Animal Rendering

Animal rendering is a process that recycles animal by-products, transforming them into valuable materials like fats, proteins, and minerals for use in products ranging from animal feed to biofuels. While it plays a crucial role in waste management and resource efficiency, the industry faces several challenges, such as maintaining strict hygiene standards, managing odors, and addressing concerns related to facilities' environmental impact.

Despite this, animal rendering contributes significantly to sustainability by reducing waste, conserving resources, and providing a circular solution to animal materials that might otherwise become landfill. By efficiently turning waste into useful products, rendering helps promote a more sustainable and ethical approach to resource utilization.

Hydrite helps renderers address common industry challenges through chemistry, equipment, and expertise.

Rendering Industry Challenges

- **Ecological Footprint:** While rendering helps recycle animal byproducts, cooking and drying processes can be energy intensive, increasing greenhouse gas emissions.
- **Odor Concerns:** When animal by-products are heated to high temperatures, sulfur compounds in the proteins are released. Additionally, the processes of cooking, drying, and pressing animal by-products contribute to the emission of organic pollutants like sulfur, ammonia, and nitrogen compounds,
- **Health and Safety Risks:** There are health and safety risks associated with the handling of animal by-products including mechanical injuries from slippery surfaces, lifting heavy materials, exposure to high noise levels, and contact with biological and chemical agents.
- **Up-to-date Technology:** Staying up-to-date with the latest processing technologies and methods for improving efficiency, reducing waste, and minimizing environmental impact requires constant investment.
- **Wastewater Treatment Compliance:** Beef slaughterhouses, especially those without access to municipal treatment plants, face significant challenges in treating wastewater to meet stringent environmental standards.

Animal Rendering Solutions

Hydrite is involved throughout many steps of both inedible and edible rendering processes, some of which include:

ODOR CONTROL

PROCESS AIDS

SANITATION CHEMICALS

FOAM CONTROL

Wastewater Treatment in Animal Rendering Facilities

Water treatment in rendering facilities is a critical aspect of ensuring environmental sustainability and compliance with regulatory standards. Rendering processes generate wastewater containing organic matter, fats, proteins, and other by-products that must be properly treated before being released into the environment. To achieve this, facilities employ a range of water treatment technologies, such as mechanical filtration, biological treatment systems, and advanced chemical processes, including pH adjustment and the use of chlorine dioxide, to remove contaminants and reduce environmental impact. Hydrite offers specialized equipment and chemistry to meet the needs of renderers' wastewater treatment:

EQUIPMENT

Hydrite offers a variety of water treatment equipment solutions designed to reduce costs. Solutions like the Fife Monitor™ paired with the proper chemical program can assist with protein byproduct recovery, enabling renderers to squeeze every last drop from their water.

PROTEIN RECOVERY POLYMERS

In addition to our comprehensive wastewater treatment solutions, Hydrite provides GRAS polymers that facilitate protein recovery from wastewater. These polymers help recover valuable proteins, which can be repurposed as animal feed, contributing to resource efficiency and sustainability.

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