Biological Treatment of Organic Waste, Tomato Waste Water Treatment, Agro-Industrial Wastes,.....

Description:

Biological Treatment of Organic Waste, Tomato Waste Water Treatment, Agro-Industrial Wastes, Oxalic Acid from Jute Stick, Liquid Manure into a Solid, Cotton Processing Waste, Fish Waste, Bioconversion of Pretreated Wheat Straw and Sunflower Stalks to Ethanol, Pig Waste, Oxytetracycline, Methane from Cattle Waste, Agricultural Waste Treatment, Waste of Dehydrated Onion, Beef-Cattle Manure Slurry, Meat Meal and Algae for Calves, Wastes from Large Piggeries

Biological treatment is an important and integral part of any wastewater treatment plant that treats wastewater from either municipality or industry having soluble organic impurities or a mix of the two types of wastewater sources. The obvious economic advantage, both in terms of capital investment and operating costs, of biological treatment over other treatment processes like chemical oxidation; thermal oxidation etc. has cemented its place in any integrated wastewater treatment plant.

Biological treatment using aerobic activated sludge process has been in practice for well over a century. Increasing pressure to meet more stringent discharge standards or not being allowed to discharge treated effluent has led to implementation of a variety of advanced biological treatment processes in recent years.

Biological treatment is the recycling of humus, nutrients and/or energy from biological waste by means of aerobic (composting) or anaerobic (digesting) processing. In practise, this includes a number of specialist areas such as source collection of food waste, choice of suitable substrate, pre-treatment of the substrate, the biological process, emissions as well as utilisation of the products produced (biofertilizer, sludge, compost, biogas).

Biological wastewater treatment confines high concentrations of naturally occuring bacteria in treatment tanks. These bacteria, along with protozoa and other microbes, form activated sludge. When the activated sludge bacteria "eat" small organic carbon molecules, the wastewater is cleansed. Biological treatment is widely used because it is more cost effective than other types of treatment processes, such as chemical oxidation or thermal oxidation.

Biological wastewater treatment processes are economical and environmentally sustainable for the removal of organic pollutants from wastewater. The biological wastewater treatment processes are basically biochemical oxidation processes in which under controlled environmental conditions in the presence or absence of oxygen, micro-organisms utilise the organic matter for the production of energy by cellular respiration and for the synthesis of protein and other cellular components for the production of new cells. The process occurring in the presence of oxygen is termed as “Aerobic” process.

The biological treatment of wastewater is based on the ability of a set of microorganisms that are capable of degrading the organic matter present in the wastewater for its own growth. Apart from organic matter, microorganisms need water containing nutrients, basically nitrogen and phosphorus, to grow. Subsequently, the separation of these microorganisms from water is simple and economical. Thus, microorganisms are responsible for removing the organic matter present in water, both particulate and soluble.

For more details download PDF file.

Keywords: Biological Treatment, Organic-Waste Treatment, Biological Treatment of Organic Waste, Biological Wastewater Treatment, Biological Treatment Plant or Organic Waste, Organic Solid Waste Biological Treatment,

Biological Treatment Plant, Microorganisms in Organic Waste Disposal, Biological Treatment of Waste, Process for Biological Treatment of Organic Waste, Biological Treatment Process, Organic Waste Treatment, Organic Waste Recycling, Organic Waste Forms and Treatment Strategies, Biological Waste

Created At: 24 Jan, 2018