

BIO-TECH TALK

GBI Develops Innovative Odor Control Technology Butane Biostimulation™ (Patent Pending)



Many industrial applications produce odors. Most odors are unpleasing and serve as a nuisance, or sickness, to human and animal receptors. Butane is an excellent compound that absorbs odor and stimulates butane-utilizing bacteria, the activities of which reduce and abate odors. In the gaseous state, butane serves as a deodorizer. In an aqueous or non-aqueous environment, butane removes malodors by chemically reacting and neutralizing odors and toxic gases, which are unpleasant to humans and animals. Butane acts as a gaseous “carbon scrubber” for many odors.

Most commercially available deodorizers on the market today simply mask malodors. These "masking agents" contain perfumes that superimpose a pleasant odor upon an unpleasant one. Covering up odors that are offensive to humans and animals may control the odor for a short period of time but the toxic gases and odors are not eliminated. Butane Biostimulation Technologies™ are cost competitive with conventional odor control strategies such as activated enzyme addition, powder addition, or chemical oxidation using permanganate.

The Butane Injection Process is Very Safe

The use of butane for odor control is very safe. Butane is non-toxic and very low concentrations are generated in a waste stream. In addition, butane is a general-purpose food additive and is used in the food processing industry to extract vital oils and flavors from a variety of food sources. It is also used as an aerosol propellant for health care products that contact the skin.

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Butane Biostimulation™ for Wastewater Odor Control

Odor is often a result of bacterial decomposition of organic matter. This natural process of decomposition produces unpleasant smelling gases as an interim by-product. Butane Bio-stimulation abates gaseous odors associated with organic decomposition such as ammonia, mercaptans, sulfides, disulfides, and other reduced sulfur species. GBI's state-of-the-art delivery system, the Butane Injector 2000™ is safe, highly reliable, and requires little maintenance. The system is designed to comply with all regulations pertaining to compressed gas storage and usage.

The Butane Injector 2000™ pulses butane into the existing outlet piping of the gas motor air compressor located at a wastewater facility. The butane/air mix will flow through existing facility piping networks and into diffusers configured in existing aerators or sludge tanks. No additional piping or diffusers are necessary. No other facility retrofits are required.



Example of Butane Injector 2000™ at a small wastewater treatment facility

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