

Odor Control Technologies



ODOR CONTROL TECHNOLOGIES: BACTERIA & ENZYMES

WHAT ARE BACTERIA?

Bacteria are microscopic organisms vital in recycling the nutrients found everywhere in nature. Multiplying with remarkable speed, they make up much of the world's biomass. If food, moisture and temperature conditions are right, these single-celled organisms reproduce at a prodigious rate - often as every twenty minutes. In eight hours time, a single bacterium can give rise to nearly 17 million new bacteria.

Bacteria produce various types of enzymes to help break down their food source into smaller chemicals, which can be readily assimilated by the organism. Many of these chemicals - as well as certain bacteria byproducts - can produce the variety of offensive odors found in waste industries. Conversely, there are a variety of selective bacteria that feed on these odor-causing chemicals, allowing these bacteria types to control such odors!

WHAT ARE ENZYMES?

Enzymes are specialized proteins produced by plants, animals and virtually all other known forms of life. Enzymes function as "biocatalysts" accelerating the rate of vital chemical reactions within a cell, including digestive functions essential for the breakdown and assimilation of food chemicals. While enzymes speed up chemical reactions, they themselves remain unchanged in the process.

Different enzymes break down different compounds, one example being those specializing in converting cellulose into simple sugars. Since enzymes act as catalysts and are not altered or consumed during these chemical reactions, they are available to be reused over and over.

WHY COMBINE BACTERIA & ENZYMES?

A variety of NWC's odor control products utilize a proprietary blend of select chemical enzymes, as well as specialized bacteria that produce their own enzymes. This combination allows for both an immediate and longer-term solution to your difficult odor control problems.

The enzymes immediately begin the chemical process of breaking down offending compounds into food sources for the bacteria which, in turn, continue converting such chemicals into non-odorous byproducts.

Other types of bacteria have the ability to directly attack the original odor-causing chemicals and again, producing non-odorous byproducts. As long as a food source is available, the bacteria will continue to multiply, increasing their overall effectiveness and ensuring a long-term solution to the odor problem.

BIO-AUGMENTATION: BACTERIA & ENZYME CUSTOMIZATION

NWC's battalion of bacteria and enzyme products utilize a wide variety of selectively adapted bacteria, specifically engineered to be effective against an array of odor-causing materials. Each product combines multiple strains of bacteria, select enzymes and neutralizing chemicals into a single synergistic blend, designed to address a specific type of odor control problem.

NWC's products can be tailored fit to address the need of any odor-plagued environment, including landfills, transfer stations, municipal and industrial waste water treatment, sludge ponds, contaminated sediments, remediation projects, pulp and paper mills, and many, many more. If you have an odor issue, contact one of our experts today to see how we can solve your problem!

ODOR CONTROL TECHNOLOGIES: CHEMICAL NEUTRALIZERS

NWC's Odor Neutralizers are chemically different from nearly all other neutralizers on the market, and are clearly different from odor masking agents. NWC uses a variety of odor control chemistries based largely on unique blends of food grade chemical compounds and botanical derivatives.

All of NWC's Odor Neutralizers work well against a broad consortium of odors, but some products have been formulated to specifically target malodors that are either more alkaline or acidic in nature.

These materials work by either chemically-reacting with the odor causing chemicals, turning them into non-odorous insoluble salts, and/or ionically binding to them, allowing them to "wet-out" in the aqueous phase of the system and precipitate into the air.

These chemical interactions occur across a wide variety of ambient temperatures, yielding outstanding odor control performance under all field conditions. Many competitive products that rely primarily on blends of essential oil fragrances are by far not as effective across such a wide spectrum of applications.

One of NWC's top neutralizers is Odor Sergeant. Unlike conventional odor control products based on essential oil fragrances that volatilize fairly quickly, Odor Sergeant is supplied as an almost 100% solid concentrate that, even after dilution with water, provides effective odor control performance for several days without having to be reapplied or re-misted.

WHAT NOT TO USE: MASKING AGENTS

Odor masking merely substitutes one odor for another. A common example of this is placing a fruity odor over an existing bad odor that might be coming from the waste. Odor masks typically "mix" odors but the net result may be a combined fragrance that is not at all pleasant to smell.

Odor masks do not chemically "stop" the odor at its source, but rather allow it to persist. Some odors are especially toxic (hydrogen sulfide, ammonia). Masking such malodors with a nice fragrance does not minimize the exposure of personnel to the health hazards of these chemicals, and can result in a potentially dangerous situation.

We strongly advise all of our customers not to rely on masking agents, but rather work with their NWC sales representative in determining which of our Odor Battalion combatants will work best for your particular situation.