

Free Flow[™]

DRAIN/SEPTIC/GREASE TRAP

For the Biological Treatment of Drain Lines, Grease Traps, Septic Tanks

PRODUCT DATA SHEET



CCD - 113 Biologically Based
Drain & Grease Trap Additives

FREE FLOW[™] Drain/Septic/Grease Trap by **GEOKLEEN[™], INC.** represents the next step in technology for biological treatment of drain lines, grease traps and septic tanks. *Free Flow[™]* is a new innovative product that contains advanced biotechnology that gives **FREE FLOW[™]** the ability to degrade the most difficult portion of the grease molecule, the long-chain fatty acids.

GEOKLEEN[™], INC. is a leader in the marketing of novel microbial formulations for Institutional, Commercial, and Household applications. **FREE FLOW[™]** is the result of the selection of novel strains that are combined with stable formulations that assist bacteria in the performance of their natural degradative functions.

The introduction of a new baccillus strain into a microbial blend that also degrades proteins, lipids, carbohydrates and organic waste delivers a unique biological consortium for treating drain lines, grease traps and septic tanks. With regular application, **FREE FLOW[™]** will reduce trapped grease and grease trap pumping, maintain free-flow in drains, reduce odors in grease traps and drain lines, and accelerate the degradation of organic waste.

BENEFITS

- **FREE FLOW[™]** contains a blend of microbial species that together degrade grease, short and long-chain fatty acids, proteins, lipids, carbohydrates, and organic waste.
- **FREE FLOW[™]** does not transfer the grease downstream. The microbial colony actually degrades and digests grease and scum from drain lines and grease traps.
- **FREE FLOW[™]** proprietary formulation incorporates an innovative inhibitory system that produces excellent product stability, yet upon addition to a drain line or grease trap, these same ingredients stimulate the growth and activity of the bacteria.

The active ingredients found in **FREE FLOW[™]** reduce the production of odors by inhibiting biological production of odor causing compounds such as hydrogen sulfide and the rancid, foul-odored, fatty acids that result from septic or anaerobic environments.

The microbial blend in **FREE FLOW[™]** controls odors by degrading malodorous volatile fatty acids present in septic or anaerobic environments.

- **FREE FLOW[™]** specifically degrades long-chain fatty acids that are known to be causing the majority of maintenance and treatment problems.
- The partial breakdown of grease causes pH to drop, creating an environment that hinders most bacteria. **FREE FLOW[™]** is active at the low pH levels generated. Furthermore, the addition of **FREE FLOW[™]** alleviates low pH problems by breaking down both short-chain and long-chain fatty acids, thus maintaining an environment more friendly to active microbial degradation.
- **FREE FLOW[™]** demonstrates visible reductions in grease when field tested in restaurant grease traps.
- **FREE FLOW[™]** is an environmentally friendly formulation that won't damage pipes and traps.
- As a ready-to-use formulation, **FREE FLOW[™]** can be applied manually or using an automatic dosing system.
- The microbial colony found in **FREE FLOW[™]**, excretes high levels of amylase, cellulase, lipase, and protease enzymes, all of which are utilized to degrade long and short chain fatty acids.
- **FREE FLOW[™]** can be used after septic tank pump out as a stimulus to the germination and outgrowth of a synergistic microbial colony. **FREE FLOW[™]** will improve the septic systems biological stability. Thereafter **FREE FLOW[™] Septic**, a dry formulation can also be used on a monthly basis.



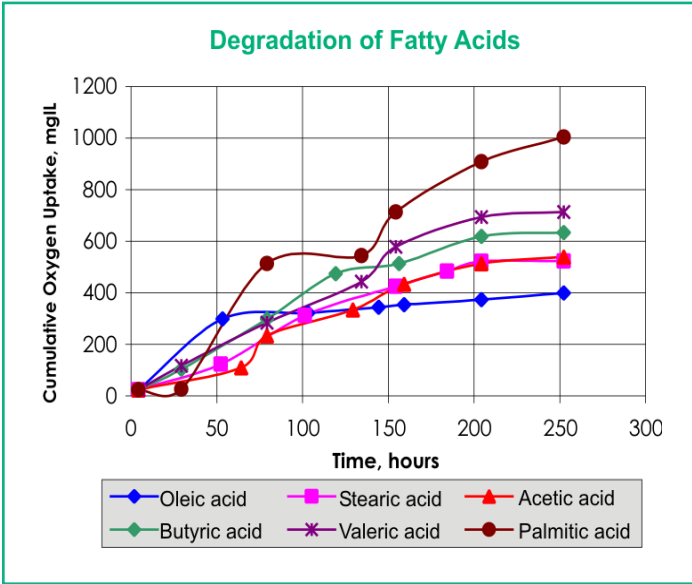


Figure 1. The above graph demonstrates the growth rates of FREE FLOW's™ microbial colony on various fatty acids. The ability of the microbes found in FREE FLOW™ to degrade fatty acids of various chain lengths was examined via respirometry on a number of short and long-chain fatty acids. The results demonstrate that FREE FLOW™'s microbial colony has the ability to degrade both the long-chain, and short-chain fatty acids.

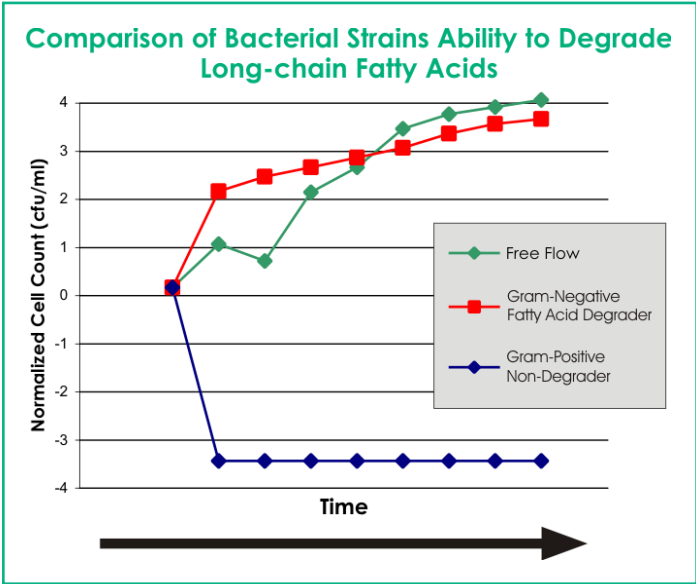


Figure 2. Comparison of the ability of different bacterial strains to degrade and grow on stearic acid, a common long-chain fatty acid. Gram-negatives are known to degrade long-chain fatty acids. The figure demonstrates that the microbial colony found in FREE FLOW™ grows as well on stearic acid as the Gram-negative strain, which are specifically selected for degradation of long chain fatty acids.

FREE FLOW™ is an environmentally friendly product that contains a blend of safe bacillus microorganisms. **FREE FLOW™** has no acute oral toxicity, no acute dermal toxicity and no acute inhalation toxicity.

Performance Characteristics

Bacterial pathwaysAerobic & Facultative Anaerobic
 pH Range 5.0 - 9.8
 Temperature range 50°F - 145°F (10°C - 63°C)

Product Characteristics

Bacteria count..... 14.5X10⁷ CFU/ml (550 Billion/gal)
 Bacteria Type.....Blend Bacillus Spores
 Salmonella/ShigellaNot Detected
 Appearance Blue Liquid
 Fragrance Herbal
 PH range 7.0 - 7.8
 Shelf Life..... Two years maximum loss of 1.0 log at recommended storage conditions

Storage and Handling

Store in closed containers at 50° - 100°F (10° - 40°C). Avoid eye contact. Wash hands thoroughly with warm, soapy water after contact.

Available Packaging

- 4 X 1 gallon cases
- 5 gallon pail
- 55 gallon drum

This product is approved for use in Canada.

<p>GeoKleen, Inc. 580 South Salina Street Syracuse, New York 13202 www.geokleen.com</p> <p>Fax Orders: 315-422-4867</p>	<p>Customer Service/Orders: 315-701-4439 800-651-1919</p> <p>Sales & Marketing: 315-701-4439 800-651-1919 sales@geokleen.com</p>	<p>Laws, regulations and third party rights may prevent customers from importing processing, applying and/or reselling certain products in a given manner. It is the responsibility of the customer that their specific use of products of GeoKleen™ does not infringe relevant laws and regulations and, furthermore does not infringe patents or other third party rights. The contents of this document are subject to change without further notice. Free Flow™ Drain/ Septic/Grease Trap is a registered trademark of GeoKleen™, Inc.</p>
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Recommended Application Feed Rate

GREASE TRAPS	
GREASE TRAP SIZE	DOSING
200 gal trap (27ft ³ or 0.8m ³)	10 OZ (300 mL) per day
500 – 1,500 gal trap (67-200 ft ³ or 1.9-5.7m ³)	18 – 20oz (530 – 590 mL) per day
1,500 gal or larger (>200 ft ³ or >5.7m ³)	32 – 40 oz (950 – 1180 mL) per day

DRAINLINES			
DRAIN LINE APPLICATION	FREQUENCY	NOTES	DOSING*
RESIDENTIAL and HOTEL Slow Running Drains	3-day start-up treatment	Run hot water for 30 seconds before dosing product directly into drain. For best results, dose at bedtime or when drain will not be used for several hours.	2-4 oz/day (60-120mL/day)
RESIDENTIAL and HOTEL Maintenance	Ongoing	For best results, dose at bedtime or when drain will not be used for several hours.	2-4 oz/week (60-120mL/wk)
COMMERCIAL Slow Running Drains	7-day start-up treatment	For best results, dose at closing or during quiet hours.	6-8 oz/day (180-240 mL/day)
COMMERCIAL Maintenance	Ongoing	For best results, dose at closing or during quiet hours.	4-8 oz/week (120-240mL/wk)
FLOOR DRAINS	Ongoing	Start-up: Treat drains daily for 3-7 days to achieve better flow rates. Maintenance: dose weekly. For best results, dose at closing or during quiet hours.	Mix 32 oz in 2 gallons water (125 mL/L) to treat 6-8 drains

** Dosing guidelines are recommendations only. Higher dosing rates may be required based on grease loading, types of food cooked and number of meals served. Contact your GeoKleen™ Sales Representative for technical assistance.*

SEPTIC TANKS			
SEPTIC TANK SIZE	FREQUENCY	NOTES	DOSING
1,000 GALLON SEPTIC TANK	After pump out	Use Free Flow™ after tank pump out to stimulate the germination and growth of tank microbe culture.	32 oz per 1,000 Gallon Tank
1,000 GALLON SEPTIC TANK	Ongoing	Can be used monthly or use our dry product, Free Flow Septic.	16 oz per 1,000 Gallon Tank

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