3n1 TOTAL-C®

CITRUS LIQUEFIERS • ACTIVE ENZYMES • SLUDGE EATING BACTERIA

Technical Overview

3n1 TOTAL-C® microbial consortium demonstrates superior enzyme performance for use in multiple applications. 3n1 TOTAL-C® exhibits a broad range of degradation capabilities needed for a multi purpose product efficacious in maintenance of drain line and grease traps, improving septic and waste degradation, cleaning and odor control.

OVERVIEW

In their natural environment, bacteria produce hundreds of enzymes in response to the organics present in their environment. They produce extracellular enzymes that break down proteins, starches, fats, oils, greases and toilet tissue into smaller particles outside the bacterial cell. The bacteria then transport the smaller particles across their cell membrane for use as an energy source and for building of new cellular components. Since bacteria detect the organics present as potential food and produce specific enzymes to breakdown these organics, it is a very efficient system. Many different enzymes are required to completely breakdown a substrate.

3n1 TOTAL-C® consortium produces key extracellular enzymes including amylase, cellulase, lipase, and protease. Drain lines, grease traps, septic systems, and surfaces are nutrient rich systems for bacteria. Although many bacteria can utilize these organics as food sources, it is the bacteria with the most rapid production of these key enzymes that provide the most dramatic effects. 3n1 TOTAL-C® microbial consortium is the next generation technology in microbial blends with degradation capability superior to any product on the market!

BENEFITS

3n1 TOTAL-C® is designed to provide exceptional performance for the following applications:

Drain Lines And Grease Traps:
Degrades and eliminates organics found in drain lines and grease traps. Regular addition of 3n1 TOTAL-C® maintains a cleaner and odor free system.

Septic And Waste Treatment:
Maintains effective activity in septic systems by eliminating the need for excessive pumping. Eliminates odors caused by incomplete digestion of malodorous volatile fatty acids.

Bathroom Cleaner And Odor Controller:
Penetrates into cracks, crevices, and pores of surfaces where organics accumulate, actually removing and digesting the organics to leave a visually cleaner surface. Provides long term odor control by removing the organics that cause odors and preventing the return of odor causing compounds.

FEATURES

3n1 TOTAL-C® microbial blend offers:

- A stable consortium of safe Bacillus spores.
- Production of multiple enzymes providing a wide range of degradation capabilities.
- A synergistic blend that works in concert to provide superior performance across multiple applications.
- Excretion of high levels of amylase, cellulase, lipase, and protease enzymes.
- Ability to work under aerobic and anaerobic conditions.
- Single product simplicity for multi application flexibility.

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AMYLASE:
Starch is a sugar storage molecule composed of repeating units of glucose present in most food substances. Starch contributes to soiling by causing particles to stick more readily to surfaces. The amylase produced by the 3n1 TOTAL-C® microbial blend breaks down the starch into a more readily biodegradable form, reducing the stickiness of particles and making them easier to remove and digest.

CELLULASE:
Cellulose is the most abundant biological compound on earth and is present in stains, grime, and organic deposits. The 3n1 TOTAL-C® consortium produces cellulase enzymes that break down this large chain insoluble molecule into much smaller water soluble, biodegradable fragments.

PROTEASE:
Proteins are long chains of amino acids that are tightly coiled into a particular structure suitable for the function of specific proteins. Proteases are enzymes that hydrolyze peptide bonds in proteins to break down the large structure into smaller groups of amino acids. Due to the high degree of charged amino acids in proteins, they are usually very sticky, and the proteases produced by the 3n1 TOTAL-C® microbial blend help to reduce this stickiness by breaking down the protein into more readily biodegradable parts.

LIPASE:
Fats, oils, and greases are primarily composed of triglycerides, and are major portions of soils and organic deposits. The 3n1 TOTAL-C® consortium produces a lipase enzyme that breaks down this triglyceride molecule into its more basic biodegradable components.
SAFETY OF 3n1 TOTAL-C®:
3n1 TOTAL-C® contains a blend of safe Bacillus microorganisms enzymes and a small amount of d-Limonene. Toxicity studies done by an independent laboratory reveled that the 3n1 TOTAL-C® consortium has no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at maximal test dose. Acute dermal irritation and acute eye irritation studies classify the 3n1 TOTAL-C® consortium as non irritating. The 3n1 TOTAL-C® consortium also does not elicit a skin sensitization reaction.

PRODUCT CHARACTERISTICS

Bacteria Counts
54 x 107 cfu.ml (2 Trillion/gal)
Bacteria Type
Blend of Bacillus Spores
Salmonella
Not detected
Appearance
Tan Liquid
Fragrance
Citrus
Shelf Life
2 years; maximum lose of 1.0 log at recommended storage conditions

PERFORMANCE CHARACTERISTICS

Characterized Enzyme Production
Lipase, Protease, Amylase, Cellulase
Bacterial Pathways
Aerobic & Facultative Anaerobic
pH Range
5.0 - 9.8
Temperature Range
38° - 145°F (3° - 63°C)

STORAGE & HANDLING

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

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RECOMMENDED APPLICATION FEED RATES

Grease Traps

TRAP SIZE	DOSING*
200 gal trap (27 ft3 or 0.83)	3 - 10 oz (300 mL) per day
500-1,500 gal trap (67-200 ft3 or 1.9 - 5.7m3)	9 - 20 oz (530-590 mL) per day
1,500 gal or larger (›200 ft3 or ›5.7 m3)	16 - 40 oz (950 - 1180 mL) per day

Drain Lines

SIZE	FREQUENCY	NOTES	DOSING*
Residential & 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 (60-120 mL/day)
Residential & Hotel **Maintenance**	Ongoing	For best results, dose at bedtime or when drain will not be used for several hours.	2-4 oz/day (60-120 mL/day)
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.	24 oz/day (180-240 mL/day)
Floor Drains	Ongoing	**Start up:** Treat drains daily for 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 gal water (125 mL/L) to treat 6- drains

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Septic Tanks

APPLICATION	FREQUENCY	DOSING*
Residential Septic Tank	≤ 1000 gal tank	Liquid: 10 oz (300 ml) per month
Commercial Septic Tank	≥ 1000 gal tank	Liquid: 16 oz (475 ml) per month

Odor Control

APPLICATION	FREQUENCY	DOSING*
Bath tile, floors, diaper pails, garbage pails, animal areas	Use as needed: rinse as necessary	2 - 4 oz (60 - 120 ml) per gallon of water
Trash / garbage collection areas, dog pens, concrete, floor surfaces	Spray, let sit on tough areas, scrub as necessary, rinse as needed, air dry	5 - 8 oz (150 - 240 ml) per gallon of water
Subways, public restrooms, kennel runs, loading docks	Spray and wipe surfaces, rinse or hose down as necessary	5 - 8 oz (150 - 240 ml) per gallon of water
Dumpsters, trash chutes, containment areas	Spray as necessary, allow to air dry	Use full strength

**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 you 3n1 TOTAL-C®*

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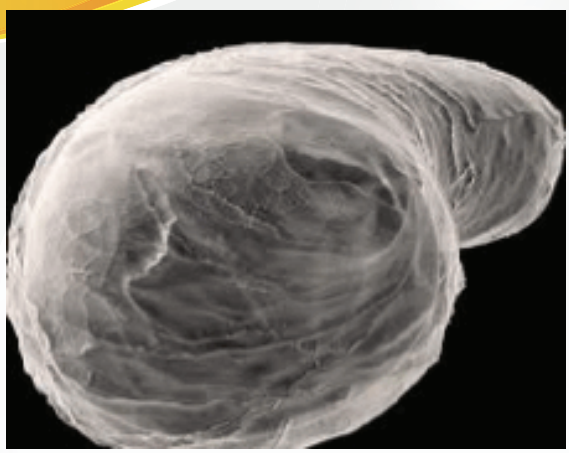
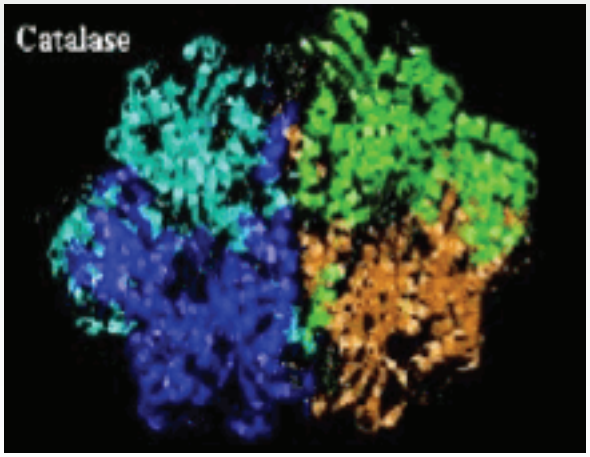
Bacteria & Enzymes



BACTERIA



ENZYMES

Bacteria produce enzymes and enzymes break down (emulsify) organic decaying material in drain lines of both commercial and residential buildings. Normal household items such as antibacterial detergents have very little effect on enzymes. You would have to pour the detergent undiluted down the drain to have any effect on the bacteria. There is very little damage done to the 4 different strains of Bacteria that are in the product.

Colonies of bacteria will keep working on the organic decaying material even when detergents and other house hold items are used on regular basis. This ensures a good cultured life cycle that your drains need.

Bleach will kill both Bacteria and Enzymes on contact, so always avoid bleach.

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Common Questions & Answers

1. Is 3n1 TOTAL-C® PRODUCT A DRAIN OPENER?
Answer: No - these products are drain maintenance products, (some companies call them"Flow Improvers") and should be added at regular intervals to keep drains free flowing and odor-free. **If a drain is plugged or is very slow flowing, a professional should be called to rooter the drain!**

2. WILL OFFERING THE 3n1 TOTAL-C® PRODUCT REDUCE MY SERVICE CALLS? (If this was the case; we're sure that the majors, I.E.: Roto Rooter, Rescue Rooter, Mr. Rooter, etc. WOULD NOT be selling their own brands of drain treatments! These companies have studied their profit per service call and they know that adding an additional item increases their margins in the short and long run.)
Answer: No - time has proven that a customer will still have a major "plug-up" at about the same frequency. If a customer cuts potatoes, puts rice down the drain, or their kids put elastic bands down the drain or many, many other drain abuses, **this customer will definitely be calling a rooter company. This is where having the bottle with your company name and phone number in the customers hands is so important!**

3. WILL 3n1 TOTAL-C® PRODUCT DISSOLVE HAIR OR ROOTS?
Answer: No - however, 3n1 TOTAL-C® will help reduce clogging caused by these obstructions due to its natural degreasing and emulsifying properties.

4. WHAT'S THE DIFFERENCE BETWEEN THE 3n1 TOTAL-C® AND THE OTHER DRAIN ADDITIVES?
Answer: Our product is a true combination of citrus liquidizers (emulisifiers), enzymes, and friendly bacteria. **NOBODY HAS THIS COMBINATION.**

3n1 TOTAL-C® is a synergetic product that secretes enzymes in order to eat when it senses a food source. The 3n1Total-C bacteria is genetically engineered to "eat" the fats, oils and greases that build up in drains turning them into carbon dioxide and water. Total-C is a natural enzyme/bacterial degreaser that emulsifies and dissolves the greases, oils, and fat build-ups in drains and completely deodorizes during the process.

5. IS THIS PRODUCT CAUSTIC OR ACID BASED?
Answer: No - 3n1 TOTAL-C® is a bacterial and naturally derived citrus based product and is not a caustic or acid base.

6. HOW MUCH SHOULD MY CUSTOMERS USE?
Answer: FOR HOUSEHOLDS: If the customers F.O.G's (fats, oils and greases) flows are very heavy I.E; if the customer cooks bacon, or deep fries, etc. 3n1 TOTAL-C® will leave a nice fresh odor which customers love. 3n1Total-C is technically more "environment friendly" due to the fact that the microbes digest the fats, oil, and greases. **We recommend a 1-2 punch for your customers.** 1st add an extra amount (4 oz.) Initially to degrease and clean the lines - then add 1 oz. per week as a maintenance product. This is a proven formula for smooth running and odor-free drains. **Also- it doubles your sales volume to the customer.**

FOR COMMERCIAL APPLICATIONS: from restaurant grease traps, vet clinics, zoos, farms, bakeries, etc. - these applications vary widely. As a general recommended guide line - if the customer has extra

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holding capacity - like a grease trap - 3n1Total-C will have extra time to activate and will be more effective. 3n1Total-C in commercial applications is normally metered into a drain on regular intervals through an injection system and applied to floor drains.

7. WHAT EFFECT DOES HOUSEHOLD BLEACH OR ANTI-BACTERIAL DETERGENT HAVE ON "3n1 TOTAL-C®?

Answer: The small amount used in washing will have little or no effect on the bacteria strains and no effect on the enzyme and citrus degreasers.

8. WILL THE 3n1TOTAL-C PRODUCT DAMAGE THE PLUMBING OR PIPES?

Answer: Absolutely not - this product will not damage any galvanized or PVC pipes. Total-C will recharge the system with aerobic bacteria.

9. IF SPILLED WILL t DAMAGE YOUR CLOTHING?

Answer: No - if spilled on clothing product should be rinsed with water, then laundered before drying.

10. IF SPILLED WILL IT BURN YOUR SKIN?

Answer: No - but with all chemicals, your contact area should be thoroughly rinsed and washed with soap and water. Exception - if contact is made with eyes, they should be thoroughly rinsed with water.

11. IS 3n1 TOTAL-C® CONSIDERED HAZARDOUS?

Answer: No - 3n1 TOTAL-C® is not hazardous to the environment. **AS WITH ANY CHEMICAL, THEY SHOULD BE STORED AWAY FROM CHILDREN AND SHOULD NEVER BE INGESTED.**