BIO-LINE EXT

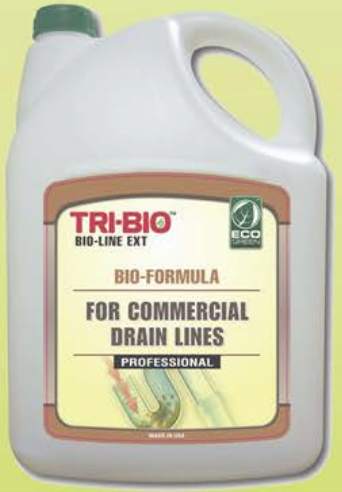
Available packaging:
150 OZ, 19 L

BIO-FORMULA FOR COMMERCIAL DRAINS AND GREASE TRAPS SYSTEMS

Commercial drain lines, grease traps and wet wells accumulate large amounts of concentrated organic waste. As grease is broken down, the pH will drop, creating an environment prohibitive to most microbial activity and allowing the fatty acids to release foul odors. As a result, these systems create frequent maintenance challenges. Rootering, pumping, and the use of harsh chemicals can be costly, hazardous and damaging. Inherent odor and corrosion problems compound the situation. Finally, biotechnology has the ultimate solution! BIO-LINE XTR - grease digester, odor controller and corrosion controller is the newest biotechnology available.

Description: Effectively treat drain lines, grease traps, wet wells and lift stations, and outperforms today's chemical oxidants. Digest the grease, oils and fats in the effluent or water phase of the trap and turn it into simple compounds of carbon dioxide and water. Provides exceptional odor and corrosion control. Destroys harmful bacteria. Prevents drain system from back-ups. Saves Money by reducing pumping costs. The unique blend of microorganisms alleviates low pH problems, allowing BIO-LINE XTR the ability to perform at 100% even in adverse conditions. Consumes organic waste under both aerobic and anaerobic conditions. Safe to use. Reduces deposits that provide the anaerobic pathway that promotes the production of the sulphides. Not only breakdown the grease, but in fact digest the grease reducing the amount of grease actually in the system and effluent waters.

When poured down the drain, the microorganisms adhere to the sides of the lines and create a `biofilm' along the inside of the line. This biofilm will adhere to the sides of the pipe and digest organics stuck to the sidewall. This helps tremendously in the elimination of clogs at the joints and elbows of the lines.



Health benefits: No phosphates, no harsh solvents, no chlorine bleaches, no abrasive substances, no perfumes, no colorants, no toxic substances, pH neutral, hypoallergenic. Safer alternative to harsh chemical cleaners. Awarded with ECO GREEN certificate.

Environmental benefits: Low VOC's, easily biodegradable, minimum impact on aquatic life, recyclable packaging materials, no animal testing.

Directions can be added directly to the grease trap, or dosed through the drains. Dosing depends on many conditions. Product must be dosed after the kitchen is closed. Please, contact us for a free consultation.

Ingredients: Proprietary formulation containing viable microorganisms cultures (class 1 "non-pathogenic"), Sodium dodecylbenzenesulfonate, Soda.

Made in USA

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DRAIN & GREASE TRAP MAINTENANCE WITH BIO-LINE EXT

The Role of Microorganisms in our Environment: Microorganisms populate our environment, successfully adapting to a wide range of extremes. Microorganisms are nature's "primary decomposers", critical to the natural recycling of the planet's basic elements such as carbon, oxygen, nitrogen, phosphorus, etc. Bacteria Microorganisms

Biological Activity in Grease Traps: Waste collection systems are designed to collect, and often transfer, various waste components. Grease traps are designed to separate grease and oil from a wastewater stream in order to:

- Reduce the build-up of these components in collection systems
- Prevent excessive loading on downstream treatment facilities
- Grease trap's effectiveness in collecting grease varies with its size and design relative to loading

Although grease traps are not designed to favor biological treatment, they create conditions favorable to biological growth, including food substrates such as grease and other organics, generally acceptable pH, limited aeration, and generally suitable temperatures. Naturally occurring organisms, capable of utilizing the food substrates present, establish a significant population within the grease trap. This microbe population tends to utilize the most readily available organics such as starches. Although retention time in the typical grease trap is relatively short, microorganism populations remain fairly constant because they attach themselves to wall and pipe surfaces. This environment is referred to as a BIOFILM. It is formed by organics and minerals, present in the waste stream, as they collect on trap walls and inner pipe surfaces. It is here that the microorganisms gather in huge numbers, rapidly reproduce, and quickly degrade grease while being protected from occasions of high temperature, chemical additions, or pH excursions.

Bioaugmentation in a Grease Trap: Bioaugmentation takes advantage of the ability of a grease trap to support biological activity. The organisms contained in BIO-LINE EXT are specifically designed to degrade grease and oil. Programmed introduction of BIO-LINE EXT into a grease collection system will optimize the bioaugmentation process and significantly accelerate grease and oil degradation.

The specialized organisms in BIO-LINE EXT are developed from naturally occurring isolates that have been selected for their ability to degrade grease and oil of various origins, rates of grease degradation, metabolism of specific components, and tolerance of conditions present in grease traps.

BIO-LINE EXT is formulated with over 500 billion microorganisms per gallon. Doubling every 20 minutes, the microbe population in BIO-LINE EXT swiftly builds to extremely high levels, optimizing grease digestion. Furthermore, the addition of electron acceptors in the formulation interrupts the natural process of anaerobic digestion responsible for the production of hydrogen sulfide and sulfuric acid, the compounds responsible for foul odors in grease collection systems as well as corrosion. Hence, the regular use of BIO-LINE EXT provides the added benefit of virtually eliminating odors and corrosion associated with grease traps and drains.

The Mechanism of Microbial Breakdown of Grease: Microorganisms degrade compounds by producing very specific enzymes. Microorganisms are extremely efficient "enzyme factories". They recognize the organics present in an environment and respond by producing the enzymes required to degrade those specific organics. The breakdown of grease is a complicated metabolic pathway in which each step requires a specific enzyme. For example, a triglyceride is initially cleaved by lipase into a glycerol and three fatty acids. The glycerol and each fatty acid are then broken into smaller and smaller components by specific enzymes until eventually these compounds are reduced to carbon dioxide and water. BIO-LINE EXT 's consortium of microorganisms, rather than a single strain, is extremely effective in breaking down grease and other complex wastes.

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A synergistic blend of selectively adapted microorganisms, added to the indigenous population, substantially increases the speed and scope of degradation.

Each time the grease is broken down into a smaller particle the microorganisms gains energy. This energy is utilized to produce more enzymes and for cell growth. Attached microorganisms continue to grow and produce. Some new cells are released into the liquid stream while others further colonize the biofilm.

Bioaugmentation vs. Alternate Technologies: Alternate products such as solvents, surfactants, and enzymes have also been marketed for the reduction of maintenance of grease traps. Solvents simply liquefy the grease in a grease trap allowing transport downstream. Once the solvent is sufficiently diluted, the grease then resolidifies and is redeposited on the walls of the collection system. Products containing a high concentration of surfactant have a similar effect.

Other products sold for grease trap maintenance are based on concentrated enzymes. Enzymes themselves are, of course, good. They are the 'magical ingredients' that break down food sources into edible forms that can then be consumed and digested by microbes. But if there are few or no microbes present to eat this 'prepared' food, then the apparent solution that an enzyme-only based product provides is short lived. It simply moves elsewhere in the waste treatment system and reappears as a problem oftentimes more difficult to deal with. In addition, excessive enzyme action without complimentary action by capable microorganisms can lead to significant pH drop. This condition will stop all microbiological activity. Hence, without the presence of robust, specific microorganisms, the use of enzyme-based products can actually be counter-productive. The use of BIO-LINE EXT microbial products, on the other hand, maintains a balanced metabolism within a waste treatment system – enzymes to break down waste compounds and armies of microorganisms to digest them. The result? -- Complete breakdown of grease!

Impact of Bioaugmentation Programs: When bioaugmentation products are developed scientifically, and utilized properly, they bring about the reduction of maintenance pumping, eliminate back-ups, and decrease or eliminate odor generation in grease traps. In fact, the dramatic effects demonstrated have raised a concern that, instead of being degraded, perhaps this grease is actually liquefied and subsequently transferred downstream. This effect would thwart the original purpose of the grease trap, create additional grease build-up in the collection systems, and increase loading on a waste treatment facility. On the contrary, an effective bioaugmentation program can only provide a positive effect on collection and treatment systems downstream. The Canadian Ministry of the Environment and Energy conducted an extensive study including 10 restaurants. A 16-week pre-bioaugmentation baseline data was compared to 16 weeks of treatment data including monitoring of the receiving sewers. "Study results indicate that bioaugmentation has the potential of reducing fat, oil, and grease in discharges from the restaurant sector by up to 50% and also bring facilities into compliance with sewer use discharge limits." And "No adverse effects, as a result of bioaugmentation, were identified within restaurant grease traps, lateral sewers, and main sewers. The study has demonstrated, that under the right conditions, bioaugmentation has the potential of enhancing fat, oil, and grease management (maintenance) in the restaurant sector and reduce oil and grease maintenance activities for municipalities".

BIO-LINE EXT – Augmenting Grease Traps: Commercial kitchen drain lines, traps, sanitary systems and wet wells wash through and accumulate large amounts of concentrated organic waste. As a result of this heavy organic loading, the plumbing and connecting systems historically require periodic cleaning, (i.e. harsh solvents, or worse, caustics and acids) are physically opened by rooter service, or are completely pumped out. While these methods are successful, they can be costly, hazardous, and damaging to the plumbing. Organic loading includes food compounds such as: raw vegetables, pieces of fat, food scraps, liquids from stewing and boiling of vegetables and potatoes, fat drained off from frying, and deep fat frying oil. These particles will wash down the drain and accumulate in the joints and elbows of the lines causing a backup in the system when the grease and fats accumulate on the food stuffs and congeal. The current method of rootering out the lines and pumping is expensive for use as a maintenance program. If a business uses the pumping company only when a crisis arises, the costs for emergency work after hours can be double and sometimes triple the usual fees.

Microorganismic Treatment: The grease that accumulates in the top portion of the trap is composed primarily of lipids, such as triglycerides and free fatty acids. Even with the use of grease traps that effectively separate the grease/solids from the effluent, businesses will still find themselves needing pump outs or using solvents, emulsifiers, or inhibited acids because there are clogs inside the lines leading to the trap. BIO-LINE EXT grease digester, odor controller, and corrosion controller can significantly accelerate the biodegradation in these systems. With over 500 billion microorganisms per gallon, Bio-Line has been shown to digest grease at ten times the rate of the competition. This formulation contains 5 strains of selectively adapted naturally occurring spore forming strains of microorganisms that effectively produce protease, lipase, amylase and cellulase enzymes. In addition, this formulation contains electron acceptors that interrupt the natural process of anaerobic digestion responsible for the production of odor and corrosion causing hydrogen sulfide and sulfuric acid. This formulation also contains nutrient accelerators that greatly enhance the product's natural ability to biodegrade the compounds normally found in grease traps, drain lines, wet wells and lift stations.