



BIO CLEANING SOLUTIONS

GreenWorx
CLEANING SOLUTIONS

Microzyme™ D60 FOG Free

Application for - Fats, oils and grease degrader

Organic wastes and wastewater from meat producing operations are usually treated in a "pre-treatment" process before being discharged into the sewer. This is done to reduce sewer charges by lowering the Chemical Oxygen Demand (COD) and or Biological Oxygen Demand (BOD) of the wastewater (a measurement of the amount of inorganic and or organic material in the wastewater). Organic waste material from meat processing include; grease, fat, oils, wash water, cooking waste, dripping, and hair and feathers from slaughtering, butchering, cooking and packaging of fish, chicken, beef and all other meat products.

The pretreatment facility is usually quite simple in design. Its main purpose is to hold the wastewater for a sufficient period of time while the bacteria are allowed to degradate the waste. The bacteria digest suspended and dissolved solids, actually functioning like a simple miniature wastewater treatment plant. It can be in a holding tank or retention pond, or a series of tanks and/or ponds.

Unless the ponds or tanks are properly treated, they can give off foul odours, have severe accumulation of solids on the bottom, and fail to lower the COD and or BOD as much as desired. To allow this type of pre-treatment process operate properly, you require:

- The correct consortium and ratio of bacteria and bio-enzymes to be introduced into the system
- Agitation – to mix, break down any solids
- Aeration – to optimise bacteria activity

Meat processors wish to reduce the COD and BOD content of their wastewater as much as possible before it is discharged into the municipal sewer system. Commercial users are required to pay surcharges to the sewer system authority if their waste has high COD and or BOD. This is done because the high COD and or BOD waste puts an extra burden on the municipal treatment plant, making it work harder than normal. When you consider the many thousands of litres of water that a food processor can use every day, even a small "per litre" surcharge can add up to big bills. Proper pre-treatment of the waste - before discharge into the sewer system - will reduce or eliminate costly surcharges.

Although the typical pre-treatment facility is very simple and unsophisticated in design - unlike most municipal sewer treatment plants - such a system can do its job very well. If the operator is able to pay a little bit of attention to his system, it will do a good job of reducing the COD and BOD of the wastewater. In most cases this treatment programme will be as simple as adding bacteria and enzyme product, such as **Microzyme™ D60 FOG Free**, at regular intervals and monitoring of the waste - adding pH adjusters as required maintaining the pH in the proper range.

The key to proper operation of this type of pre-treatment is time. The special consortium of bacteria and enzymes in **Microzyme™ D60 FOG Free** work much faster and more efficiently than ordinary bacteria, but they still require time to digest the waste. The longer the retention time, the more organic matter will be digested, and the lower the COD and BOD of the effluent water. Thus, retention time is the most critical factor in determining how much of the products must be used in a regular treatment programme.

PRODUCT CHARACTERISTICS

- **Bacteria Counts** : *Bacillus Subtilis Aerobic* bacteria not less than $8 \times 10^8/g$
: Anaerobic bacteria not less than $7, 8 \times 10^8/g$
- **Heavy Metals** : Less than 50ppm
- **Aflatoxins** : Absent
- **Antibiotic Activity** : Absent
- **E. Coli** : Absent in 01.g
- **Form** : Free flowing granular powder
- **Appearance** : Light brown with off-white granules
- **Packaging** : 50 gram sachets and 25kg polypro packets for industrial/commercial use
- **Specific Gravity** : 0.5 to 0.7
- **Enzyme Mix** : Subtilisin / Lipase
: Protease enzyme protein

Dosage:

The following dosages are merely a guideline.

1. INDUSTRIAL & COMMERCIAL

Area	Initial Dose Rate	Regular Maintenance Rate
Grease Traps	100g per week	100g per month
Industrial Effluent (e.g. abattoir)	1% for 3 days (w/w)	0,3% per day (w/w)
Agricultural Waste	4% once off (w/w)	1% weekly (w/w)

2. SEWAGE PLANT

Area	Initial Dose Rate	Regular Maintenance Rate
Trickling Filter	0,1% once off (w/w)	0,05% weekly (w/w)
Anaerobic Digester	1% for 3 days (w/w)	1% weekly (w/w)
Oxidation Pond	1% for 3 days (w/w)	1% weekly (w/w)

* ***For more reliable and faster results, the procedure needs to be complemented with Odorite Ultra Grease Trap Liquid dispensed into the system at the point leading to the fat trap daily***

Storage and handling:

- Avoid exposure to temperatures above 250C
- Store **Microzyme™ D60 FOG Free** in a cool dry place
- If contact with the skin and eyes occurs, wash with clean water

Microzyme™ D60 FOG Free is designed as a bio-technical aid to treatment of organic waste material offering the following advantages: liquefaction and reduction of solids, reduction of odor, easier disposal of waste, aids general cleaning of soiled areas, safety in operation of effluent systems, offers a viable alternative to current processing techniques using a bio-technical approach.

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