



DEFENDER PRO[®]

Bio-Enzymatic Multi-Purpose GEL

Drain Fly Treatment
Garbage Disposal Refresher
Drain Maintenance
Urinal & Commode Treatment

DRAIN Treatment Multi-Purpose Bio-Enzymatic GEL is made to cling to the inside of drains and pipes so it may continue working around the clock, helping to eliminate odors from drains and improve flow in slow drains. Safe for all types of plumbing and is non-pathogenic and non-caustic.

DRAIN Treatment is fast acting and extremely effective at breaking down and digesting organic material (proteins, starches, and sugars) from hard to reach drains and areas where drain flies breed.

Removes and eliminates organic waste build-up in garbage disposals, bar sinks, floor drains, and traps.

DRAIN FLY TREATMENT: Add 2-4 oz. (60-120 mL) to each drain. Apply around edge of drain, attempting to coat sides of drain, twice a week. This will eliminate the food source and breeding areas for the drain flies.

DRAIN MAINTENANCE: Add 2-4 oz. (60-120 mL) to each drain. Apply around edge of drain, attempting to coat sides of drain, twice a week.

GREASE TRAP MAINTENANCE: For traps less than 20 cu. ft. apply 4-6 oz. (120-180 mL) daily to the drains pipes closest to the grease trap. Flush with a cup of warm water. For larger traps apply 8-10 oz. daily

GARBAGE DISPOSALS: Apply 2-4 oz. (60-120 mL) to the outside edge of drain, attempting to coat sides of drain.

RESTROOM -

URINALS & COMMODOES: Squirt 2-4 oz. (60-120 mL) around the inside of the urinal and commode after cleaning.

DRAINS: Squirt 2-4 oz. (60-120 mL) into the restroom drains once a week.

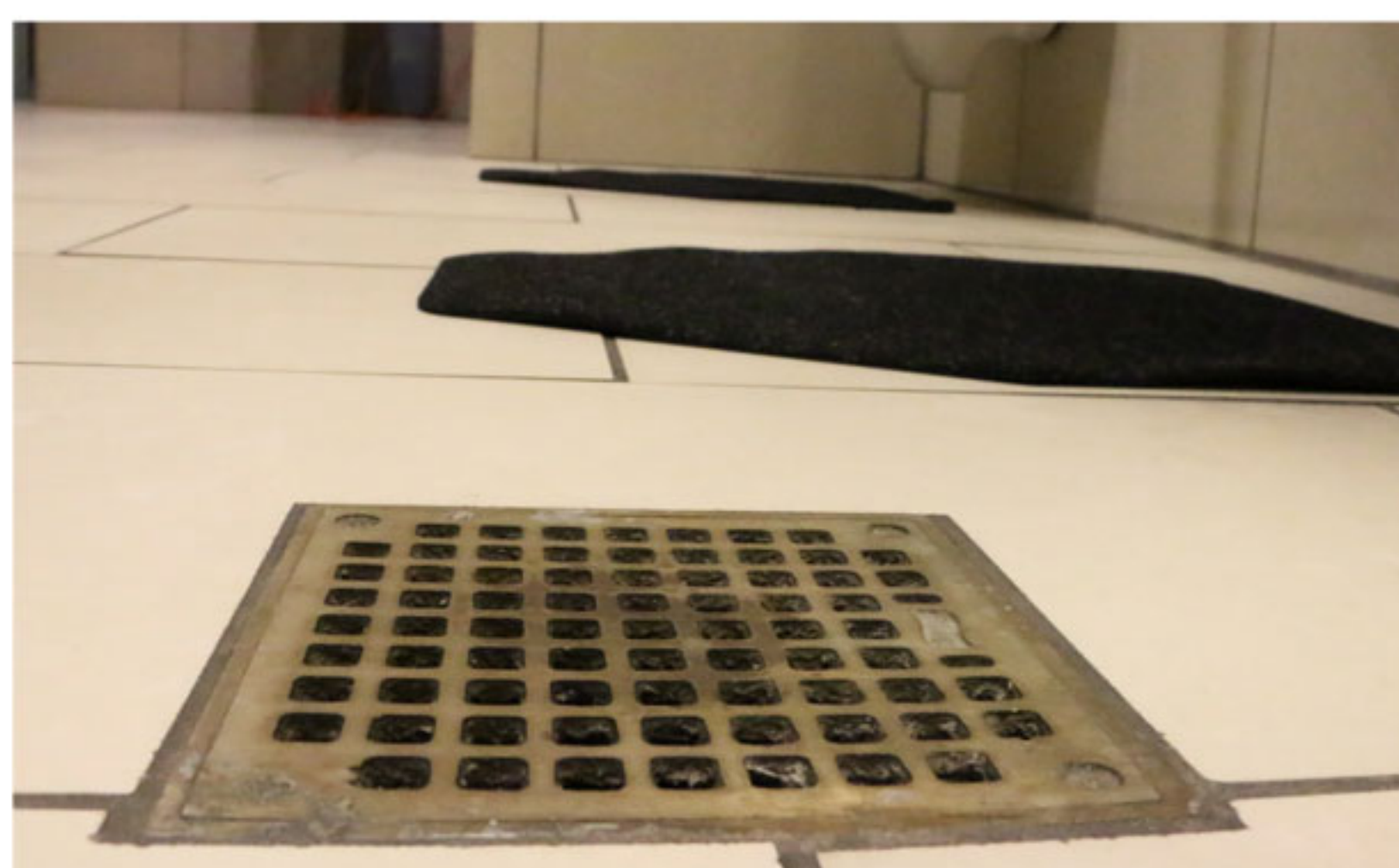


DRAIN Treatment Key Points

- Thickened formula clings to the sides of drains providing maximum contact
- Thick coating action enhances digestion of scum and the elimination of odors
- Works great in beverage fountain drip tray lines.
- Will not harm septic systems or municipal water treatment operations

EFFECTIVE & EASY TO USE

Package:	Quart Bottles / 6 per case
Effectiveness:	Highly Concentrated
Available In:	Original Fragrance



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Enzyme and Bacterial Cleaning Chemicals

How often have you seen new products that would help improve overall cleaning operations, which are cost-effective and are user friendly? Enzyme digesters are gaining popularity and are viewed by some as a possible replacement for other types of formulations in certain cleaning situations. Enzyme digesters work by eating (digesting) protein matter in organic soil or waste. Their enzymes are especially effective in controlling odors caused by a buildup of organic soils in restrooms, plumbing, carpets and floors.

UNDERSTANDING ENZYMES

Enzymes are proteins created by living cells that exist in organisms such as plants, animals and bacteria and are used to digest waste. When added to organic material like dirt, grease and oil, they immediately go to work breaking down the organic material within these substances. This natural “dust to dust” process that constantly occurs in our environment keeps waste material from overrunning us. The four basic enzymatic systems are those that break down fats and greases (lipase); proteins (protease); cellulose such as wood, cotton and paper (cellulose); and carbohydrates and starches (amylase). Dirt has layers of fine film composed of “substrate” such as grease, oils, fats, bacteria, germs, dust mites, non-organic material and organic microorganisms. These films are bonded to each other and to the surface by amino and fatty acids (organic acids composed of proteins, fats or fatty oils). Most cleaners emulsify some of these dirt films but may not break down the lower levels held together by amino and fatty acids. Usually the top layers of the films are removed but some of the lower levels are left to collect bacteria. As a result, re-soiling can occur much faster.

HOW THEY WORK

When activated, enzymes attack or digest the amino and fatty acids that bond the films of dirt together. They also emulsify them so they can be completely removed from the surface. Researchers believe the activation process, when the substrate and enzymes come in contact with each other, the enzymes physically curl and twist-in what is called a “conformational change.” This physical change initiates the contact between the enzyme and substrate which is necessary to “catalyze” the reaction. A catalyst is a substance that speeds or slows a chemical reaction without being involved in the reaction itself. Put another way, enzymes are chemical catalysts that accelerate the natural biodegrading, or breaking down, of organic substrate, which comprises most soils. Enzymes dissolve and break down protein and organic matter, diminishing odors caused by staining agents such as urine, feces, vomit, pet odors, spoiled foods and mildew. Enzymes are derived from living organisms and are harmless to humans, animals, marine life and general ecology. They are non-toxic, non-irritating, non-gaseous, non-flammable, non-pathogenic and typically safe to use. There are thousands of different enzymes, each having specific, individual characteristics. Since an enzyme that breaks down proteins (protease) will not react on fats or oils, and effective enzymatic cleaning system must contain enough different classes and types of enzymes to assure proper catalytic reaction. In concentrated form, this greatly speeds up the natural “dust to dust” process. One way to demonstrate the effectiveness of enzyme digesters is to mix warm water and the enzyme product in a small cup (per recommended dilution ratio). Then place a few pieces of dry cat food into the cup. After 10 to 15 minutes, the cat food will be totally dissolved. This breakdown of protein will demonstrate, and help you more fully understand, how the chemical works on other microscopic bacteria and proteins.

WORK USE AREAS

DRAIN OPENERS: Follow label for correct mixing instructions, then pour into clogged drains Always start by working on lower level floors drains first. If your workers start at the upper levels, the dislodged and dissolved protein will further plug lower level plumbing. It is best to use drain openers at night or over a weekend to give the enzyme several hours to do its job. Enzymes are not fast acting like acid-type drain openers and they require a few hours to work properly; however, they are much safer for workers and plumbing.

CARPETS: Enzymes work well for blood stain removal and they are very effective in reducing (or in most cases, eliminating) odors caused by urine, vomit and other organic-related odors. When odors are in carpet backing, use a carpet syringe and inject 1 ounce of undiluted enzymes through the backing onto the sub-floor. Several injections are required to cover a large area. Each injection should cover a 3-foot diameter area. Enzymes can be used on all other water-safe fabrics that contain odor or stains caused by the same organic matter that also stain carpeting.

RESTROOMS: When mopping, mix enzymes with warm water to the correct dilution ratio and mop floors. Do not rinse floors, but air dry, allowing the enzymes time to react with bacterial matter. Enzymes will be absorbed into the floor mortar joints, allowing deep odor removal. Remember that you cannot use an enzyme digester at the same time that a disinfectant cleaner is applied. The residue of the disinfectant will kill the live organisms of the enzymes. Use one or the other-never both digester and disinfectant together. You can also spray enzymes on and around urinals and other odor producing fixtures. Regular applications of enzymes will eliminate the source of the odor. When spraying, use a stream, not a mist. Enzymes applied as a mist can easily be inhaled into the lungs. Enzymes are living organisms and could cause medical problems if inhaled.

COST EFFECTIVENESS: Enzymes are not costly; however, care should be taken to correctly use these products. You need to identify specific areas that are present or potential problem areas. You can then work the enzymes into your present program at proper frequencies to ensure desired results. Using enzymes in a haphazard manner with no scheduled routine will not only waste product, but also more importantly will waste valuable labor. Enzymes are economical and safe to use within a wide work-use area. The primary caution is not to permit inhalation of sprayed (misted) product. Some good candidates for bacteria I enzymes digesters are health care facilities, schools, industrial plants, health clubs, correctional facilities, offices, restaurants, and food service operations. The list can be expanded to include any and all areas that have stains and odors from protein or organic matter. Work use areas for enzymes are expanding, and new applications open up daily in the sanitary maintenance field. Enzymatic cleaners are new technology that allows for many uses by cleaning professionals.



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