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Supply industrial water, wastewater, and enzyme products

WASTEWATER SOLUTION

Application: – Grease Interceptor Application to remove FOG.



**BioGrease 4210-4/ EW4210-4
Dry tan powder**

Grease interceptor maintenance is a necessity for smooth kitchen operations. Maintaining the grease interceptor properly doesn't have to be a costly, time-consuming process. The patented beneficial microorganism in "BioGrease4210" augments the natural processes already at work in the grease interceptor. "BioGrease4210" helps degrade grease buildup, reducing problems such as drain line blockages, excessive pumping, and malodors. "BioGrease4210" takes the worry out of grease interceptor maintenance and helps keep the kitchen running smoothly.

Benefits

Fast, effective grease interceptor maintenance

- Helps reduce grease interceptor maintenance through long-lasting microbial bioaugmentation
- Helps prevent buildup by continuously degrading a broad range of fat, oil, and grease (FOG), as well as other food organics.
- Maintains a clean effluent drain line and reduces effluent drain blockages
- Does not carry FOG downstream in the municipal system

Advanced microbial technology

- Patented microbial technology for long-lasting performance, even under harsh or low-pH conditions

Certifications

- Certified formulation available for "BioGrease4210" D Lipase
- Certified within the NSF Nonfoods Compounds Registration Program ("BioGrease4210" Herbal, "BioGrease4210" Pure, and "BioGrease4210" D Lipase)



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"BioGrease4210"	Ap	Specifications
Herbal BioGrease 4210	Grease interceptor treatment with fragrance	<ul style="list-style-type: none">• Liquid• Fully formulated• Ready to use• Herbal fragrance
Free BioGrease 4211	Grease interceptor treatment without fragrance	<ul style="list-style-type: none">• Liquid• Fully formulated• Ready to use
Pure BioGrease 4212	Grease interceptor treatment without surfactants	<ul style="list-style-type: none">• Liquid• Fully formulated• Ready to use• No surfactants
D BioGrease 4213	Dry grease interceptor treatment	<ul style="list-style-type: none">• Dry formula• Fully formulated• Ready to use
D Lipase BioGrease 4214	Dry grease interceptor treatment with lipase	<ul style="list-style-type: none">• Dry formula• Fully formulated• Ready to use• Added lipase

Performance

Genotech Biological conducted a year-long field study demonstrating the effects of bio augmentation on grease interceptor effluent quality and odor control. The study was performed at a full-service restaurant near a large shopping mall and consisted of four cycles of approximately 90 days each. Effluent quality is an indicator of how well a grease interceptor is functioning.

Important effluent parameters include oil and grease (O&G), biochemical oxygen demand (BOD – measurement of biodegradable), and total suspended solids (TSS). High measurements of any of these parameters indicate that the effluent is “dirty,” which can increase the risk of buildup and clogs. Low measurements on these three key parameters indicate that a grease interceptor is functioning properly.

The benefits of grease interceptor bio augmentation with “BioGrease4210” were shown during this study as oil and grease, BOD, and TSS were reduced by 33%, 24% and 9% respectively (Fig. 1).



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Critical effluent parameters



Fig. 1. Summary of effluent parameters.

Odors from grease interceptors can be a major problem for restaurants. An improperly maintained grease interceptor can lead to odors that back up into the facility making for an unpleasant environment for both employees and customers. Odor analysis during the field trial with BioGrease showed reduction of several key malodors (Fig. 2) such as volatile fatty acids and sulfur and nitrogen compounds .



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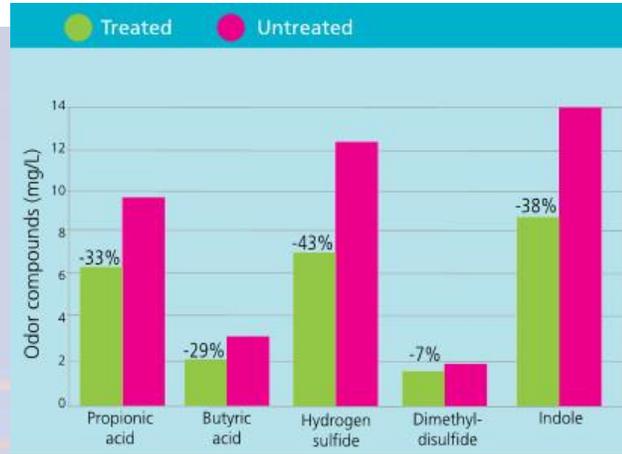


Fig. 2. Reduction of various malodorous compounds by BioGrease 4210

Reduction of malodorous compounds:

While effluent quality and odor control are important, it is also important that bioaugmentation helps control buildup within the grease interceptor. Degradation of long-chain fatty acids (i.e., stearic, palmitic, or oleic) in low-pH conditions can help reduce or slow the buildup of grease in the system over time. In a field study the scum layer (grease cap) that floats on the surface of a grease interceptor was monitored for visible changes. Figure 3 shows the visible changes in the grease cap treated with “BioGrease4210” over a 6-week period. Initially the grease cap appears thick and heavy but after weeks 3 and 6 is noticeably thinner and lighter.

Grease degradation





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Fig. 3. Grease degradation as seen over a 6-week treatment period with BioGrease 4210 .

“BioGrease4210” provides for a cleaner effluent, odor reduction, and some control of the grease cap. The naturally occurring beneficial microorganisms found in “BioGrease4210” provide these benefits by working continuously in the grease interceptor. Figure 4 demonstrates this continual activity on kitchen waste as measured by respirometry. Respirometry is a laboratory method used to monitor oxygen consumption. Increased oxygen consumption indicates better organic degradation.

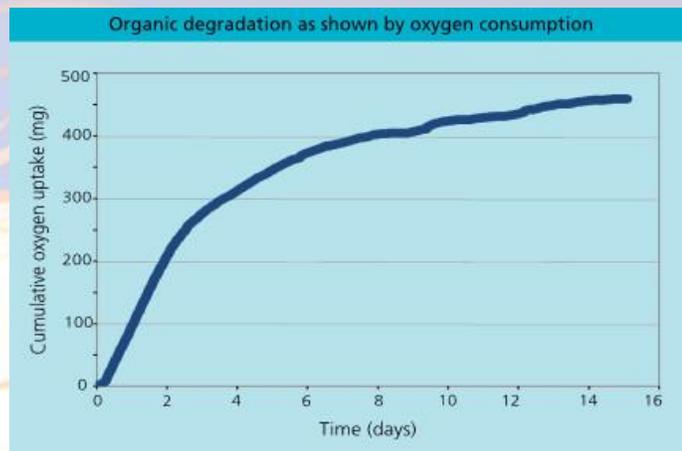


Fig. 4. The long-lasting degradation (15+ days) of grease interceptor organics is demonstrated by the respirometric activity of the beneficial microorganisms in Genotech BioGrease 4210.

Genotech “BioGrease4210” contains a patented spore-forming Bacillus strain capable of degrading both the short- and the long-chain fatty acids which are associated with odors and buildup. Figure 5 shows the continual oxygen consumption (respirometry) during the degradation of both short- and long-chain fatty acids.



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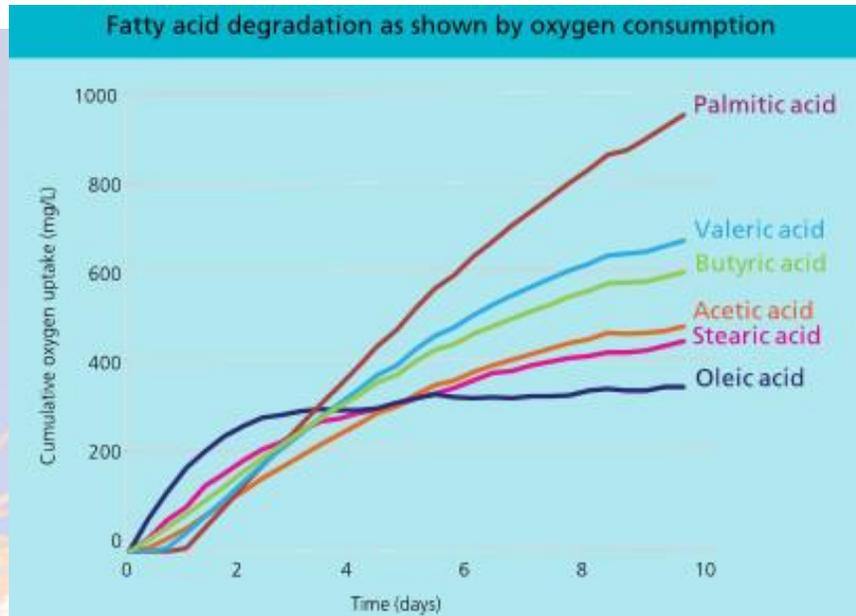


Fig. 5. The ability of a patented beneficial microorganism in Genotech Grease to degrade various fatty acids is demonstrated by a respirometry test. The results show that this microbe can degrade both the long- and the short-chain fatty acids commonly found in grease interceptors which are associated with odors and buildup, respectively

Recommended use directions

“BioGrease4210” Herbal, “BioGrease4210” Free, and “BioGrease4210” Pure are liquid, ready-to-use products.

For drain lines and grease interceptors apply directly to the head of the drain line system prior to the grease interceptor. For convenience, “BioGrease4210” liquid products may be applied intermittently by manual addition, however, the most effective application is continuous by automated chemical feed pumps. Refer to the dosing guidelines on the following page.

“BioGrease4210” D and “BioGrease4210” D Lipase

“BioGrease4210”D 型態和“BioGrease4210”D脂肪型態酶



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“BioGrease4210” D and “BioGrease4210” D Lipase are dry, ready-to-use products. For drain lines and grease interceptors apply directly to the head of the drain line system prior to the grease interceptor. Dry products cannot be dosed by automated chemical feed pumps. Addition to the system must be done manually. Refer to the dosing guidelines on the following page.

Grease interceptor Dosing Guidelines		
Interceptor size	Liquid (per day)	Dry (per week) 固體/每週
< 250 gal / 946 L < 250 meals per day	Ask your Account Manager	0.17 lb / 75 g
250–500 gal / 946–1,892 L 250–400 meals per day	Ask your Account Manager	0.17–0.33 lb / 75–150 g
500–1,000 gal / 1,892–3,785 L 400–800 meals per day	10–20 oz / 300–600 ml	0.33–0.66 lb / 150–300 g
1,000–1,500 gal / 3,785–5,678 L 1,000–1,500 meals per day	20–30 oz / 600–900 ml	0.66–0.99 lb / 300–450 g
> 1,500 gal / > 5,678 L 2,000 meals per day	> 30 oz / > 900 ml	> 0.99 lb / > 450 g

*Dosing guidelines are recommendations only and higher dosing rates may be applicable. For example, grease interceptor size is only one example. Higher dosing may be required based on grease loading, types of food cooked and the number of meals served. Contact your Genotech Cleaning Solutions Account Manager for technical assistance.

Safety, handling, and storage

Safety, handling, and storage guidelines are provided with all products.

Product data sheet

Valid from: 12-21-2010

Product type: “BioGrease4210” D Lipase is a fully formulated, ready-to-use product.



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Product specifications: Components: Bran, microorganisms, enzymes, surfactants, sand, salt,

nutrients Bacterium type: Blend of Bacillus spores and vegetative strains

Physical form: Dry Color: Tan

Fragrance: No fragrance added pH: 4.5-8.5

Shelf life: 1 year Properties: Free-flowing Solubility: Insoluble

Production method:

Microbial strains are produced within a Quality Management System that is certified to ISO standards. Tight controls and stringent tests are incorporated into the production process to ensure that all products are manufactured to the highest quality standards. Strains are isolates of naturally occurring organisms and are not genetically engineered or modified.

Available packaging

25-lb pail

50-lb fibers drum

50 x ½-lb SoluPak™

25-kg fiber drums

200-g SoluPak™ in 5-kg carton

1,000-kg Super Sack

Storage and handling

Store in a cool, dry place. Wash hands thoroughly with warm, soapy water after contact. Please refer to the safety

Data sheet for additional information on storage and handling.

Safety of "BioGrease4210" D Lipase

"BioGrease4210" D Lipase contains a blend of safe Bacillus microorganisms. All microbes have been identified to a

species level by 16s rDNA sequencing and confirmed to belong to Biosafety Level 1, as defined by the National Institutes of Health (NIH) and to Risk Group 1 as defined by EU Directive 2000/54/EC.

For more information please visit www.AmsolvUSA.com