



Applications of **ANAEROBIC DIGESTION**

PROCESS • APPLICATIONS • USES • SOLUTIONS

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ANAEROBIC DIGESTION

Anaerobic digestion breaks down organic matter into simpler chemical components without oxygen. This process is especially useful in the treatment of organic waste, such as sewage sludge, agricultural wastes, municipal solid wastes (MSW), green wastes, industrial wastes, and commercial wastes. Many fermentation processes that are used to produce food and drink products make use of anaerobic digestion.

THE ANAEROBIC DIGESTION PROCESS

Anaerobic digestion breaks down organic matter into simpler chemical components without oxygen. The process begins with bacterial hydrolysis of the feed material in order to break down insoluble organic polymers, such as carbohydrates. This makes them available for other bacteria. Acidogenic bacteria then convert amino acids into carbon dioxide, hydrogen, ammonia, and organic acids. Acetogenic bacteria convert the resulting organic acids into acetic acid, ammonia, hydrogen, and carbon dioxide. Methanogens convert these products into methane and carbon dioxide.

APPLICATIONS OF ANAEROBIC DIGESTION

- Treatment of organic waste, such as sewage sludge, agricultural wastes, MSW, green waste, industrial waste, and commercial waste.
- Fermentation processes which are used to produce food and beverage.
- Use as a source of renewable energy.
- Conversion of products, such as livestock manure, municipal wastewater solids, fats, and oils, into biogas.

USES OF ANAEROBIC DIGESTION

Wastewater treatment plants use anaerobic digesters to break down sewage sludge and eliminate pathogens in the wastewater. The food and beverage industry often generates high-strength waste streams as by-products of their manufacturing process. These waste streams are well-suited for anaerobic digestion. Anaerobic digestion of the organic fraction of MSW provides a controlled process of capturing methane for a high cost/high benefit ratio.

VULCAN DRYING SYSTEMS SOLUTION

Vulcan Drying Systems supplies equipment for the anaerobic digestion of a wide variety of materials among many industries. Our highly qualified staff will custom-design and manufacture a system that best suits your specific project needs, providing support through every step of the process. For more information on Vulcan Drying Systems email us at sales@vulcandryingsystems.com or call us at +1-660-263-7474.

