



## Microzyme™

# Natural Organic Waste Digestion Compound Technical Information

Microzyme is a stable, liquid mixture of bacteria and enzymes carefully selected to work in a synergistic manner in order to break down organic wastes.

The pleasantly perfumed product represents a uniquely effective natural method of treatment that is safe to use and reduces the requirement to use harsh chemicals in sensitive environments – a truly modern answer to the age-old problem of unpleasant smells and odours arising from organic wastes.

Primary features attributable to Microzyme are that although this natural digestion process method of cleaning is fairly slow when compared with the use of relatively harsh chemicals, it has the considerable advantages of being:

- Safe – for the operatives
- Thorough – the offending residues are actually broken down and destroyed.
- Ideal – for use on those porous materials that are particularly difficult to clean.
- Safe – on all surfaces unaffected by water.
- Environmentally acceptable – the contents are naturally occurring microbes and enzymes plus a fully biodegradable surface-active agent.

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## Applications

Microzyme finds applications on:

- Carpets, soft furnishing, upholstery.
- Plaster, grouting and concrete.
- Paints and plastics used for floor coverings, walls, work surfaces etc.
- Tiles, ceramics, metals etc. Used for structural, decorative and hygienic applications.
- Plastic and metal bins and trays, waste disposal equipment, vehicles and skips.
- Drains, grease traps, floor gullies, sinks, urinals, toilet bowls
- Floors and walls of animal enclosures, cages etc.



Certificate No. GB06/69741

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## **Mode of Operation**

Microzyme is a stable mixture of:

- A safe, non-pathogenic bacteria present as vegetative cells and spores.
- Two enzymes; amylase and proteinase, which break down starches and proteins respectively.
- An amphoteric surface-active agent that enables the mixture to wet, penetrate and emulsify the offending organic wastes.

The novel feature of Microzyme is that these three types of material actually combine to produce a dynamic system that is constantly adapting to efficiently break down unwanted organic wastes.

The system works in the following manner:

- The surface-active agent enables the product to wet surfaces and penetrate to the organic waste.
- The enzymes "Kick-start" the bacterial spores into action and the two act together to start digesting the organic waste.

In the process of breaking down the waste, the bacteria population increases and these in turn produce even more enzymes!

This productive cycle continues to operate until the organic waste is completely broken down and thus the source of unpleasant odours is eliminated.

A pleasant perfume is also incorporated into the product, which masks unpleasant odours during the active phase of cleaning and leaves a fresh residual odour when the process is complete.

## **Health and Safety**

Microzyme Product is classed as NON-HAZARDOUS, however some people may be sensitive to contact with the product and in any case, the spray should not be inhaled.

See Safety Data Sheet for details.

## **Typical Properties**

|                                    |                       |
|------------------------------------|-----------------------|
| Appearance                         | Pale Brown liquid     |
| Odour                              | Pine                  |
| pH, Neat solution                  | 7.0 units             |
| Density, g/cm <sup>3</sup> @ 20 °C | 1.09                  |
| Solubility in water                | Complete              |
| Flash Point (Abel closed cup)      | None                  |
| Shelf Life                         | 6 months (see Note 1) |

Microzyme, being a biologically active product, should be stored between 5 °C and 25 °C.

Under these conditions it has a storage life of not less than 12 months when stored in original containers in a cool, dry, well-ventilated area.

## **Directions for Use**

### **Procedure:**

The first stage of cleaning is to remove any excessive gross soiling by sweeping, wiping or vacuuming depending upon the nature of the soil and the substrate.

Apply microzyme in accordance with the dilution, coverage and dwell time requirements set out for the particular application concerned.

In applying the product, the GOLDEN RULES to remember are:

- Store neat product in a cool area and only make up solutions as and when required.
- When spraying use a fairly coarse spray. **Do not attempt to apply as a fine mist or a fog.**
- Avoid contact with skin and eyes when diluting or applying the product. Wear gloves and eye/face protection if necessary.
- In all applications, allow the product to work for as long as possible and keep the treated area moist to avoid drying out.
- Remember that the function of Microzyme is to break down organic wastes that are in hard to reach locations. These are the wastes that cause health, hygiene and odour problems. It is therefore essential that the use of Microzyme be followed by the normal cleaning process to ensure that the degraded wastes are completely removed from the substrate surfaces.
- All figures showing the dosing measures may vary depending on the degree of soiling or contamination.

### **Microzyme Dilution Rate:**

Unless otherwise stated in the specific application procedure, dilute the Microzyme 1 part product to 2 parts of warm water (about 40 °C). **Do not use hot water,** as this will destroy the active constituents within the compound and the product will not function.

### **Application Instructions (Coverage / Dwell Time):**

Coverage and dwell time is dependant upon the application encountered. Recommendations are as follows:

#### **1. Porous hard surfaces**

On surfaces such as concrete, plaster, 3 litres of the 1+2 mixture will cover 15 square meters when applied by sprayer. After application, leave the mixture to work for up to 5 hours keeping the surface moist.

Finally, clean the surface as normal.

#### **2. Carpets, Soft Furnishing and Upholstery.**

On these surfaces, 3 litres of the 1+2 mixture will cover about 15 square metres when applied by sprayer. Leave to work for 5 to 24 hours and if possible keep the surface moist during this period. Finally clean the surface by normal shampoo, preferably applied through a spray/extraction machine.

#### **3. Non-porous Surfaces.**

On non-porous surfaces such as floors, refuse containers, refuse vehicles and refuse chutes, 3 litres of the 1+2 mixture will cover at least 30 square meters. Spray or swab on the solution and leave in contact for as long as possible, preferably overnight, or even over the weekend for particularly difficult jobs. If possible, keep the surface moist.

Finally rinse off well and clean off any residue with normal cleaner.

#### 4. Agricultural Waste.

Used for the reduction of high solids/crusting of waste; liquefaction and cleaning (i.e. cowsheds, piggeries, poultry farms etc.).

| Area                 | Initial Dose Rate                       | Regular Maintenance Rate                                  | Method of Application                              |
|----------------------|---|---|--|
| Buildings Floors     | 3 litres per 10 tonnes of animal weight | Weekly for two weeks then 1½ litres per week              | Add to 10 gallons of water and spray over surfaces |
| Effluent Pits, Ponds | 3 litres / 5,000 gallons                | 1½ litres / 5,000 gallons / week                          | Add to 10 gallons of water and spray on surface    |
| Slurry Tanks         | 3 litres / 50,000 gallons               | Repeat for 3 days, then 1½ litres / 50,000 gallons / week | Mix in water and spray.                            |
| Manure under cages   | ½ litre / 10,000 birds                  | Weekly  | Add to water and spray over cone.                  |
|                      |   |   |  |

#### 5. Sewage Plants.

For use as a general aid to waste processing.

| Area   | Initial Dose Rate            | Regular Maintenance Rate             | Method of Application         |
|--|------------------------------|--------------------------------------|-------------------------------|
| Trickling Filters                                      | 3 litres / 1,000,000 gallons | 1½ litres / 1,000,000 gallons / week | Add to primary settling tank. |
| Anaerobic Digesters, Retention Ponds, Activated Sludge | 1½ litres / 10,000 gallons   | Repeat for 3 days, then per week.    | Add to inflow pipe.           |
|  |                              |                                      |                               |

#### 6. Abattoirs

Used for easier handling of high protein/fats in concentrated areas.

| Area                 | Initial Dose Rate                 | Regular Maintenance Rate                                  | Method of Application                            |
|----------------------|-----------------------------------|---|--|
| Total effluent       | 10 litres / 100,000 gallons / day | Repeat for 3 days, then 1½ litres / 100,000 gallons / day | Add product manually                             |
| Drains, Grease traps | 1 litre / 100 gallons capacity    | 1 litre / 100 gallons / week                              | Mix in 1 gallon of water and pour through drain. |
|                      |                                   |   |  |

#### 7. Food-waste – Domestic & Industrial

Used for reducing blockage of drains, waste pipes, treatment of effluent not on main drainage and reduction of odours.

| Area                         | Initial Dose Rate       | Regular Maintenance Rate      | Method of Application                            |
|------------------------------|-------------------------|-------------------------------|--|
| Effluent tanks, Septic tanks | 1 litre / typical house | 1 litre / week                | Through any convenient access point e.g. toilet. |
| Grease traps, Drains         | 1 litre                 | 1 litre / week                | Direct   |
| Portable toilets             | 1 litre                 | 1 litre / week or on emptying | Direct   |
|                              |                         |                               |  |

## **CONTACT DETAILS:**

### For UK and Rest of the World:

Amity International,  
Libra House, West Street  
Worsbrough Dale,  
BARNSELY  
S YORKS, S70 5PG,  
ENGLAND

Tel: +44 (0) 1226 770787  
Fax: +44 (0) 1226 291936

**E-mail:** [sales@amityinternational.com](mailto:sales@amityinternational.com)

**Web site:** [www.amityinternational.com](http://www.amityinternational.com)

For any further information, please contact your distributor or Amity.

In the event of any technical queries, please contact:  
Mr. Ram Singh at the UK/ROW address, above, or by e-mail to:

[rsingh@amityinternational.com](mailto:rsingh@amityinternational.com)

### For North America:

Amity International,  
PO Box 5254,  
1704 Denver Road,  
ANDERSON,  
SOUTH CAROLINA,  
SC29623, USA.

Tel: 864 622 2233  
Fax: 864 622 2234

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## **Packaging Details:**

Microzyme is available in:

- 5 Litre containers.