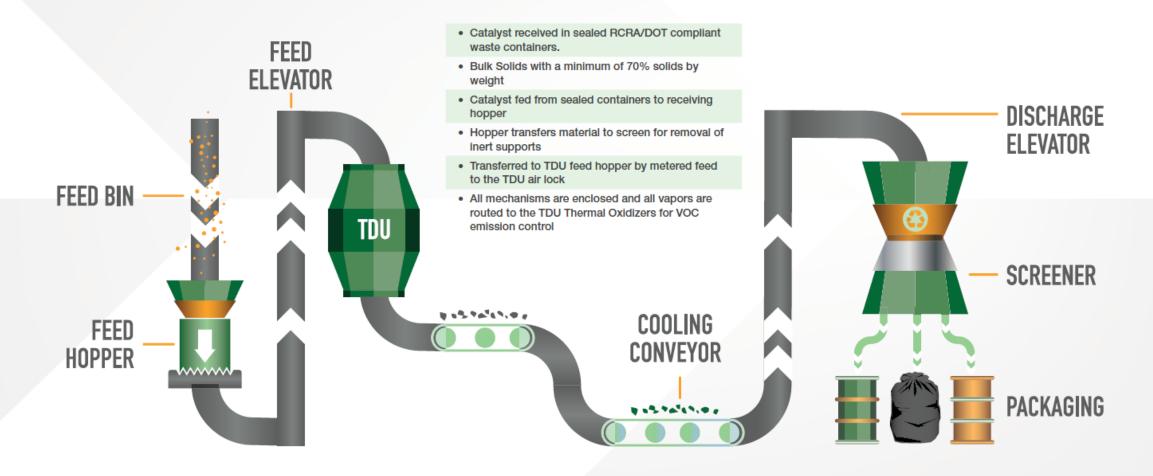




- Thermal desorption is a method used to clean materials that have been contaminated with hazardous chemicals. Due to its benefits, this innovative reclamation technology is changing the way oil refineries; petrochemical companies, manufacturers and more process materials without disposal or incineration.
- Thermal Desorption Units (TDU) are specialized pieces of equipment that use heat to remove contaminants from a variety of materials. The contaminated material is placed in the TDU where it is heated to a high temperature. This process vaporizes the contaminants, leaving the material clean and dry.
- With <u>Thermal Desorption Units</u>, contaminated material is exposed to heat indirectly by contact with a slowly turning drum that is exposed to heat on the outer shell. Vaporized contaminants are separated from the solids in the sludge, resulting in an end product that can be disposed of easily and cost-effectively.



THERMAL DESORPTION UNIT PROCESS



Why send material through a Thermal Desorption Unit?

Clean, safe, reliable, and efficient solution

• Thermal desorption technology is a clean, safe, reliable, and efficient solution for managing wastes. Through this process, waste streams are remediated, delisted, and commercially valuable materials recycled. This process maximizes the recovery of hydrocarbons and valuable metals from the feedstock while drastically reducing and in some cases eliminating the amount of waste requiring landfill disposal.

Adapts and meets throughput temperatures

• Thermal desorption is commonly used to process organic materials such as oil-bearing material from refineries. Thermal desorption can be customized to adapt and meet the temperatures required.

Fast material separation

- Thermal desorption systems can clean over 20 tons of polluted soil per hour. Tough to process streams such as mixed hazardous waste are quickly and safely remediated.
- The time it takes to clean up a site using thermal desorption depends on the amount of polluted material, the condition of the material, and the type (and amounts) of harmful chemicals present.

Can recycle catalysts and reclaim metals

- Typical waste streams such as tank bottoms, and <u>spent catalysts</u>, <u>contain large amounts of recoverable hydrocarbons</u>. Many feedstocks, such as spent catalysts, contain precious metals that can be recycled at a high value. The solids from soil remediation can be repurposed for profitable use applications.
- Processing spent catalyst in a thermal desorption unit separates and reclaims the hydrocarbons, reducing the waste for disposal and prepares the solid materials for recovery of the metals.



INDUSTRIES SERVED

Socially responsible companies are focusing their efforts on disposing industrial by-products and wastes in an environmentally friendly way. We know how to effectively recycle metals and manage your environmental impact in a financially favorable way.



CAN I SHIP MY SPENT CATALYST AND TANK BOTTOMS UNDER THE VRE?

- The 2018 Definition of Solid Waste (DSW) rule came into effect immediately in states, territories, and tribes that are not authorized by the Resource Conservation and Recovery Act (RCRA), which includes Iowa and Alaska.
- All states are highly encouraged to adopt the 2018 DSW final rule, and some sections of the rule, like the definition of legitimate recycling at title 40 of the Code of Federal Regulations (CFR) in section 260.43, are mandatory and will eventually be adopted by every state.
- However, the three solid waste exclusions—the generator-controlled exclusion (40 CFR section 261.4 (a) (23)), the revised transfer-based exemption (40 CFR section 261.4(a) (24) and (25)), and the remanufacturing exemption (40 CFR section 261.4 (a) (27)) —that were added to 40 CFR part 261.4 (a), are all optional because they are less stringent than the 2008 DSW, and therefore each state has the option of whether to adopt them.



Questions?